

STRATEGIES AIMED AT OPTIMIZING MENTAL RECOVERY FROM TRAINING AND OCCUPATIONAL PERFORMANCE

Previous research conducted in tactical populations has demonstrated links between stress and well-being, burnout, and suboptimal job performance (2,14,19). Prompted by contemporary sport science research, knowledge is becoming increasingly nuanced to account for the duration (e.g., acute versus chronic), source (e.g., work versus life), and volume (e.g., workload, training load, etc.) of stress experienced within and outside of the work environment. In addition, the process of recovery from stress is gaining traction among scientists and the public alike. Unfortunately, little research exists to support the importance of recovery from training or occupational performance among tactical athletes.

Informed by the occupational health and elite sport performance literature, the purpose of this article is to: 1) provide education surrounding the importance of recovery in tactical populations, 2) identify key aspects of the mental recovery process, and 3) identify strategies Tactical Strength and Conditioning Facilitators® (TSAC-F®) can implement to promote mental recovery when working with athletes.

WHAT IS RECOVERY, AND HOW DOES IT WORK?

Recovery is the systematic process of restoration following imposed bouts of stress (8,15). Modern science has differentiated recovery as an outcome (i.e., “I am recovered or not”) from recovery as a process (i.e., “I am engaging in specific behaviors to promote recovery”). As one might imagine, the recovery process is far more controllable and modifiable than the outcome. Depending on the stressors encountered, the recovery process involves the regeneration of physiological, cognitive, and emotional resources depleted during activity. Research studies have also demonstrated that chronic psychological stress from sources outside the training environment can have a measurable impact on the rate of muscle performance recovery following heavy resistance training (16,17). In their 2012 study, Stults-Kolehmainen and Bartholomew found that young adults reporting high scores in chronic psychological stress recovered less maximal isometric force (38.2% from immediate post-training protocol) after a one-hour rest period compared with their low score counterparts (60.3% from immediate post-training protocol) (16). Recovery is also a highly individualized process, meaning that even if two tactical athletes finish an identical work shift or training bout, it is likely that each athlete will need to apply different recovery modalities to restore performance (8).

As a thought exercise, consider that the total load experienced by an individual represents a sum of work, life, and training stressors or stimuli. The sport science literature indicates that long-term or chronic accumulation of total load in the absence of sufficient recovery often results in symptoms of overtraining, burnout, and performance decrements (10). For example, a tactical athlete may be working long hours, pulling extra overtime shifts, meeting the needs of a family, and pushing the limits of overload in the gym—accumulatively, this generates a considerable total load. This load must be paired with sufficient recovery to avoid illness, injury, occupational burnout, and performance errors (8,10,12,15). The overall concept of “load management” remains one of the hottest topics of applied research in the sport sciences.

To optimize performance among tactical athletes, implementation of post-work and post-training recovery routines should be considered. Understand that fatigue, both mental and physical, accumulates during the completion of any work or sporting task (4,5,7,11). Due to their rigorous occupational training, tactical athletes can accomplish a task when it counts the most; however, completing the task often comes at a cost (e.g., fatigue, soreness, pain, mood disturbance, etc.). The cost of each activity certainly depends on baseline levels of fitness, mental preparation, and overall demands of the task. Recovery activities could be strategically applied to restore the resources depleted during performance, thus increasing performance capacity for the next occupational challenge.

Researchers suggest that recovery promotes health and performance in several ways. First, recovery activities serve to facilitate mood repair and restoration (3,15). A recent meta-analysis revealed that after work recovery experiences explain 18% and 13% of the variance in the mood states of fatigue and vigor, respectively (3). This is consistent with the sports literature, where mood disturbance has long been considered one of the primary indicators of overtraining states among athletes (10,12). During the time following exercise, upregulations in parasympathetic nervous system activity (rest/digest) and downregulations in sympathetic nervous system activity (fight/flight/freeze) are observed (6). Among firefighters, Ebersole and colleagues also noted that the patterns of autonomic nervous system regulation during recovery differed between submaximal and maximal bouts of exercise (6). A recent review by Lee and colleagues comprehensively demonstrates that the recovery window following training may have a restorative effect on biomarkers of nutrition status, hydration status, muscle status, cardiovascular endurance, injury risk, and/or inflammation (9).

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In their scoping review, Verbeek and colleagues found that 9 out of 17 (53%) person-directed interventions (e.g., relaxation) yielded significant and beneficial effects on occupational recovery among healthy working adults (18). By comparison, 5 out of 9 (55%) work-directed interventions (e.g., participatory changes, work breaks, variation in schedule, task switching) yielded significant and beneficial effects on occupational recovery (18). However, such strategies may not be feasible for tactical organizations or departments due to logistical reasons (e.g., minimum staffing for safety, budget constraints). Since such workplace interventions are uncontrollable to the individual worker, more controllable and personal intervention strategies are advised.

MENTAL ASPECTS OF RECOVERY

Within occupational settings, any challenge requires a substantial amount of cognitive processing (e.g., decision-making, information processing) and emotional regulation (e.g., staying calm, managing anxiety and fear). These mental processes cost energy and resources, and after encountering substantial mental challenges, it is relatively common for individuals to report feeling completely exhausted. Also, for most adults, other tasks that are done during non-work time, such as household chores, childcare, running errands, etc., also contribute to the total load experienced within a given time (15). Thus, for people trying to keep up with the everyday demands of life, this leaves little fuel left in the mental tank by the end of the day or week.

Over a decade's worth of research in the occupational health literature has generated substantial support for the psychological factors which contribute to the overall recovery experience (15). Across occupational environments, recovery is best optimized when the following factors can be addressed:

- Mental detachment; “mentally switching off” from work.
- Perceived control of what to do (and how to do it) during non-work time.
- Relaxation for reduced sympathetic nervous system activation.
- Mastery by learning or experiencing new challenges (15).

Additionally, in a recent mixed-methods research study, Sawhney and colleagues identified work recovery strategies utilized by firefighters and assessed the buffering effect of work recovery strategies on firefighter mental health (13). Results of their study indicated that firefighters use work-related talks, stress-related talks, informal time with coworkers/supervisors, exercise, recreational activities (10%), relaxation, and mastery experiences (i.e., learning something new) as occupational recovery strategies. Significant proportions of variance in mental health symptoms were explained by work-related talks (10%), stress-related talks (48%), relaxation (17%), and recreational activities at work. Stress-related talks and relaxation moderated the occupational stress-mental health relationship among participants. The authors

suggest that the team-based and cohesive nature of firefighting as an occupation explain some of these findings.

STRATEGIES FOR OPTIMIZING MENTAL RECOVERY

In a recent *TSAC Report* article, Allen covered primarily physiological interventions (e.g., nutrition, sleep, hydration) for recovery enhancement, and alluded to the restorative benefits of mind-body interventions (e.g., yoga, tai chi, meditation) for recovery (1). In extending this work further, the following evidence-based strategies could be used to promote recovery following training or work (13,15):

- Relaxation: box breathing, tactical breathing, meditation, and mindfulness.
- Physical activity: structured workouts and going for a walk, yoga.
- Stress management: emotion-focused or problem-focused coping strategies.
- Mental detachment: taking mental breaks from work and engaging in hobbies or leisure.
- Social engagement: discussing work or stress with peers.

In a training environment, the strategies listed above are best paired with a physical recovery intervention to promote habit formation. As an example, one might engage in tactical breathing while foam rolling, or one might do yoga immediately following a heavy lifting session. Including a mental component of relaxation to a cool-down can further support the beneficial effects of physiological recovery strategies.

In an occupational environment, one of the distinct benefits of mental recovery strategies is that one seldom needs equipment or resources to complete the activities. As such, tactical athletes can complete short bouts (5 – 10 min) of recovery just about anywhere and at any time. Readers are encouraged to consider their recovery habits at the microlevel (i.e., hour-to-hour breaks during a workday) and macrolevel (i.e., a rest period analogous to a taper or extended break). Mental recovery strategies are best applied as a proactive means of preventing symptoms of overtraining or burnout.

In addition to these brief strategies that can be used on daily or weekly basis, the literature also supports the health and performance benefits of vacations or sabbaticals (15). As such, tactical athletes are certainly encouraged to take advantage of such paid leave opportunities for recovery, and fully detach oneself from work while on leave whenever possible. In this case, tactical athletes should refrain from checking email, taking calls, or other work-related tasks.

CONCLUSIONS FOR THE TSAC-F

With little research on mental recovery among tactical populations, all practices should be considered as recommendations or guidelines rather than strict rules. In the daily training environment, TSAC-Fs should consider incorporating mental recovery strategies both within the daily workout and across periodized phases of programming. At the beginning of a workout, TSAC-Fs can reinforce clients' mental detachment from the rest of their day upon entering the gym space, thereby optimizing the client's focus on the workout as well as promoting their recovery from work and life stress. TSAC-Fs can also encourage clients to use strategies such as box or tactical breathing between sets. Yoga and/or other meditation practices could be incorporated or encouraged within cool-down and/or movement-oriented programming. If group training is an option, TSAC-Fs could consider the application of sporting games as a warm-up, as an alternative to a structured or dynamic warm-up. Playing a fun yet competitive game of soccer for a warm-up may facilitate detachment from work stress, promote engagement in mastery-oriented skills, and strengthen stress resilience. Further, clients should be encouraged to adopt longer-term lifestyle behaviors that promote stress management and mental recovery (e.g., taking a daily 20-min walk with your family, debriefing your stressful day with your colleague on-duty before going home, etc.). By promoting clients' adoption of mental recovery strategies at the micro- and macrolevels, their training and occupational performance may be optimized.

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