Testing Mindfulness in Military Aviation

Anders Meland
Institute of Aviation Medicine
Sem Sælandsvei 2b, 0371 Oslo, Norway
NORWAY

Anders.meland@flymed.uio.no

ABSTRACT

Periods of persistent and intensive stress due to high work demands are known to compromise health and well-being. In addition, the physical and psychological demands associated with technological developments and deployments may pose an extra challenge to military personnel. Due to the inherent risk involved in flying, the military aviation community is particularly focused on finding ways to optimise performance and reduce the negative consequences of stress, fatigue and high workloads.

However, it is far from clear which strategies work best to conserve energy, maximize recovery, health and well-being without reducing outer workload. One method that might be useful in this respect is Mindfulness Training (MT). MT has been found to reduce systemic arousal and increase parasympathetic activity and well-being without changing workload or compromise alertness. The method has successfully been used as a personal stress management tool for people working in stressful working environments, but less is known about how the method applies to military aviation.

To address this gap in the literature this manuscript sheds light on the potential benefits and costs of implementing MT in military aviation. We review the findings of two published and two unpublished studies on the use of MT in military aviation contexts.

1.0 INTRODUCTION

There has been a growing concern about the long-term effects of unpredictable working hours and long duty periods with limited time off in long haul flying operations (J. L. Caldwell, Chandler, & Hartzler, 2012) and around-the-clock military missions. A report by the Rand Corporation states that deployments are longer and more frequent than in former conflicts such as the Vietnam and Persian Gulf wars and that there are shorter intervals between deployments (Tanielian & Jaycox, 2008). It is well known that repeated, excessive, or prolonged energy mobilization without sufficient rest contributes to deficits in alertness, physical disease, increased mortality and reduced well-being (Cohen, Janicki-Deverts, & Miller, 2007; Liston, McEwen, & Casey, 2009; McEwen, 1998).

Fatigue-related events is an area of concern in military operations, especially as elevated levels of fatigue are sometimes unavoidable due to mission completion (J. L. Caldwell et al., 2012). Fatigue is particularly challenging in aviation, as flying includes high risk, is cognitively demanding and can involve moving across time-zones. Fatigue related risk is well known in aviation and there has been implemented a range of fatigue countermeasures. This includes rest- and duty guidelines and a variety of inflight strategies and pre- and post-flight interventions (J. A. Caldwell et al., 2009). These measures aim at limiting the maximum hours of work and ensure time off task for recovery, which in part have shown promising effects on safety records of existing flight operations (J. A. Caldwell, Caldwell, & Schmidt, 2008). Aviators also develop more informal methods such as task slowing, task rotation, physical activity and caffeine to reduce risk while continuing to work while fatigued (Dawson, Cleggett, Thompson, & Thomas, 2015).

Another challenge in military environments is that the stressors occur in circumstances which are uncontrollable to the individual, which is known to intensify the stress-response (Lazarus & Folkman, 1984). Military psychologists commonly rely upon cognitive reappraisal methods and relaxation techniques to help soldiers regulate emotions and arousal levels (DeWiggins, Hite, & Alston, 2010). However, these countermeasures afford awareness and attentional control which is a scarce human resource when fatigued (Eysenck, Derakshan, Santos, & Calvo, 2007) and several of the strategies are not available when time is of the essence (e.g., task slowing). Thus, interventions that "automatically" lowers the stress-response and economizes energy expenditure would be welcomed. Particularly because they do not afford awareness and could prevent fatigue from occurring in the first place.

Mindfulness Training (MT) is a psychological intervention that has been found to reduce systemic arousal and increase parasympathetic activity without changing workload or compromise alertness (Ditto, Eclache, & Goldman, 2006; Tang, Holzel, & Posner, 2015). Acceptance based strategies such as Mindfulness-training (MT) may be especially helpful in situations when stressors cannot be changed or controlled (Baer, 2003; Bishop et al., 2004). This is the reason MT and other acceptance based strategies have become increasingly popular in sports the last decade showing promising effects (Bernier, Thienot, Codron, & Fournier, 2009; D. Birrer & Morgan, 2010; Daniel Birrer, Rôthlin, & Morgan, 2012).

2.0 MINDFULNESS

Mindfulness-training (MT)

Mindfulness is commonly defined as "paying attention in a particular way, on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 1994). Baer and colleagues (2006) proposed a five-component model of mindfulness including five trainable skills. *Observation* (i.e., noticing or attending to internal and external experiences). *Description* (i.e., labelling internal and external experiences). A*cting with awareness* (i.e., attending to current activities). *Nonjudgement* (i.e., taking a non-evaluative stance towards inner experience). *Non-reaction* (i.e., allowing thoughts and feelings to come and go without overreacting or getting caught up in them). Mindfulness training (MT) refers to all activities that can improve the level of mindfulness (Kabat-Zinn, 2003).

Mechanism of change

MT is linked to health and well-being in several ways. Some found that a broadening of perspective on experience explains the beneficial effects MT has on well-being, because it opens up for constructive thought and leads to a positive-spiralling-effect in mood and well-being (Garland, Kiken, Faurot, Palsson, & Gaylord, 2016). Others found that MT promotes adaptive patterns of affective experiences by inhibiting maladaptive coping styles (Keng & Tong, 2016). Another possibility is that being mindful involves having more positive response outcome expectancies (PROE), which is linked to stress reduction in all species (Eriksen & Ursin, 2002; Ursin & Eriksen, 2004). A review of the neurological evidence suggests that changes in emotion- and attention regulation strategies seem to be of particular importance in MT (Tang et al., 2015).

Emotion regulation refers to strategies that can influence which emotions arise, when and how long they occur, and how these emotions are experienced and expressed (Gross, 2002). Emotion regulation can happen in several overlapping ways, and can be categorised into at least two neurologically separable strategies: top-down or bottom-up. The former is thought to manipulate the input to the emotion-generative systems such as the amygdala, through prefrontal brain regions (Quirk & Beer, 2006). An example of a top-down strategy is cognitive reappraisal, where emotions are regulated by actively reinterpreting stimuli to modify their emotional impact (Gross, 2002). The latter strategy has been termed bottom-up because it can involve a direct modulation of emotion-generative brain regions without necessarily involving an active recruitment of

higher order brain regions (Chiesa, Serretti, & Jakobsen, 2013). A pure bottom-up strategy would be exposure to stressful stimuli, which over time could promote adaptation and lowering of the activation response to emotional stimuli (Hôlzel et al., 2011). Adaptation effects in relation to stress-reduction may be particularly important in high performance environments because after successful adaptation, it takes no additional effort or processing capacity to lower the response, unlike active reappraisal strategies.

Since MT is an example of a bottom-up strategy, the way to regulate one's emotions in MT is to openly direct attention to emotionally salient stimuli without actively trying to change anything (Goldin & Gross, 2010). Over time, this perceptual openness can facilitate a non-evaluative contact with moment-to-moment experience resulting in an awareness of stimuli with less reactivity related to emotional valence (Brown, Ryan, & Creswell, 2007). Adaptation effects of mindful awareness during stressful situations have been found, suggesting that attending to interoceptive afferents results in greater adaptation. A recent study demonstrated that, compared to their less-mindful counterparts, mindful adults presented with arousing unpleasant images, revealed brain states associated with a lower stress-response, but also higher sensitivity to the images (Brown, Goodman, & Inzlicht, 2012). This suggests that being mindful involves increased resilience towards the negative effects of stimuli with emotional valence, without reductions in situational awareness. This may be highly adaptive in elite groups exposed to extreme environments, where relevant cues may have substantial emotional potential.

MT should not be confused with reappraisal strategies, or any method that prescribes manipulating the content of thoughts or feelings. Still, being mindful is linked to changes in top-down cognitive processing (Segal, Wittmann, & Teasdale, 2002). For example, observing a thought such as 'I cannot stand this' without judgement or reaction may lead to a belief that it is 'just a thought' not worth an expanded activation response. Such pauses in the flow of thoughts gives an individual the possibility to choose how to respond in helpful and nonreactive ways (Goldin & Gross, 2010). In addition, a shift from a daily mode of automatic mind-wandering to restful present moment awareness may be stress-reducing in itself, because it involves spending less resources refocusing and/or ruminating about past and future events (Roemer et al., 2009).

Empirical evidence

Mindfulness research indicates that individuals with naturally higher levels of mindfulness report feeling less stressed, anxious, and depressed, and more content, vital, and satisfied with life, in comparison with individuals who score naturally lower on mindfulness measures (Greeson, 2009). In general, the beneficial link between MT and stress-reduction in healthy adults is well-established (Chiesa & Serretti, 2009; Conley, Durlak, & Dickson, 2013; Ditto et al., 2006; Khoury, Sharma, Rush, & Fournier, 2015; Regehr, Glancy, & Pitts, 2013; Sedlmeier et al., 2012; Tang et al., 2015; Virgili, 2013). However, the research on elite cohorts is lacking, and despite mounting evidence of the stress reducing effects of MT, there are some mixed findings. For example, a recent review including studies with active control conditions showed no stress-reducing effects of MT, with small to moderate effect sizes for anxiety, depression and pain (Goyal et al., 2014). In another review, only four out of eight studies found beneficial changes in cortisol-levels after engaging in MT-interventions (Matousek, Dobkin, & Pruessner, 2010). Some have argued that MT has a stress-buffering effect (Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010), suggesting that one would only expect stress-reducing effects in cohorts already experiencing stress or who are being exposed to stressful environments. Indeed, the most consistent stress-reducing effects of MT have been found in highly stressed cohorts, such as community workers (Nyklicek, Mommersteeg, Van Beugen, Ramakers, & Van Boxtel, 2013), nurses (Klatt, Steinberg, & Duchemin, 2015), and patient populations exposed to prolonged stressors e.g., patients with HIV, psoriasis, pain, or chronic inflammation (Cohen et al., 2007).

While the empirical base of the use of MT in the workplace is steadily growing, the evidence from military and aviation environments is still lacking. Exceptions are the studies on US military personnel (Jha et al., 2015; Jha, Morrison, Parker, & Stanley, 2017; Jha et al., 2010) and one study on cadets during flying selection (Fornette et al., 2012). Bearing in mind that what works in one workplace may not prove

generalizable to all workplaces, this chapter sheds light on the potential benefits and cost of implementing MT interventions of different length and formats in military aviation contexts. We review the findings of two published papers together with unpublished results from another two studies.

INTERVENTION

The Institute of Aviation Medicine designed the MT intervention following the guidelines of the Mindfulness Based Stress Reduction program (Kabat-Zinn, 1994) and the Mindfulness Based Cognitive Therapy program (Segal et al., 2002). The basic structure was 25% theoretical lectures and 75% guided MT. Theoretical lectures discussed why and how MT could be helpful. Guided practice consisted of the three basic exercises:

1. Sitting meditation: Sitting on a chair while practicing being present with one's breath and noticing thoughts, feelings, and bodily sensations.

2. Body scan: Lying down while practicing awareness of one part of the body at a time.

3. Mindful movements: Simple movements such as standing, sitting, or lying down to practice being present and paying attention to movements.

The duration of each exercise varied from 10 to 45 min. After plenary sessions, participants were invited to share experiences and problems from their personal practice in discussion groups with two to four participants. Each group then gave an informal summary presentation to the larger group. The intervention started with a 10-hour introductory course to give participants an introduction to the practical and theoretical elements of MT so they could start their own practice immediately. 2.5 hours of plenary sessions were scheduled every third week for 12 months in the combat aircraft unit and weekly for four months in the helicopter unit. Participants were offered a two-day retreat (three days for the combat aircraft cohort) towards the end of the intervention period to deepen their practice and understanding of MT. Participants received pre-recorded soundtracks with guided MT to personally practice outside of class for 10-20 minutes three times per week. To increase the amount of MT, participants were encouraged to add mindfulness to everyday activities that they usually did on 'autopilot', such as working out, talking, listening, eating, walking, and driving. To further stimulate integration of MT into daily life, the participants' respective partners were offered the 10-hr introductory mindfulness course.

To make MT more readily acceptable to the population, we designed the intervention to fit a high-performance military environment, adopting some of the mental preparation activities used by elite athletes. MT instructors had a minimum of 10 years of meditative practice and were formally accredited mindfulness training instructors at the Scandinavian Centre for Awareness Training, Oslo, Norway. One of the MT instructors was a military officer, and one could assume he facilitated programme acceptance due to knowledge of the military community and culture.

Participation in data-collection was voluntary and we followed strict, informed consent procedures.

Differences between the interventions

Study 1: 12 months – F-16 fighter aircraft environment

The intervention for the combat aircraft cohort contained six elements that were not included in the shorter four-month interventions. First, six of the plenary sessions included an additional 1.5 hours, spent on being mindful during physical exercise. Learning ways to be mindful during physical exercise was an important asset in study 1, because this was potentially an important future application of MT. They received a lecture from a former Norwegian Olympic champion in Alpine skiing, on the importance of commitment,

motivation and patience. The fighter-aircraft cohort also received a one-on-one session with an MT instructor the day after plenary sessions. Here the participants could ask questions or discuss their practice. The main aim of the one-on-one sessions was to reinforce motivation to continue practice outside the classes. Participants received six text messages reminding them of their daily practice and eight e-mails with theoretical and inspirational information related to mindfulness and MT. Finally, spouses and partners in the combat aircraft cohorts were offered evening classes in mindfulness every third week during the first six months of the intervention, in addition to the 10-hour introductory course. The plenary training sessions every third week were mandatory for all personnel, and the individual training in between was voluntary.

Study 2 & 3: 4 months – Bell 412 helicopter environment

The four-month intervention at the Bell-412 units did not include mindful movement during the weekly plenary practice. Due to space limitations at the squadron headquarters, they did the body scan sitting instead of lying down. The personnel did not receive on-to-one sessions, but spouses and partners were invited to participate on the introductory course. The weekly plenary training sessions were mandatory for all personnel, and the individual training in between was voluntary.

Study 4: 12 months – P3 Orion environment

The 12 months intervention at the P3 Orion Air-base did not include introductory course, retreat, experience sharing or one-to-one sessions. The intervention included only four two-hour lectures with three months separation. The personnel did daily sessions of 10 minutes plenary sitting meditation prior to their morning briefings. The training was organized by the mission support element or a designated point of contact and obligatory for all personnel the first six months, and voluntary the last six months.

SUMMARY OF THE STUDIES

Study 1

Aim: This study tested the feasibility and value of MT in a military combat aircraft squadron. **Assessments:** We administered subjective measures of mindfulness, mental skills, and performance-related anxiety before and after the intervention, including a semi-structured interview at the conclusion of the intervention. We collected qualitative feedback and measures of mindfulness via e-mail at 12 and 24 months during follow-up. **Results:** During post-training, there was a reduction in somatic anxiety related to performance and improvements in self-perceived skills associated with mindfulness, attention regulation, and arousal regulation. Mindfulness scores remained higher throughout the follow-up. Participants reported MT having operational benefits, and that the body scan and sitting meditation were the most useful elements of the intervention. We found time-consuming plenary sessions and the amount of recommended out-of-class training to be potential drawbacks of MT. **Conclusion:** The implementation of a 12-month MT program could be a feasible and acceptable method for implementation in a military combat aviation environment. For more details on the study (Meland, Fonne, Wagstaff, & Pensgaard, 2015).

Study 2

Aim: This study sought to determine if a 4 month MT intervention has a measurable impact on stress and attentional control in a military helicopter unit exposed to a prolonged period of high workload. **Assessments:** We compared MT participants to a wait-list control group on levels of saliva cortisol and performance on a computerized go–no go test and a test of stimulus-driven attentional capture. Participants reported mental demands on the go–no go test, time of wakeup, sleep duration, quality of sleep, outcome expectancies, physical activity level, self-perceived mindfulness, and symptoms of depression and anxiety. **Results:** The results from a mixed between–within analysis revealed that the MT participants compared to

the control group had a larger pre to post increase in high- and low-cortisol slopes, and decrease in perceived mental demand imposed by the go–no go test. Again, we found time-consuming plenary sessions and the amount of recommended out-of-class training to be potential drawbacks of MT. **Conclusion:** MT could alleviate some of the physiological stress response and the subjective mental demands of challenging tasks. For more details on the study (Meland, Ishimatsu, et al., 2015).

Study 3

Aim: This study sought to clarify how personnel in a military helicopter unit experienced interpersonal changes concerning their participation in an MT intervention. **Assessment:** Adhering to Grounded Theory, we conducted post-intervention interviews with 42 programme participants. We selected the 30 interviews with evidence of interpersonal effects for in-depth analyses to build a theoretical model of the pathways through which interpersonal effects might develop. **Results/conclusion:** The majority of the interviewees (30/42 = 71 %) experienced significant interpersonal effects from MT both at home and at work. The in-depth analyses revealed an increase in the common theme "Sense of Fellowship" (SOF). SOF comprised three primary change processes: "Attention to others", "Self-observation" and "Reflection". In addition, five behavioural changes emerged: "Direct communication", "Increased patience", "Decreased anger expression", "Calmness", and "Acceptance". Finally, four additional contextual factors appeared to have particular importance for the development of SOF: "Plenary sessions", "Sharing experiences", "Doing something new together", and "Sitting in silence" (manuscript in review).

Study 4[1]:

Aim: This ongoing study aim to test the value of applying an MT intervention with limited amount of facilitator support on a large group. **Assessments:** We plan to collect qualitative feedback via e-mail at post-intervention and at 12 months during follow-up. Informal feedback from the participants and the leaders at the Air-base were collected throughout the intervention period. **Results:** Informal feedback from the leaders at the Air-base indicate that the intervention has beneficial effects on stress-reduction, recovery and well-being. The leaders report that increased awareness is an important mechanism behind the benefits. They also report operational benefits, such as more focused and efficient briefings and feeling more rested after flying longer sorties. Potential drawbacks of not having trained MT personnel readily available were: "A lack of understanding of the rationale for the training, and a lack of help to overcome the basic obstacles (i.e. some become more stressed, fall asleep, unsure whether they do it right (i.e. the MT)). **Conclusion:** Interventions with limited facilitator support from MT experts may be worthwhile if planned carefully and with strong support from local leadership.

DISCUSSION

The overall aim of these studies was to test the implementation, feasibility and effects of MT interventions with different formats in military aviation environments, highlighting aspects related to stress-reduction, recovery and attention. A mix of subjective and objective measures were used to assess the level of mindfulness, mental skills, stress and attention before and after MT programs of similar structure but of different duration and facilitator support from mindfulness experts. Overall, the findings indicate that MT might be a viable complement to existing mental training for health and well-being in military aviation populations. The method did not seem to trigger unnecessary scepticism, and were effective in reducing stress and increase recovery, attentional control and the quality of interpersonal relationships.

Finding that the MT programs did not trigger much unintended scepticism among the participants is an important finding, as some performance environments might be hesitant to apply MT, because they were concerned it could trigger scepticism in their group. Overall, we found that MT could be a useful strategy for

[1] The intervention period was not completed at the time of publication of this report.

protection against stress-related fatigue and attrition effects in periods of high workload, with unpredictable stressors and emotional load. This confirms previous research showing that being mindful and engaging in MT can act as a preventive buffer towards the negative effects of high stress contexts (Cohen et al., 2007; Klatt et al., 2015; Nyklicek et al., 2013). We cannot rule out that merely sitting or lying down regularly is responsible for the stress-reducing effects of the intervention, and not the specific MT skills per se. However, we observed changes in self-perceived mindfulness in the groups, with no evidence that these effects could be attributed to changes in outer workload, physical activity, or sleep. This strengthens the probability that some of the beneficial effects also were due to adoption of specific mindfulness skills.

In other words, MT could have reduced the impact of thoughts and feelings tied to past and future events through a non-evaluative present centred awareness. Instead of striving for control or manipulating and changing thoughts, the MT participants may have learned to identify unhelpful thoughts and started to respond reflectively to them, rather than reactively (Bishop et al., 2004). All other things being equal, this could have lessened systemic arousal by reducing the proportion of daily life experience (i.e. inner and outer events) perceived as stressful to the MT participants. Similar to previous research on MT (Tang et al., 2015) we also found indications of improvement in attentional control. Since controlling attention is an energy-intensive (Warm, Parasuraman, & Matthews, 2008), finite resource (Schneider & Shiffrin, 1977), letting the attention 'rest' on an object or task and gently bringing it back when focus is lost, as instructed in MT, is a less energy demanding mental strategy than forcefully holding the attention in place and judging oneself when focus is lost.

Adaptation and bottom-up emotion regulation strategies may be a beneficial way to improve stress-resilience in military settings where time is of the essence and stressors are sometimes uncontrollable. However, it may also be a strategy that takes the largest investment, as studies of MT show that habituation and adaptation effects may require long-term practice (Chiesa et al., 2013). Finding the time to do the prescribed training was a challenge to our program participants. This may pose a similar problem in other groups with highly regulated schedules. Another problem is that the strategy of attending to potentially stressful internal events with greater openness may feel counterintuitive to some. It could even be detrimental to people with previous unresolved emotional issues who have previously relied on top-down governed distraction strategies to keep emotions in check. We had a psychologist tied to our projects to take care of participants who faced these kinds of reactions.

Finding that MT also had prosocial effects in our groups at work is an important finding as strong relationships and collaboration abilities among crewmembers are vital components in aviation settings (Burke, Wilson, & Salas, 2003; Wiener, Kanki, & Helmreich, 2010). The fact that it also improved relationship quality at home is also noteworthy, bearing in mind how important a well-functioning home arena is for well-being (Bakker, Lieke, Prins, & van der Heijden, 2011). Based on the in-depth interviews with 30 MT participants, we derived a Grounded Theory-based model proposing the overall construct of "a sense of fellowship" (SOF). Our suggested model of how psychosocial effects arise and develop can also help tailor future interventions that aim to target interpersonal functioning. Moreover, the interpersonal benefits and our demonstration (study 4) that MT interventions can be successfully conducted with limited facilitator support, adds to the individual benefits and makes the cost-benefit equation of implementing MT more acceptable to stakeholders.

LIMITATIONS AND FUTURE RESEARCH

Although these findings are new and intriguing, we acknowledge that our research is limited in multiple ways. Due to a lack of an active control group we cannot say anything about whether MT was more efficient than other mental training methods. MT has been found to be superior to physical relaxation for healthy adults (Sedlmeier et al., 2012), but they found no evidence suggesting MT was more effective than other meditation practices. Another issue is to evaluate the size of the 'group-effect', which is believed to be

particularly large in MT interventions (Imel, Baldwin, Bonus, & MacCoon, 2008). This entails randomized controlled trials (RCTs), in which one compared MT groups with groups that receive an intervention that is similar in layout and time spent with the participants, but based on different meditation principles delivered both individually and in group settings. Although we found indications of between-individual benefits of MT, future experimental studies should establish thoroughly whether MT actually influences cohesiveness in an aviation context and the exact organisational benefits tied to this.

We applied comprehensive interventions of different lengths, but we cannot give clear recommendations based on our research on what might be the optimal length of an MT program. For that, we would need to compare our interventions with shorter interventions. This is a particularly important area to pursue, because the time spent on MT could be spent on other important tasks. Although most participants seem to benefit from MT, some individuals did not. It is important to track all individual and temporal trajectories to maximize effects and reduce the costs of future interventions. To improve cost-effectiveness, MT interventions delivered by technology (i.e., web-based and via smartphones) without facilitator involvement may also be a fruitful path to investigate as preliminary evidence supports its effectiveness (Fish, Brimson, & Lynch, 2016).

We lack direct performance measures in our studies, meaning it is uncertain how our findings apply to actual job or flying performance. The use of a mindfulness questionnaire measuring only general mindfulness during daily life could also be a limitation, as it would not capture how ‘mindful’ an individual is during high stake performance situations (Thienot et al., 2014). It is also worth mentioning that the lack of a reliable measure of the quality of training is a limitation to most research on MT and should be addressed in future studies.

Applying the current findings to other military groups should also be done with great caution. Military aviation personnel might be different to other military groups in some way and may thus respond differently to the intervention. For example, military aircraft personnel constitute a unique population, as they, in addition to the requirements of being in the military, have to cope with the risk involved in flying.

Moreover, the field is still in its infancy and we have only investigated a small portion of the potential benefits of being mindful and engaging in MT for military groups. There are several other potential reasons to implement MT in a work environment, which we have not commented in this manuscript. For an overview of possible applications to pursue, see (Good et al., 2016).

CONCLUSION

We found restorative effects of MT in all studies, with indications that the benefits could be long lasting. The reported interpersonal benefits suggest MT facilitates both private and professional relationships in positive and unique ways. A few potential limitations to MT interventions were uncovered, but could be overcome or minimized by careful planning. We further demonstrated that an intervention with limited external facilitation could be worthwhile if daily training is organized in plenary sessions with strong support from local leadership.

Overall, the findings indicate that MT might be a viable complement to existing leader interventions for health and well-being in military aviation populations. MT adds to the toolbox of military aviators, by helping dampen unnecessary stress activation by learning to turn towards inner potential stressful stimuli instead of using more short-lived and energy intensive distraction and reappraisal strategies.

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