

The Lived Experience of a Pilot



Turbulent Times

Many thanks to the 103 airline pilots who took part in the initial informal interviews, to the 33 pilots who participated in the pilot workshops and to the 1,059 pilots who completed our health questionnaire.

Without all your help, this work would never have been possible.

Mind your heads!

For enquiries, contact Capt. Paul Cullen, cullenp4@tcd.ie

HOW DO WE FLY STRAIGHT & LEVEL IN TURBULENT TIMES?



*“Between stimulus and response there’s a space.
In that space is our power to choose our response.
In our response lies our growth and our freedom”
... Viktor Frankl*

The Covid-19 virus has completely overwhelmed the world. The situation is rapidly evolving, and it appears that our political and industrial leaders are constantly playing catch up. National health services around the world are struggling to cope, and with the goal posts continuously shifting, understandably many of us are fearful that this will decimate national economies and cause enormous levels of illness and loss of life.

This pandemic is having far more than just a physical and economic impact on individuals and businesses. For many people, this is ripping apart the very fabric of society and their sense of community. This doesn't look like it'll slow down anytime soon. However, there is hope. We can get through this. Rather than being swept away by

this whirling hurricane, we can step inside the eye of this aggressive storm and remain calm.

As airline staff, we work in one of the world's safest industries, yet now when we go to work we don't really know what we're being exposed to. We are used to being the bread-winners, bringing home the bacon and putting food on the table, but now we aren't sure what else we're bringing home to our loved ones. We are being bombarded and constantly reminded of the need for us to wash our hands. We have become obsessed with hand hygiene, and rightly so. Hand washing is an very effective defence. However, we need to also have mental hygiene, to flush our heads of the non-stop worry, rumination and fear of this invisible unknown.

For many of us the possibility of self-isolating and working from home is simply impractical. Yet for some of us, we are staying at home not by choice, but instead due to the temporary collapse of our industry. As pilots, we are used to being guided by a compass and a map, but right now we are heading into uncharted waters. We are used to being the ones in control, but right now it feels like the world is drifting rudderless, and we don't know if we're heading for the rocks. This lack of certainty is extremely alien to many pilots. For many, it is unnerving.

The western world was already in the middle of a mental health epidemic. There is no shortage of recent research indicating that pilots are not immune to these mental health issues, and are just as susceptible as the general population. In some regards, even more so. Many of the factors that impact on pilot mental health are equally applicable to our colleagues in the cabin, and we hope that this document also provides some comfort to our brothers and sisters on the other side of the cockpit door. Now to make things even worse, we've been hit by one of the worst pandemics that most of us have ever experienced. Not only is this a threat to our physical health, but thanks to the instability in our industry, 24-7 conflicting and confusing coverage in the media combined with non-stop chat among ourselves, our mental health is under even greater attack, like never before.

During World War II, the renowned psychologist Viktor Frankl was incarcerated by the Nazis in Auschwitz, and based on his harrowing experiences he wrote his masterpiece *"Man's Search for Meaning"*. In his book Frankl described what it was that got him through excruciatingly unbearable situations, while those around him perished. Frankl credits his survival with one key factor – **Meaning**.

"Everything can be taken from a man but one thing: the last of the human freedoms—to choose one's attitude in any given set of circumstances, to choose one's own way"
... Viktor Frankl

In late 2018, the 'Lived Experience of a Pilot' project launched what we believe to be the largest and most detailed health questionnaire ever to be conducted on a worldwide sample of pilots. Over a 15 month period, we studied almost 1,100 pilots across the globe. We have obtained unique



insights that have helped us to understand what it is that allows some pilots remain resilient while working as pilots, while other colleagues fall susceptible to psychological distress.

Although this data was collected prior to the Covid-19 situation, the findings are still valid in helping pilots get through the stresses associated with this situation.

"When we are no longer able to change a situation, we are challenged to change ourselves"
... Viktor Frankl

In this booklet, we will share some of what we have discovered, in the hope that if you are finding things difficult at the moment, or if you want to maintain your resilience in these times of adversity, that you can make some small short-term lifestyle changes to help you weather this temporary storm.

More than 60% of pilots are using a variety of coping strategies, some of which we will describe in this booklet. The good news is that these pilots are making real, tangible differences in protecting their mental health.

Regardless of which side of the cockpit door you work on, small steps in the right direction, will accumulate and have a profound impact on your mental wellbeing. These positive changes can also benefit our loved ones, including our children. Monkey see, monkey do. Kids mirror the behaviour of their parents. Be the change you want to see in your children.

As with every storm, the winds will die, the rain will stop and the sun will shine again. The storm will pass. And sure who knows, when we come through the other side of this difficult time, you might decide to adopt some of these short-term changes into your long-term plan.

Tough times can leave a mark on us. When exposed to trauma, *'the body keeps the score'*. We can come out the other side of adversity a different person. Sometimes tough times can have a negative impact, causing us to crumble. At other times challenges can present an opportunity for personal-growth. As the saying goes, *'What doesn't kill us, makes us stronger'*. Maybe, if we approach these next few weeks, or months, or whatever is in store for us, with the right mindset and attitude, equipped with suitable resources, we can come out the far side a better version of who we were beforehand.

Although this current pandemic has caused a lot of restrictions to be placed upon us, it has also temporarily lifted many of the sources of Work-Related Stress that pilots reported to the 'Lived Experience' team. As you will hear Astronaut



Chris Hadfield discuss later, this situation that many of us now find ourselves in, has the potential to offer us opportunities, both for ourselves and our loved ones. We just need to see beyond the current madness.

In examining the data provided by almost 1,100 pilots, the 'Lived Experience' team have identified some of the lifestyle factors that had a direct link with increased levels of depression and anxiety in the pilots. Some of the most prominent issues were centred around;

- Sleep
- Exercise / Physical Activity
- Diet
- Social Connections
- Stress Management & Coping Techniques

In this booklet we have explained why these lifestyle factors play such a crucial role in maintaining positive mental health, and have attempted to offer practical guidance on how best to address these issues, with particular cognisance to the current lock-down situation that many of us now find ourselves and our families in.

WHAT IS HEALTH & WELLBEING?

The World Health Organisation (WHO) had defined Health as;

“a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity”.

The ‘biopsychosocial model of health’ allows us think of our health as a 3-legged stool, in which each of the legs represents one of the pillars of health; Physical, Mental & Social. Our body, mind and soul. Any stool with two legs, or even one leg, will not stand up straight for too long. Equally, if we strengthen one or two legs of the stool, while ignoring the third leg, this weaker leg will buckle, taking down the entire stool with it. This analogy describes very well the inter-dependency that exists between the physical, mental and social aspects of our health.

Certain lifestyle factors have direct and well understood influences on each of the pillars. Physical health is very much affected by diet, exercise and sleep. Our behaviours, attitudes, stress management and coping techniques have a profound impact on our mental health.

Lastly, social health is affected by our support networks; those around us, our family, our friends and our tribe.



In reality, each of the above listed factors do not just influence one of the pillars, but instead much more holistic and complex relationships exist. A human being is an extremely complex system, and even more

complex than the aviation system to which we are all so familiar with, yet both systems have a few things in common.

Just like in aviation, things normally go right with humans, but every now and then things can go wrong. But just like incidents and accidents, rarely is there a single point of failure, but instead a whole multitude of contributory factors. Many of these risk factors might have been lying dormant for some time, but on a given day they can interact in a way not seen before and BANG! It can be a plane crash, a heart attack, an escape slide blown, or a cancer diagnosis. However, by identifying and reducing the number of risk factors, that is how we have managed to make flying as safe as it currently is and reduce the prevalence of many diseases. Managing mental health is not much different.

THE LIVED EXPERIENCE OF A PILOT

Since 2015 the 'Lived Experience of a Pilot' project has attempted to understand how sources of Work-Related Stress are affecting the physical, mental and social wellbeing of airline pilots, and how this ultimately impacts on pilots and flight safety.

This project initially began with field research involving informal interviews with in excess of 100 pilots over an 18 month period. This was followed by a series of workshops in early 2018 in which 33 pilots participated, and allowed us further refine and validate the 'Lived Experience' model.

In November 2018 a largescale survey was launched, which used standard instruments to allow us measure levels of depression, anxiety, suicidal thoughts, burnout, disengagement and emotional exhaustion in airline pilots. We also examined a large range of lifestyle factors commonly accepted to influence human health, and attitudes to reporting wellbeing issues and seeking help . This has allowed us not only further refine and validate our model, more practically to understand what is helping some pilots remain resilient, while others working in the same environment and facing similar sources of stress are suffering with psychological distress.

In this booklet, we will list a selection of strategies that we believe will help individuals to weather this temporary crisis. You might be tempted to scoff at what you consider to be *'hippy-dippy nonsense'*. However, before doing so, bear in mind that these suggested strategies are based on the analysis of data submitted by more than a thousand of your fellow pilots, and that the levels of psychological distress in these pilots is higher than that being experienced by the general population. These pilots are no different to you. They are also 'stable extroverts', having been selected for their mental stability. However, just like you, they are also human.

This booklet is my no means a complete reflection of the work done by the 'Lived Experience' team. Instead, it is a summary of some of the key findings to date, put together with limited time and resources. The analysis of the data gathered in the survey is still in its infancy, and in time, the remaining findings will be peer-reviewed and published in scientific journals.

"Perfection is the enemy of the good, when it comes to emergency management.

Speed trumps perfection..."

... Dr. Mike Ryan, Executive Director of Health Emergencies WHO

AN ASTRONAUTS GUIDE TO SELF-ISOLATION



Commander Chris Hadfield has spent months in space, physically isolated from his family and friends. There are few people better placed to offer advice on how best to get through these next few weeks or months, where many of us are under lock-down, with our movements severely restricted. Using social media (in a healthy manner), he stayed in touch not only with his family, but the whole world.

In dealing with our own isolation, Commander Hadfield recommends we take a similar systematic approach to how he handled his own situation, so as to ensure we thrive and remain productive.

1. Understand the risk - base your assessment on credible information; facts not social media rumours.
2. What is your mission - get through the next few weeks or months, while preserving the wellbeing of you and your family.
3. Identify what are your constraints, resources and obligations.
4. Draw up a plan.
5. Take action.

<https://youtu.be/4uL5sqe5Uk8>

SLEEP

Our research indicates that not only are very few pilots getting enough sleep on a regular basis, but an equally small minority are getting enough restorative recovery sleep so as to allow them adequately recover. This continuous deficit, in combination with a repetitive and frequent disruption to circadian rhythm, is playing havoc with their mental health.



Sleep is every bit essential as the oxygen we breathe, the water we drink and the food we eat. Interestingly, although we will die within minutes of being deprived of oxygen and within days in the case of water, we will die substantially sooner when deprived of sleep than if we abstain from food. Mahatma Gandhi engaged in several famous hunger strikes to protest British rule of India, and in 1929 Indian socialist revolutionary Bhagat Singh fasted for 116 days. In doing so, Singh surpassed the 97-day world record for hunger strike which was set in 1920 by a group of Irish revolutionaries. Would we last 116 days without sleep? No is the simple answer. Rigour

mortis would be well established in less than 1/10th of this time.

In 2007 a British man claimed to have beaten the previous Guinness world record of 264 sleepless hours (11 days) set in the United States in 1964. Unfortunately for the tired and weary record breaker, the Guinness Book of Records had since withdrawn its backing of a sleep deprivation class because of the associated health risks. Sleep is an extremely important aspect of Wellbeing, yet so many pilots and cabin have normalised sleep restriction and disruption.

We evolved as a species over 100's of 1,000's of years, and during this time our sleep patterns changed little. At least that was the case until a bright spark called Thomas Edison took us out of the darkness by inventing the electric light bulb. Soon afterwards, shift-work arrived allowing people to play havoc with their circadian rhythms, with little understanding of what the health consequences might be.

Sleep experts recommend that to optimise our health, adults get between 7 and 9 hour sleep, and that we keep our sleep patterns as consistent as possible. In other words, we should go to bed and wake up at the same time each night and morning. For pilots and cabin crew this is an alien concept. Many of us have normalised being tired, and probably don't know what it is actually like to feel fully awake and refreshed. We all too often work in conflict with our circadian rhythms. Since all those we work with are doing the same, this becomes our new norm. However, the manner in which many pilots and cabin sleep is far from normal. Both the short- and long-term consequences for our health are extremely detrimental.

Sleep restriction, in which we don't get the recommended 7-9 hours sleep has a profound impact on our physical and mental health. As little as one night of restricted sleep has been demonstrated to affect our mood, increasing levels of anxiety and depression. Given that pilots are routinely sleep restricted, it was of no surprise to our research team that our research findings demonstrated a very clear link between the sleep restriction in pilots and the levels of anxiety and depression being experienced.

Sleep displacement is a measure of circadian disruption, occurring when an individual does not maintain consistent sleep times. Imagine a crew member who spends a night away from base, in a time zone that is several hours ahead or behind their home base, and also their body clock. Many of us are all too familiar with this feeling, and associate it with jet-lag and long-haul flying. However, we don't have to transit several time-

zones to experience sleep displacement. Simply getting up several hours earlier or later on our duty days compared to our free days will induce a similar affect. This misalignment between our body clocks and the local times plays havoc with our bodies, and many of us are familiar with this. Unfortunately many of us don't realise the detrimental impact this shift had on our minds.

Circadian disruption has an extremely negative effect on our mental health, and countless studies have demonstrated this beyond dispute. Once again we were not surprised at all to see our findings demonstrate clear and strong links between sleep displacement, i.e. circadian disruption, and levels of both anxiety and depression in the pilots who participated in the study.

Many years ago, the notion of sleep debt was floated, and it was proposed that this debt could be built up over the course of many nights, as in the case of the working week. It was suggested that by sleeping in at the weekend we could recharge and effectively 'liquidate the debt', before doing it all again the next week. This notion very much went unchallenged for decades, and has very much shaped the way many of us still live our lives. This notion, although commonly accepted is flawed and recent scientific evidence proves this.

One night of restorative sleep is not enough. We may feel relatively better after one night sleep, however we need to acknowledge the fact that being sleep deprived bears a lot of common features with being drunk. Self-subjectivity is one of these features. When we are drunk, we are not great at judging exactly how drunk we are. Otherwise we'd listen to the little voice of reason in our head which normally prevents us from making a fool of ourselves. When we are tired, we tend not to know how tired we actually are. We might feel better after one night of sleep in comparison to the previous day, but really we have no idea how much better. Adding this to the fact that most pilots and cabin crew are close to permanently sleep deprived, with a circadian

rhythm that is turned on its head, we have no real idea what a normal baseline of alertness and wakefulness looks like.

Recent studies suggest that one night of restorative sleep might be enough to recover for one night of restricted sleep, but that as the

number of consecutive nights of restricted sleep increases, so does the number of nights of restorative recovery sleep, almost on a 1:1 basis. Therefore, a week of restricted sleep will require almost a week of restorative recovery sleep to allow us fully recover.

Sleep Is Your Superpower

Sleep is your life-support system and Mother Nature's best effort yet at immortality, says sleep scientist Matt Walker. In this deep dive into the science of slumber, Walker shares the wonderfully good things that happen when you get sleep -- and the alarmingly bad things that happen when you don't, for both your brain and body. Learn more about sleep's impact on your learning, memory, immune system and even your genetic code -- as well as some helpful tips for getting some shut-eye.

https://www.ted.com/talks/matt_walker_sleep_is_your_superpower?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare

HOW TO GET TO SLEEP

Note: The following is a set of guidelines devised by the UK National Health Service (NHS). The 'Lived Experience' team are acutely aware of the difficulties experienced by pilots in achieving enough good quality sleep and that circadian disruption is simply a fact of life for many. We have a mountain of evidence screaming these realities at us. However, any small improvements that you can make, even in the short-term, will have a positive impact on your mental health. Many of us are now on either reduced hours or not flying at all, and this in itself causes anxiety and stress. On a positive note, this may allow you focus on adopting 'normal' sleep patterns, which will help you get through these challenging times.

If you have difficulty falling asleep, a regular bedtime routine will help you wind down and prepare for bed. Few people manage to stick to strict bedtime routines. This is not much of a problem for most people, but for people with insomnia, irregular sleeping hours are unhelpful.

Your routine depends on what works for you, but the most important thing is working out a routine and sticking to it.

Sleep at regular times

First of all, keep regular sleeping hours. This programmes the brain and internal body clock to get used to a set routine.

Most adults need between 7 and 9 hours of sleep every night. By working out what time you need to wake up, you can set a regular bedtime schedule.

It is also important to try and wake up at the same time every day. While it may seem like a good idea to try to catch up on sleep after a bad night, doing so on a regular basis can also disrupt your sleep routine.

Make sure you wind down

Winding down is a critical stage in preparing for bed. There are lots of ways to relax:

- a warm bath (not hot) will help your body reach a temperature that's ideal for rest
- writing "to do" lists for the next day can organise your thoughts and clear your mind of any distractions
- relaxation exercises, such as light [yoga stretches](#), help to relax the muscles. Do not exercise vigorously, as it will have the opposite effect
- relaxation CDs work by using a carefully narrated script, gentle hypnotic music and sound effects to relax you
- reading a book or listening to the radio relaxes the mind by distracting it
- there are a number of apps designed to help with sleep. See [the NHS Apps Library](#)
- avoid using smartphones, tablets or other electronic devices for an hour or so before you go to bed as the light from the screen on these devices may have a negative effect on sleep

The [sleepstation website](#) also provides a range of useful articles and resources designed to aid sleep.

You should also contact your GP if you have insomnia that lasts for more than 4 weeks.

Make your bedroom sleep-friendly

Your bedroom should be a relaxing environment. Experts claim there's a strong association in people's minds between sleep and the bedroom.

However, certain things weaken that association, such as TVs and other electronic gadgets, light, noise, and a bad mattress or bed.

Keep your bedroom just for sleep and sex. Unlike most vigorous physical activity, sex makes us sleepy. This has evolved in humans over thousands of years.

Your bedroom ideally needs to be dark, quiet, tidy and be kept at a temperature of between 18C and 24C.

Fit some thick curtains if you do not have any. If you're disturbed by noise, consider investing in double glazing or, for a cheaper option, use earplugs.

DIET

Our research to date that indicates that maintaining a healthy diet is challenging for many pilots. While on a duty day, only 38.5% of pilots considered their diet to be healthy, whereas on a day free of duty, this number more than doubled to 88% of pilots.

Our findings have also demonstrated a strong link between the quality of diet and levels of anxiety & depression. Those pilots with healthier diets had healthier minds.



"Let food be thy medicine and medicine be thy food"
...Hippocrates

Diet has long been accepted as having a profound impact on one's health. The links between diet and both physical and mental health in the general population have been studied extensively. Studies suggest that shift work can result in low-quality and irregular eating, and that shift workers face unique nutritional issues including erratic meal patterns, increased consumption of energy later in the day and increased snacking, with multiple snacks being consumed during night shifts in place of a full meal.

Studies have shown that a highly processed or "Western" diet increases the risk of developing psychiatric symptoms such as depression and anxiety. On the flip-side, a diet rich in fruits and vegetables, high in healthy fats, nuts and omega-3 rich oily-fish, and low in processed food, has been proven to increase one's resilience to such disorders.



Omega-3 fatty acids are suggested as being beneficial not only in the prevention, but also in the treatment of depression.

Researchers have been studying the role played by diet in the protection of mental health, and after years of work, came up with some really practical advice. Essentially to reduce levels of depression and anxiety we need to eat more food and less crap. Yes, you read that correctly. *Eat more food and less crap*. So how do we do that. So as to make this clearer, they created a very clever and easy to remember acronym.

- F – Fresh Fruit & Vegetables
- O – Organic Lean Protein (Meat)
- O – Omega-3 Fatty Acids
- D – Drink plenty of water

- C – Carbonated drinks & confectionary
- R – Refined sugars
- A – Additives & artificial sweeteners
- P – Processed meats & foods



Many people might be surprised to hear that our fluid intake affects our mental health. We typically feel thirsty if we are 3% dehydrated. However, levels of anxiety begin to rise once we hit 1.5% dehydration. So waiting until you are thirsty is too late. To reduce any feelings of anxiety we need to drink often.

As discussed earlier, sleep restriction or deficit is common among pilots and cabin crew. In studies

on shift workers, skipping meals has been reported as being more common among shift workers who do not get sufficient sleep, with increased snacking being used as a compensatory measure. Does this sound familiar?? The intake of sweet food, beverages and added sugars has been linked with depressive symptoms in several populations. Shift workers with insufficient sleep have also been reported as been significantly less

likely to consume the recommended daily amounts of fruit, vegetables and dairy products.

Scientific evidence suggests that nutritional content is not the only food-related factor that impacts on psychological wellbeing. It appears to be not just “what we eat” that matters, but also “where and when”. The social context of eating plays a role in health promotion, in that eating in a relaxed environment promotes the activation of anti-stress systems. Medical experts have argued that if shift-workers are to be encouraged to maintain particular eating habits in the workplace, they need to be provided with both the opportunity and the appropriate facilities.

The dietary habits of a shift-worker may increase their susceptibility to certain health problems, such as irritable bowel syndrome (IBS), which is strongly linked with anxiety and depression. Many pilots and cabin crew report gastro-intestinal issues. Our own results indicate that almost 60% of pilots experience GI issues, and attribute this to the job and/or believe that this is worsened by the job.

Diet has been suggested as one of the most important modifying factors of the “microbiota-gut-brain-axis”. The complex gut-brain axis not only ensures proper maintenance and coordination of Gastro-intestinal functions to support behaviour and physiological processes, but also permits feedback from the gut to exert profound effects on mood, motivated behaviour and higher cognitive functions. The quality and quantity of our sleep has also been proven to influence what goes on downstairs in our gut.

The dynamic and complex ecosystem of gut bacteria (microbiomes) has recently been demonstrated to have a major impact on our state of mind, and this gut-brain axis seems to be bidirectional. Gut bacteria impact on cognitive function and fundamental behaviour patterns, such as social interaction and stress management, and have been implicated in a variety of stress-related conditions such as depression, anxiety and IBS. Ulcerative Colitis (UC) and IBS are believed to affect psychosocial behaviour, while GI inflammation may be involved in the pathogenesis of depression.

Although much of the understanding of this gut-brain axis is recent, people have been aware of its existence for centuries, if not longer. How many common sayings refer to this link between our emotions and our intestines?

“I was gutted”
“I’ve butterflies in my tummy”
“Gut instinct”
“I am shitting it”

It is particularly interesting to note that languages from all corners of the globe have similar sayings that give a nod of acknowledgement to this connection.

As with the findings on sleep, as expected we observed links between the quality of a pilots diet and the levels of depression and anxiety being experienced. As diet improved, so too did mental health.

Food for thought: How gut microbes change your mind

John Cryan, a neuropharmacologist and microbiome expert from University College Cork, shares surprising facts and insights about how our thoughts and emotions are connected to our guts.

<https://www.youtube.com/watch?v=kMVxbnfSP-Q>

PHYSICAL ACTIVITY

Almost 50% of pilots who participated in the 'Lived Experience' study reported that their ability to exercise regularly was 'frequently' restricted by their job.

Less than 30% of pilots are meeting the national guidelines of 4-5 periods of 30 minutes exercise per week, and sadly our findings demonstrate that this is linked with higher levels of anxiety and depression.



A study from Yale and Oxford Universities, involving 1.2 million people suggested that exercise is more important to our mental health than our economic status. Exercise stimulates positive endorphins, helps clear your head and lifts your mood. Research from 2017 reported that 12% of cases of depression could be prevented with an hour of exercise per week. And if you increase this to three activities per week, you reduce this risk of depression by 30%.

Researchers from Stanford University scanned the brains of regular exercisers and observed a

difference in their grey matter, particularly in the pre-frontal cortex, the part of the brain that controls how we respond to stress. Exercise has been clinically proven to stimulate the release of serotonin, our natural feel-good neurotransmitter.

Research has also demonstrate that a sedentary lifestyle has a detrimental impact on our mental health. In one recent study, participants who were in good mental health beforehand, had their physical activity levels restricted and depressive and anxious symptoms were observed.

On a more positive note, however, as with sleep and diet, a strong positive link was observed between frequency of exercise taken by pilots and positive mental health. Those pilots who managed to exercise more frequently had less depressive symptoms. Medical experts have demonstrated that the relationship between exercise and mental health is a two-way street, in that we are more likely to exercise when in a good mood, but more importantly exercising can put us into a good mood.

Exercise can also induce a healthy 'ripple effect' into our lives, as it also been demonstrated to improve the quality of our sleep and also reduce cravings for unhealthy food, both of which are linked with positive mental health.

Physical activity, i.e. exercise, does not have to involve running, cycling, swimming or going to the gym, and it doesn't necessarily have to be done in a structured manner. There are many different types of exercise, such as aerobic,

resistance and high intensity interval training (H.I.I.T.). There is an abundance of evidence demonstrating the positive benefits of each of these types of activity, especially when it comes to helping protect against anxiety and depression. You might ask which type of exercise is best for your mental health. Is it quick bursts of activity, such as H.I.I.T.? How about a brisk walk? A gentle cycle? A 5k run? The answer is simple – whichever type you enjoy.

The biggest factor in determining how effective any treatment or drug will be, is the likelihood of it being administered and received as intended. Exercise is no different. It's pointless, for example, committing to do a daily run, if its preceded by dread and anxiety. Where's the benefit in that? Instead, pick something you enjoy. If it's something that you have positive associations with, you are far more likely to stick with it. Stick on the headphones and put on your favourite album or podcast, and get moving.



Physical activity is any bodily movement where you are moving and expending energy. This could be something as practical as gardening or DIY jobs around the house. How many times are you bending up and down if you paint a room. How tired have you felt after a day spent in the fresh air while working in the garden?

Small changes in the right direction, very soon accumulate resulting in profoundly positive benefits. One of the secrets to forming a healthy habit around physical activity is to pick something that you enjoy. If it is a chore, you won't stick to it. Also, accountability is a great motivator. If we can manage to pair up with other like-minded people, we are less likely to miss out on our regular slot of activity.

Exercise in the company of others has also been shown to have a positive impact on our social

health, but obviously this is not always possible, particularly right now. Many of us are currently either living in '*self-isolation*', having potentially being exposed to the coronavirus, or perhaps are subject to '*social distancing*' or '*lock-down*'. However, even when restricted, we can still exercise. If astronauts on the space station can take daily exercise, surely we can too. We can exercise in the confines of our homes and perhaps involve other family members.

Thanks to the internet, many exercise related resources are available. On such resource is the series of free exercise routines provided by the physical trainer Joe Wicks, a.k.a. 'The Body Coach'. These free to view videos are 10-20 minutes in duration and offer High Intensity Interval Training (HIIT) sessions, that mostly require minimum space and no equipment, other than suitable exercise attire.

The Body Coach

'The Body Coach' has produced online exercise routines for people of all fitness levels, and since the Covid-19 crisis, has even produced a series of daily workouts for kids, which are perfect if your children are struggling with cabin fever.

<https://www.youtube.com/channel/UCAxW1XT0iEJo0TYlRfn6rYQ>

The Brain-Changing Benefits of Exercise

What's the most transformative thing that you can do for your brain today? Exercise! says neuroscientist Wendy Suzuki. Get inspired to go to the gym as Suzuki discusses the science of how working out boosts your mood and memory -- and protects your brain against neurodegenerative diseases like Alzheimer's.

https://www.ted.com/talks/wendy_suzuki_the_brain_changing_benefits_of_exercise?

YOGA

In the 'Lived Experience' study, pilots were asked if they experienced any health issues, that they either attributed to their job or believed were worsened by their job. 'Musculoskeletal issues' were the second most common issue, reported by 73.5%, and second only to sleep difficulties.

Given the extremely sedentary nature of working as a pilot, it is not surprising that almost 3 in four pilots suffer with musculoskeletal issues.

There is a growing body of empirical evidence to support the mental health benefits afforded by yoga. What was once considered to be “a bit out there” by many medical professionals in the West, is now considered as an important practice tool of psychotherapy. Yoga increases body awareness, relieves stress, reduces muscle tension, strain and inflammation, sharpens attention and concentration, and calms and centres the nervous system.



Yoga has been shown to improve the symptoms of depression, attention deficit and hyperactivity, and sleep disorders. Yoga has also been demonstrated to increase levels of chemicals in the brain which regulate nerve activity, helping people reduce levels of anxiety.

Yoga is known to improve both our flexibility and mobility. Flexibility is the ability of a muscle to lengthen and contract, whereas mobility is the ability of a joint to move actively through a range of motion.



Ideally yoga should be practiced in a class setting, with a qualified teacher. However, there are endless resources available online, offering classes for all levels.

Yoga is an activity that is suitable for people of all ages and fitness levels. Many children enjoy practicing yoga, and if you are confined to staying at home, perhaps this could be a very beneficial activity to partake in with your children.

MEDITATION & MINDFULNESS

Buddhist monks exhibit a sense of relaxed readiness for whatever life might bring. For thousands of years meditation was practiced only in the Far East, but eventually the secret got out. In more recent times, Special Ops military units have trained their members in the art of mindfulness meditation. They realised that just like Ninjas (and Jedis), they needed to remain calm when faced with imminent danger and serious threat to life.

Law enforcement agencies both in the USA and the UK are also providing their officers with mindfulness training, as it has been demonstrated to improve their performance on the job, while also improving their home life by helping deal with work-related stress.



This acknowledgement of the benefits of meditation is not limited to the military and law enforcement. Many athletes have adopted meditation as part of their training programs. The Cambridge English Dictionary defines the meaning of the phrase *'to lose your head'* as *'to lose control and not act in a calm manner'*. It is believed that this phrase originated in boxing circles, where if a boxer did not defend and attack in a calm manner, he left himself open to being hit in the head, therefore increasing the opportunity for a knock-out.

Michael Jordan is one of the most famous and successful Basketball players in history. Commentators frequently said it was as if Jordan was operating in a different time frame to his opponents, as if the game was being played in slow motion in his frame of reference. He was 'In The Zone', 100% focussed, regardless of whether they were winning or losing. He was unfazed. During much of his time with the Chicago Bulls, the whole team gelled like no other. What other teams in the NBA did not know, was that at the time, the Bulls had a secret weapon; Mindfulness. Michael Jordan and the Bulls coach, Phil Jackson, give an enormous amount of credit to the players' regular meditative practice.

This 'zen-like' state was clearly evident in the dying moments of the 1998 NBA Championship Finals. With a TV audience of 72,000,000 fans, the Utah Jazz were leading by one point with 18 seconds remaining on the clock. As if by magic, Michael Jordan stole the ball from Utah's Karl Malone, and slid past Bryon Russell, sending Russell confused to the floor. With 5 seconds to spare, a lifetime in Jordan's mind, he effortlessly took the winning shot, giving the Bulls their sixth championship. It would be Michael Jordan's last game with the Bulls, and it is still considered one of the greatest plays in NBA history. This play has been viewed millions of times on YouTube and is well worth watching.

Jordan was not the only meditator on the team. In the mid 90's, the Bulls coach Phil Jackson recruited

George Mumford to be their meditation coach. George is the author of 'The Mindful Athlete', in which he describes how he introduced mindfulness practice into the Chicago Bulls, which allowed the team to play in a sustained sense of 'Flow'. Once the secret was out, many other NBA teams began incorporating mindfulness meditation into their training programs. The LA Lakers quickly got onboard the zen-train too, and signed up Mumford. The late five-times NBA Champion Kobe Bryant has stated "George helped me understand the art of mindfulness: to be neither distracted nor focussed, rigid or flexible, passive or aggressive. I learned just to be."

Just like the Buddhist monks, Jordan and his

1998 NBA Final

Michael Jordan clinches 6th NBA title

<https://www.youtube.com/watch?v=d8qXbVyVNnA>

fellow Bulls exhibited a sense of relaxed readiness for whatever life might bring, both on and off the basketball court.

The brains of Buddhist monks have recently been examined using EEG and fMRI scanning techniques, and have been shown to be wired differently to non-meditators. This allows the monks to perform mental gymnastics that most of us would be incapable of. Meditation has been scientifically demonstrated to allow the experience of an ongoing state of open, rich awareness during daily life, and not just when one meditates. Meditation results not only in altered states of mind, i.e. temporary, but more importantly it alters our permanent traits of mind. It is not only long-term meditators and monks who can benefit from meditation. An 8-week Mindfulness Based Stress Reduction (MBSR) program has been shown repeatedly to be extremely beneficial.

What if we could learn to do the same as the Buddhist monks, Jordan and his fellow Bulls? What if we could reduce our susceptibility to rumination, stress and worry, and adopt a Jedi-like disposition. Well maybe to an extent we can....

There is no shortage of mindfulness resources, in the form of Apps, YouTube tutorials and even free 8-week MBSR courses such as that offered at <https://palousemindfulness.com>

Some of the more popular Apps include Headspace, Calm, Breathe and Insight Timer, all of

which are available with free trials and paid subscriptions thereafter.

In the UK, the College of Policing have introduced Mindfulness Training for Police Officers, in part to combat soaring levels of burnout, stress and anxiety in the officers. In the United States, such training has been shown to be effective in improving the management of high-adrenaline situations, enhancing alertness while gathering evidence, improving listening skills when dealing with witnesses and victims, and even helping firearms officers make better decisions. The UK officers are reporting sleeping better and feeling calmer and less reactive.

*Mindfulness meditation is not about 'zoning out'.
In fact, it is the opposite. It is about 'zoning in'.*

Pilots, by their nature, are rational and analytical thinkers, and luckily there is an abundance of scientific evidence indicating that mindfulness beneficially changes the inner workings of our brains. Three key changes have been observed.

The Amygdala – this is the most primitive part of our brain. It processes fear and initiates the Fight-Flight-Freeze response. The Amygdala tends to be larger in people who suffer from anxiety and depression. Mindfulness causes the Amygdala to shrink. This reduces the severity of Fight-Flight-Freeze response, thus reducing the risks posed by a startled pilot.

Pre-Frontal Cortex – this is the part of the brain governs decision making, complex processes, impulse control and concentration. Mindfulness causes this to thicken.

Improved Connectivity – connections between the amygdala and the rest of the brain reduce, while connections between the pre-frontal cortex and the rest of the brain activate more frequently in response to meditation.

Mindfulness is the practice of bringing your attention to the present moment for a sustained period of time, and meditation is the best way to cultivate mindfulness. Research has proven that mindfulness training improves our ability to cope with stress and brain functioning in areas of awareness, concentration and decision making, resulting in better job performance, better overall wellbeing and less incidence of mental illness. It is clear to see that Mindfulness offers huge potential benefits both to flight safety and the health of pilots.

How to do a Body Scan Meditation

1. With your eyes closed,
2. start at the top of your head and mentally “scan” down your body.
3. Bring your awareness to your head and neck, and notice if you feel any feelings, sensations, or discomfort.
4. Does that area feel relaxed or tense? Comfortable or uncomfortable? Energetic or tired?
5. Repeat this practice for your shoulders, arms, hands, chest, back, hips, legs, feet, and so on — taking about 20-30 seconds to focus on each body part.
6. When you encounter areas of tension during the scan, don’t struggle. Instead, focus your attention on them and breathe. Try to visualize the tension leaving your body.
7. Take note of your observations and when thoughts or feelings arise, return to the area of the body where you last left off. Don’t try to change anything — you are simply building a picture of how the body feels right now, in the moment.

Note: there is absolutely no requirement to wear linen, light candles, burn incense, go vegan, to chant while sitting on a beach or grow your hair long - Save that for instagram :)

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How To Tame Your Wandering Mind

Amishi Jha studies how we pay attention: the process by which our brain decides what's important out of the constant stream of information it receives. Both external distractions (like stress) and internal ones (like mind-wandering) diminish our attention's power, Jha says -- but some simple techniques can boost it. "Pay attention to your attention," Jha says.

https://www.ted.com/talks/amishi_jha_how_to_tame_your_wandering_mind?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare

All It Takes Is 10 Mindful Minutes

When is the last time you did absolutely nothing for 10 whole minutes? Not texting, talking or even thinking? Mindfulness expert Andy Puddicombe describes the transformative power of doing just that: Refreshing your mind for 10 minutes a day, simply by being mindful and experiencing the present moment. (No need for incense or sitting in uncomfortable positions.)

https://www.ted.com/talks/andy_puddicombe_all_it_takes_is_10_mindful_minutes?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare

MANAGING WORRY



Starve worry of time and space. Worry thrives when we give it quiet, unstimulated time for the brain to mull over an impossible problem. Uncertainty and lack of control drive us to worry more. Often the goal and direction of an ordinary work day take us out of minds, away from worry and into the practical every-day. Sadly, in our quarantined world, it is easy to have “too much time to think”.

Here are a couple of steps to help manage worry;

- Notice our thought pattern. Is it spiralling? Going round and round on the same issues. Then we aren't really thinking or problem solving, we're worrying
- Use a pen and paper. Write down the worry. Identify every possible solution from the sublime to the ridiculous. Is there an action you can take? If there isn't then move away from the problem and engage in an action you are able to take.
- Really concentrate on what you are doing. The quarantined world is a shift from being constantly being over-stimulated to being under-stimulated. Now, we have to concentrate on quiet things: gardening, cooking, conversation. Very old-fashioned but this is how the human race is actually meant to live.
- What is your purpose during this period?
- Although we need to know what is going on outside of our homes, limit your exposure to the news and consider just sticking with one news source, e.g. a national broadcaster.
- Consider turning off all notifications on your phone and advise isolated family members/friends to phone or text you if it's an emergency.

SOCIAL CONNECTION VS SOCIAL DISTANCING

The one thing we absolutely do not need now is 'Social Distancing'. We need 'physical distance' between us. The virus on its own will not travel. If we don't move, the virus cannot move, and soon will die. If we keep moving, the virus keeps moving.

In the last few weeks we have witnessed scenes never seen before in our lifetime, with panic buying of essentials such as toilet roll and disinfectant. Our children have been sent home from school, and '*social distancing*' is being encouraged. This has placed an enormous burden on families, especially those with both parents working or with dependant relatives. Children's activities have been suspended. Pubs and restaurants have closed. Gyms have closed. We can't even have friends visit our homes or bring our children to visit their Grandparents. So many of the healthy behaviours that we frequently do to support our wellbeing are being restricted.

WhatsApp has gone into overdrive, with almost hourly bouts of fake news, designed purely to send us into a panic-induced tailspin. As if things weren't bad enough before Covid-19 arrived...

Now more than ever, we desperately need practical steps to embrace self-care. We have never needed more a sense of community. As pilots and cabin crew we are acutely aware of the need to put on our own oxygen mask first. If we can protect our own mental health, we are better placed to support those around us.

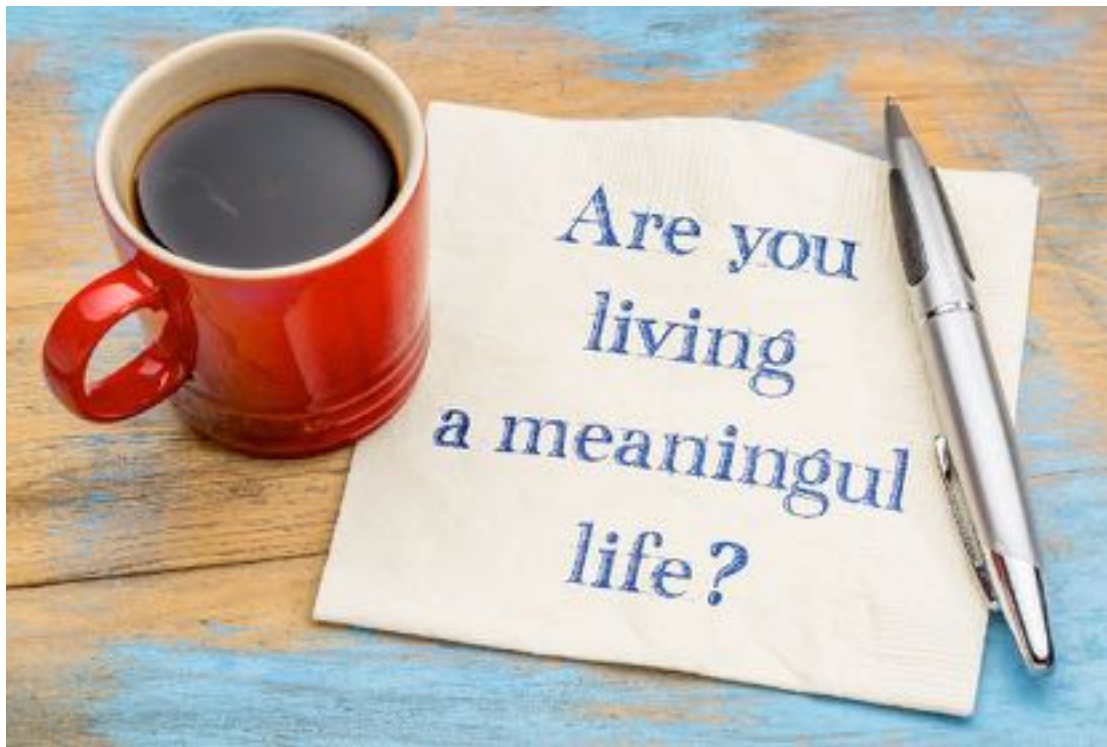
With today's technology we can keep in touch with those around us, albeit with restrictions. However, these are temporary restrictions. We just need to be sensible and not allow us become slaves to the constant pings from our devices. This storm, as with every other storm, will pass.

What Makes A Good Life – Lessons From The Longest Study On Happiness

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.

[https://www.ted.com/talks/
robert_waldinger_what_makes_a_good_life_lessons_from_the_longest_study_on_happiness?
utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare](https://www.ted.com/talks/robert_waldinger_what_makes_a_good_life_lessons_from_the_longest_study_on_happiness?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare)

MEANING



Our research findings suggest that many pilots no longer find their work as satisfying as they once did in the past. 81% of pilots did not feel valued by their company, and only 31% believed their company recognised when they did a good job. 60% of pilots reported doing their job 'almost mechanically', with 70% reported being disconnected from their work.

Pilots believed that their job was damaging to social connections, and more than 75% reported that they often had to cancel arrangements with family and friends. Other than paying the bills, a substantial number of pilots appear to be getting little sense of purpose or meaning from their job, or from other aspects of their life. This has a significant detrimental impact on levels of anxiety and depression, and on ones sense of self-worth.

90% of pilots believed that their job had a detrimental impact on marital and family life. 50% reported feeling lonely and isolated.

Think of your grandparents. For most people of their generation, their lives were immersed in meaning. Religion was unquestioned; politics were clear; patriotism was universal. Family. Work. Parish. All of these institutions were venerated. Although certainly not without fault, these institutions were relied on, and this generation received a lot from them. There has

been an extraordinary change for subsequent generations. Those touchstones of meaning have shifted. Now we each have to seek out our own personal meaning in a world that is increasingly complex. Yet things that we need, the things that we want, aren't that different from those of our grandparents. Most people would like to be in a permanent relationship; most people would like

to have children; most people want a secure job and to be part of a caring community. We ask the same of our grandparents, but we have to find our own individual answers. That can lead to a lot of confusion and stress for people.

When Freud wrote about what makes us happy, he emphasised the need for two things: *lieben und arbeiten* (love and work). We need people to love – whom we can love in return – and a role that gives us a sense of satisfaction. These are core components for happiness and when we lose one or both through a break-up, redundancy or our children leaving home, we have to strive to find a new way of fulfilling them.

Research also tells us that although love and work are important, if we have a sense of being part of something larger, this increases our sense of happiness even further. Is there a cause that we can commit to? A community that we can embrace and that will embrace us in turn? In our busy lives, it can be hard to set aside the time for such pursuits, but it is worth it. In Ireland, we are still strong on community spirit. If you drive past a football pitch on a Saturday morning, you still see dads coaching the under-nines. Bake sales, charity collections and school concerts are still well attended. These events build ties within a community and highlight our sense of ourselves as not being alone in the universe but part of the whole. That leads us to feel safe, warmer and less isolated, especially when we go through tough times.

Can we go 'larger' than just community? Can we find meaning above work, family and community? Viktor Frankl was a famous Jewish psychologist who was imprisoned in Auschwitz. In his key work, *Man's Search for Meaning*, he detailed how vital larger meaning is in our ability to transcend difficulties and find solace in even the most appalling circumstances. He looked at all the people around him in the concentration camp and saw who survived and who didn't. He believed that fundamental to our ability to survive, even in the worst possible situations, was

having something to live for and to truly believe in.

He saw meaning as personal and unique. We each need an individual framework through which we can view the hardships and joys of life. We need to find it, develop it, in our true selves and really know it. This asks major questions of us. What do we believe in? What is important to us? If we had to leave behind our normal lives, what would we take with us? Within the confines of our own heart, if we had to abandon everything, what would we hold on to?

This sense of meaning is vital to our happiness and vital to our ability to come through unhappiness. Having survived three years in Nazi concentration camps, Frankl came to his philosophical conclusion that even the most absurd, painful and dehumanising situation has the potential for meaning. We don't have to overcome suffering to find meaning, we can find it anywhere at anytime. In fact some of our greatest meaning in our lives comes from the darkest moments.

Understanding our own suffering brings meaning to the darkest corners of our lives. Having a framework to understand the vicissitudes of life allows life to be meaningful. Our sense of meaning will change throughout our lives. We can find it and re-find it again, infinitely. The important thing is to seek. The world has changed a lot since 1943. Our busy world hides its meaning under brands and commodification. Yet true meaning exists just below the surface. So it is all the more important to drive ourselves towards a greater commitment to finding meaning. Our happiness depends on it. The human race has searched for meaning as long as it has existed. There is great wisdom in every philosophy and in every religion if we are willing to search for it. We need not be concerned with the complexity and sophistication of modernity but with the very simple things. Finding, holding, embracing and committing to something bigger than ourselves. When we look outside ourselves, we become stronger. Happiness is not an abstract concept. We

build it in both large and small actions. It is easy to ignore or neglect until we turn around and find we have lost it. It is something to be cherished, sought and guarded. But firstly we must decide to seek it out. We must decide we want to be happy.

As highlighted earlier, this unfamiliar and strange situation that we have found ourselves in, although frightening, has presented us with an opportunity to do things we might rarely have had the opportunity to do. As pilots and cabin crew, we have normalised being tired, due to a lack of sleep. Our body clocks have spent years upside-down. As pilots we spend hours on end effectively restrained into our seats. How many of us turn our nose up at the 'airplane lasagne' and long for a healthy meal, served on a normal plate on an actual table. All those meals that our children have eaten without us present.



90% of pilots reported that their job had a detrimental impact on their family life, and half of all pilots reported feeling lonely and isolated.

Now is the time to do something about that....



Many pilots report that the job doesn't mentally challenge them. Regardless of what the FMA reads, they themselves are on auto-pilot. Learn a new skill. YouTube is full of online tutorials. Universities across the globe offer free introductory courses in a multitude of disciplines.

How many times have you longed for the time to clear out the shed, to paint that wall or the endless other jobs on your to-do list?

Make a plan. Have a reason to put your shoes on each day. We cannot control what is going on outside of our own homes. 'Connect' with those around you, and with your loved ones, regardless of whether or not they are physically close by.

In this time of crisis, mind yourself and your loved ones, but remember that to do so, you must put your own oxygen mask on first.



THE “LIVED EXPERIENCE OF A PILOT” RESEARCH TEAM

Captain Paul Cullen has been an airline pilot for over 22 years, and has accumulated over 14,000 hours flying the A320, A330 and B737. Paul is an IFALPA accredited Air Accident Investigator, and previously held the position of Director of Safety & Technical with the Irish Air Line Pilots Association. His interest in the mental health of pilots was borne out of interactions with pilots who had sought assistance. Paul has been a Research Associate with the Centre for Innovative Human Systems (CIHS) and the School of Psychology at Trinity College Dublin since 2018.



Dr. Joan Cahill is a Human Factors professional based in the Centre for Innovative Human Systems (CIHS) Trinity College Dublin. Joan has a long-standing research interest in aviation psychology, and would like to understand this problem and identify a path to addressing this at different levels (i.e. pilot self-management, airline etc.). Joan's specific interest is in the advancement of toolkits to support pilot self-management of wellbeing and in airline performance and safety management processes relating to this.

Dr. Keith Gaynor is a Senior Clinical Psychologist at St John of Gods Hospital, Dublin, and Assistant Professor of Clinical Psychology at University College Dublin. Keith is a Consultant in the area of mental health, and much of his work concerns developing strategies for managing mental health in high stress work environments.



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

