Report

SAFOPS#2 – The wellbeing of the aviation professional

25 June 2020 - WebEx

Distribution :	SAFOPS SHPSG TRM focal points NM Safety Unit

Item	Agenda item	Presented by:
1	*An aviation professional's guide to wellbeing*	Dai Whittingham – UK Flight Safety Committee
2	*CLEAR TO CALM: Mindfulness in ATM*	Alberto Rodríguez de la Flor– ENAIRE
3	*Behaviour Change Psychology and Ergonomics for Human Wellbeing*	Dr Steven Shorrock - EUROCONTROL
4	*Energy and Resilience Management @ MUAC*	Marinella Leone - MUAC

Introduction

This report contains the abstracts of the presentations and the discussions from the SAFOPS #2 WebEx meeting held on 25th June 2020. The theme of the meeting was - The wellbeing of the aviation professionals. Due to the extreme interest in the topic, the SAFOPS invitation was extended to the Safety and Human Performance Sub Group (SHPSG) and the TRM focal points. 113 attendees from various aviation fields attended the event. To preserve the content for future reference and to inform those who were unable to attend it was decided to publish this report instead of the meeting minutes. The full slides are shared as annexes to this document. Please feel free to contact the SAFOPS secretariat (stijn.de-graaff@eurocontrol.int) for any questions.

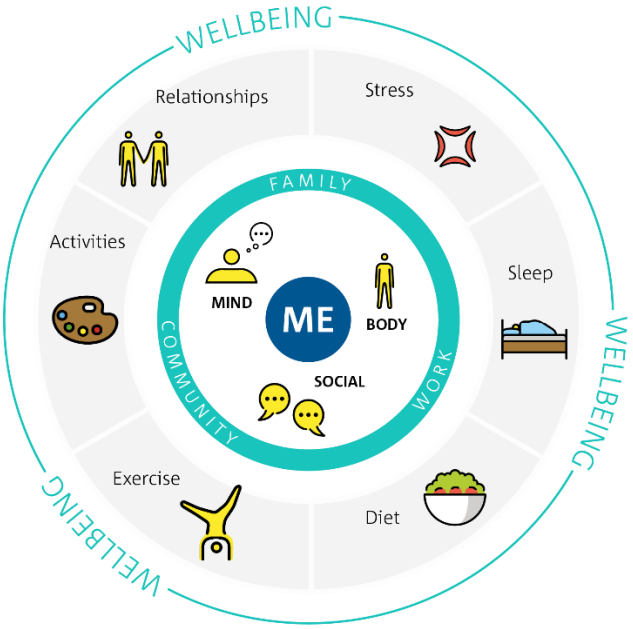
Annexes:

- **Annex 1 Slides: An aviation professional's guide to wellbeing**
- **Annex 2 Slides: CLEAR TO CALM: Mindfulness in ATM**
- **Annex 3 Slides: Behaviour Change Psychology and Ergonomics for Human Wellbeing**
- **Annex 4: MUAC Intranet communication published during the first month of confinement.**

Session 1: An aviation professional's guide to wellbeing

Discussions led by Pascal Kremer within the Flight Safety Foundation European Advisory Committee showed that there was a need for some of the existing work on wellbeing to be extended beyond the flight deck because of the acute effects of the Covid-19 pandemic on all sectors of the aviation community. A small team worked in collaboration with EASA and aviation psychologists in writing a document to expand on the personal resilience factors identified in pilots by Capt Paul Cullen et al at Trinity College, Dublin. Based on the BioPsychoSocial model of health, the document describes the concept of wellbeing and its impact on personal and professional relationships, human performance and, ultimately, on aviation safety.

The identified factors are stress, diet, sleep, activities, exercise and relationships, and each is described in terms of their effects on individuals and the small actions that can be taken to improve in each area and hence improve over wellbeing.



Advice was also provided on assertive communication and active listening.

The complete document can be found at https://flightsafety.org/toolkits-resources/covid-19-safety-roadmap-and-punch-lists/

Session 2: CLEAR TO CALM: Mindfulness in ATM

Mindfulness stress reduction programmes have reached ATM. ENAIRE has performed a pioneer study that has confirmed their effectiveness, both a significant reduction of discomfort stress related symptoms and and enhancement of operational safety behaviors.

Inspired by zen and vipassana meditation schools, the original MBSR programme was developed by the University of Massachusetts Medicine department by Jon Kabat-Zinn in 1979 as a therapy for oncological patients. Since then, MBSR programmes have been extended to the wide public, including critical tasks industries and have even attracted the public administration interest like the British Parliament that fostered the project “The mindful Nation”, which in turn, inspired the ENAIRE project.

One of our MBSR experts, an ATCO who received extensive training on MBSR, and eventually became an MBSR instructor, David García Hermosilla, attracted the interest of the Safety Division. The project found place within this Division, because it was hard to integrate this brand new activity within the preexisting organisations. It did not fully match neither occupational safety and health or training. Due to the knowledge regarding previous experiences of MBSR within the railway industry to decrease error rates, Alberto Rodriguez de la Flor, senior safety expert shaped the project under a scientific umbrella to try to validate its application in the safety world. Together they worked against the many social prejudices about meditation, using the huge background of scientific evidence and the promotion EUROCONTROL had done on the issue in their fatigue & stress management material.

The idea was to validate it for a specific community, for specific purposes, also measuring as much as possible the effect on safety related behaviour. There was a strong rejection both at managerial levels, where the project was seen at the beginning as a waste of time and resources and, also at ATCO level, seen as a company-promoted project, and hence, not worth of being taken into account. Direct one-to-one work needed to be done locally to have volunteers for the project, which turned to be one of the best decisions, since at the end there were no vacancies to get more people on board, and some colleagues were not included. As an example of the interest within the community, one of the participants even preferred to cover the programme expenses herself and participated in the surveys and testings. The participants were structured in two groups of around 28 people each.

There have been measurements of the discomfort levels, using a subset of the SCL-90R standard test, where several items were considered as not relevant for the study. Measurements were taken before and after the MBSR intervention. The first group was then tested 3 months after they finished the initial intervention, which was also the time when the second group finished. All of this happened the week where the COVID-19 outbreak started to have strong effects on the Spanish society with the closure of schools and strict measures taken.

The discomfort levels were reduced in the first group by around 65%, and around 59% in the second one, both with a confidence level higher than 95%. The first one also showed a further 9% reduction, which, considering that the test was performed during that critical week, showed that the results were better than we had ever expected. The same happened with the second group, where the improvement was not impeded by the fact that we even had to cancel the last training session due to the COVID-19 outbreak.

Discomfort levels have shown reductions in all the components of the test, although the strongest reductions have been found in memory, irritability, sadness feelings, sensitivity,

verifying recurrently previous actions, concentration, tension and fatigue. These areas are closely linked to all TRM areas, like situation awareness, failures in attentional processes and its effect on memory processes (both short and long term). Irritability and sensitivity strongly affect interpersonal communication skills, and can dangerously influence decision making processes, both individual and collective, making us more vulnerable to impulsivity, procrastination or blockages.

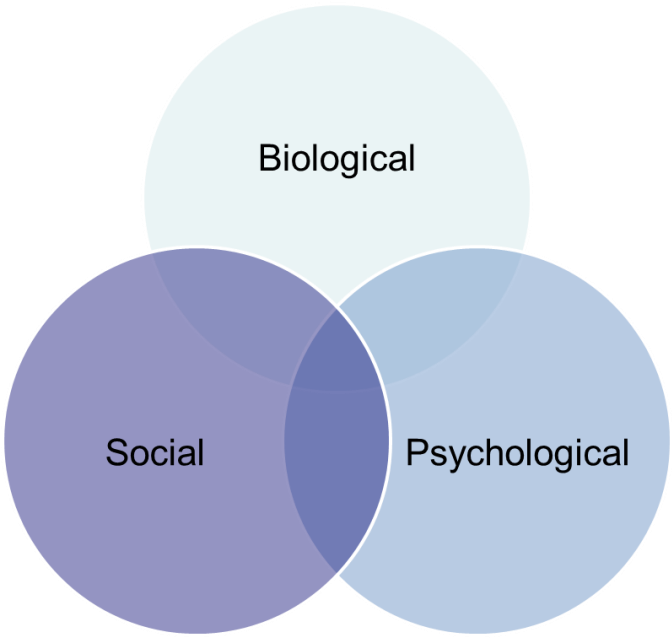
The previous results pretty much matched the operational tests results. A self perception survey was performed (due to the lack of resources no indirect independent measuring was possible), regarding the effect of stress on the operational side, and how the programme allowed shaping some well known safety related behaviours. Regarding the impact MBSR has had on the operational side, the participants have referred a lower number of errors associated to concentration, less automatic responses, a wider planning timespan, less delay in the task completions, better memory recovery and an enhanced tolerance to other people's errors and less emotional reactivity.

Besides the previous results, informal feedback from participants was highly positive, and many reported the benefits MBSR had brought them in allowing to better cope with the critical COVID-19 pandemic situation.

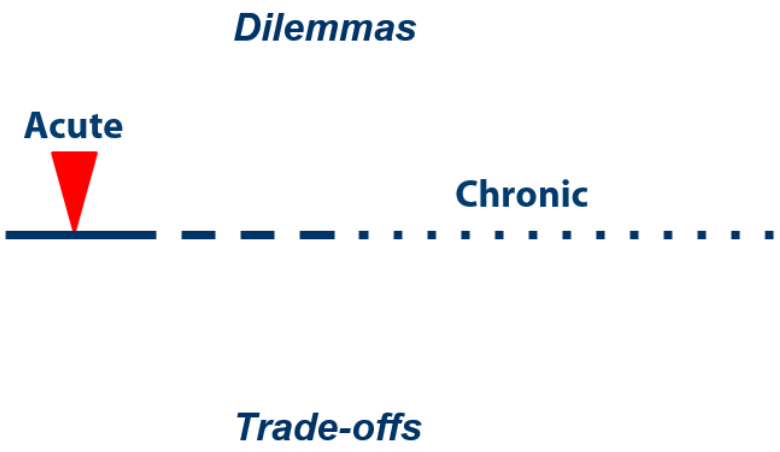
We will continue to strive to get MBSR endorsed as a method for stress reduction, wellbeing and a basic cognitive processes enhancer. However, the current situation has had a great impact on other projects. We planned to introduce gradually MBSR in other ATS units but this is now delayed due to budgeting and company priorities. Despite the difficulties, at this point, we can only continue promoting MBSR both internally and externally and hope for better times to ease its practice within organisations or even hoping that professionals may approach these techniques from their personal, private lifes.

Session 3: Behaviour Change Psychology and Ergonomics for Human Wellbeing

Dr Steven Shorrock gave a talk about behaviour change psychology and ergonomics for human wellbeing. The talk focused on understanding and intervening for wellbeing, which forms a cycle to ensure improvement. While there are several definitions of wellbeing, it can be seen as judging life positively and feeling good, and as the presence of something rather than merely the absence of something. The biopsychosocial model sees wellbeing as emerging from the interaction of biological, psychological and social factors.

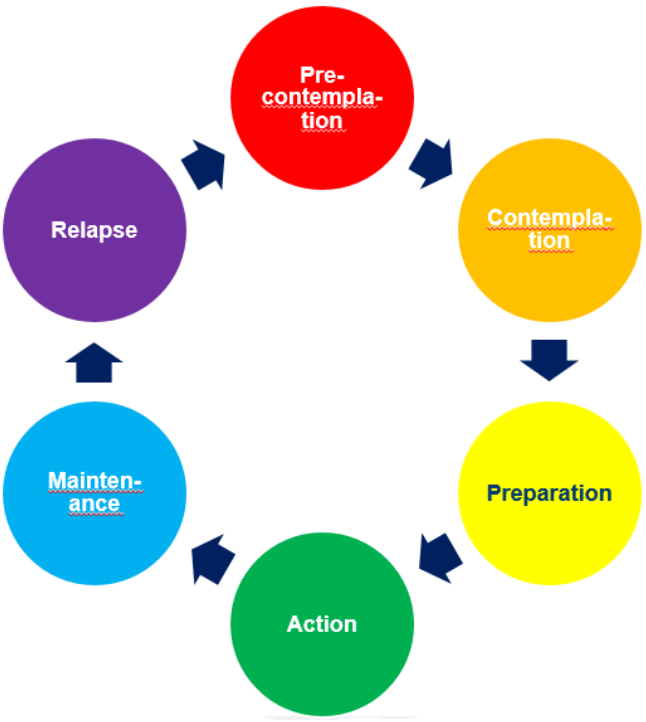


Steven talked about how wellbeing is a multifaceted social construct by nature, determined by both agency (e.g., individual decisions) and structure (e.g., rules, facilities), where rights and responsibilities are shared by individuals and groups, organisations, and societies. As such, it can only be understood by via multiple perspectives. He discussed how there are always trade-offs when it comes to wellbeing, between micro, meso and macro levels and between the acute and chronic.



When it comes to intervention, it is important to think about stages of change. Change progresses through pre-contemplation (unawareness), contemplation, preparation, action, and maintenance, often with relapse, according to the stages of change within the transtheoretical model. Processes of change should also be considered, which may be personal, environmental, information, social, cognitive or emotional. These include getting the facts, getting support, focusing on success, planning the change, and managing the environment (e.g. creating cues and reminders).

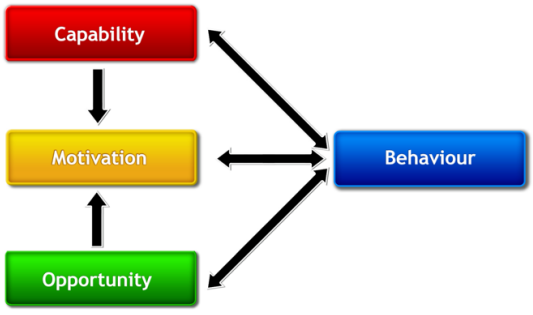
Stages of Change (Transtheoretical Model)



Adapted from Prochaska and DiClemente (2005)

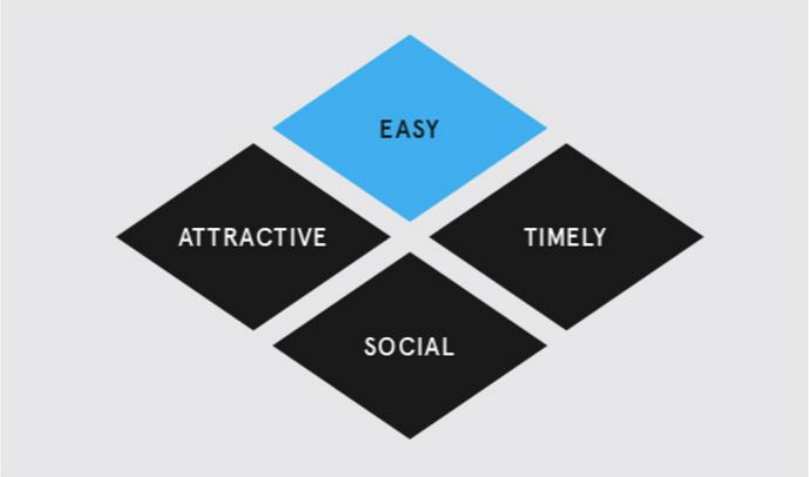
From health psychology, Steven talked about the COM-B model, which may be remembered as 'behaviour dot com'. Understanding behaviour and behaviour change requires an understanding of capability (physical and psychological), opportunity (e.g., physical, temporal, financial, and social), and motivation (reflective and automatic). Each of these sources of behaviour can be influenced by a number of intervention functions (e.g.restrictions, training, coercion, persuasion), which in term may be influenced by various policy options (e.g. legislation, regulation, fiscal measures, environmental/social planning).

COM-B Model (Mitchie, et al, 2011)

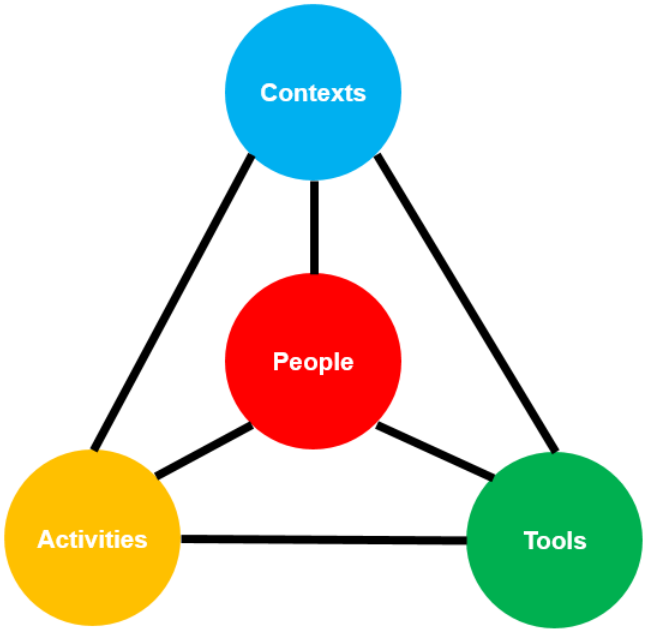


*Handy mnemonic: '**behaviour dot com**' (not the website)*

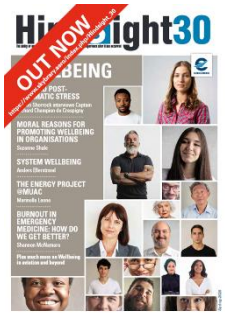
Steven also talked about the EAST model from the UK Behavioural Insights Team (formerly 'the nudge unit'). The EAST framework encourages us to make behaviours that are conducive to wellbeing easy, attractive, social and timely. Manipulating the choice architecture is a good way to do this, to encourage better choices about wellbeing by design. This can be done by changing the number, complexity, order, partitioning, location, and framing of choices, and in particular y using the power of defaults – making the preferred choices the default by design.



Steven finished with an outline of human factors and ergonomics, which draws from behavioural, social, and biological sciences, and design and engineering disciplines. HF/E also focuses on 'change by design', on the principle that is better to bend metal than to twist arms. A good start is to understand people, activities, contexts and tools (PACT), as a start to use human-centred design. Steven finished with an outline of ISO 9241-210:2010 Human centred design for interactive systems, which can be used for any change. The design process again involves iterative cycles of understanding and intervention, until human needs are met.



Steven finished by reminding SAFOPS participants that HindSight 30 on Wellbeing is available to download free at SKYbrary. The magazine includes contributions on many topics, including stress, burnout, PTS(D) & CIS, fatigue, comfort, psychological safety, depression and anxiety, and suicide. Interventions described include facilities, mindfulness, peer support, CISM, counselling and coaching, risk assessment, questionnaires, reporting and behaviour change.



https://www.skybrary.aero/index.php/Hindsight_30

Annex 3 contains the slides of this presentation

Session 4: Energy and Resilience Management @ MUAC

The MUAC Energy and Resilience Management activities are based on multiple models from various branches of psychology and other related studies. After much research, it was key for us to make these models as practicable as possible for actual use. We mainly conduct group coaching sessions as trampolines for personal development plans that can be undertaken at both group and individual level. Our sessions are demanding as we delve deep into the subconscious and identify personalised methods to master the mind, and hence generate positive energy and increase resilience with emotional agility. In the COVID-19 period we have quickly transformed our workshops - usually conducted in our dedicated energy room - into weekly virtual sessions. We have therefore contributed to the transformation of the confinement experience of many colleagues who have eagerly invested in their own growth. Next to this, I have initiated a virtual group meditation appointment in the evening to support connection, sleep quality and provide an additional transformation opportunity with mindfulness. This week I have restarted teaching yoga in the energy room and, due to the limited space, we are going to go virtual as well!

I am extremely grateful for the fact that some early adopters acted as ambassadors. We are like a small pebble thrown in to a lake; we are creating ripples that are slowly and surely reaching the shore!

The journey of MUAC into providing engagement and wellbeing to the staff started ten years ago with Ellen Beckers' desire, after her burnout as an ATCO, to share her personal development, experience and knowledge via TRM and Energy Management modules across Europe. In 2013, I was the safety and human factors expert appointed to investigate how to implement the upcoming regulation on stress and fatigue together with Ellen. Our joint efforts together with Ilona Bonten met with the approval of the Energy and Resilience Management project in 2016. In 2020 the journey continues with the welfare officer, Marije Van Ogtrop and our energy and resilience support network. Perseverance, continuous innovation though studying and a cross-competences engagement are at the basis of the increasing successes we are experiencing today. Namaste!

For more information on the program, feel free to contact Marinella Leone, Project and Human Factors Manager at MUAC, at: marinella.leone@eurocontrol.int or +39 339 7336678

Annex 4 contains an Intranet communication published during the first month of confinement.