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HORNYÁK BEATRIX[1]

Implementation of a behavioral medicine program in the Hungarian Defence Forces: The Williams LifeSkills experience I.

Egy magatartásorvoslási program bevezetése a Magyar Honvédségben: A Williams Életkészségek tréning tapasztalatai I.

Abstract

Work-related stress has received a great deal of attention in psychological research during recent years. Significant research findings have documented that experience of stress at work has negative outcomes for the health and safety of individuals and for the performance and innovation capacities of their organisations as well. The literature indicates that military personnel with high stress levels or stress-related disorders suffer more physical and mental morbidity and are less productive, miss more days work (Hourani et al., 2006; Pflanz and Ogle, 2006). The main question to be answered is: how can we manage stress at work? This review addresses this question. In the first part of the article I am presenting the main knowledge of psychosocial risks and work-related stress especially in the military organisation, some of the main theories of work-related stress, and the general overview of psychosocial risk management interventions. In the second part of the article, I present the main steps of the implementation process of a behavioural medicine program – Williams Lifeskills Training (WLS$^®$) – in the HDF and the results of its effectiveness assessment.

Key words: psychosocial risks, work-related stress, theories of work stress, preventive interventions

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[1] Nemzeti Közszolgálati Egyetem, Hadtudományi Doktori Iskola, doktorandusz hallgató- National University of Public Service, Doctoral School of Military Sciences, PhD student, E-mail: bea.hornyak@gmail.com ORCID ID: 0000-0003-1499-7625

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Absztrakt

Az elmúlt években a munkahelyi stressz nagy figyelmet kapott a pszichológiai kutatásokban. Kutatási eredmények igazolják, hogy a munkahelyi stressz negatív hatással van az egyének egészségére és biztonságára, valamint a munkahelyi szervezetek teljesítményére és fejlődési képességére egyaránt. Szakirodalmi adatok szerint a magas stress-szinttel rendelkező katonák nagyobb arányban szenvednek testi vagy lelki megbetegedésben, kevésbbé produktívak és gyakrabban hiányoznak a munkahelyükről (Hourani et al., 2006; Pflanz and Ogle, 2006). A legfontosabb kérdés, hogy hogyan lehet a munkahelyi stresszt kezelni? A tanulmány ezzel a kérdéssel foglalkozik. A cikk első részében a pszichoszociális kockázatokkal és a munkahelyi stresszel kapcsolatos főbb isme-reteket, néhány meghatározó munkahelyi stress elméletet mutatok be és egy általános áttekintést nyújtok a pszichoszociális kockázatkezelés lehetőségeiről. A cikk második részében egy magatartásorvoslási program – Williams Életkészsé-gek Program (WLS®) – Magyar Honvédségen belüli bevezetésének lépéseit és hatékonyságvizsgálatának eredményeit mutatom be.

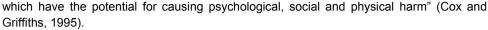*Kulcsszavak: pszichoszociális kockázatok, munkahelyi stress, munkahelyi stress elméletek, megelőző intézkedések*

PSYCHOSOCIAL RISKS AND WORK STRESS

Both surveys and research studies carried out in Europe during recent years indicate the increasing number of workers exposed to psychosocial risks at work and affected by work-related stress in almost every profession (ESENER, 2012). In Europe 25% of the employees, namely more than 40 million workers say they experience work-related stress, and similar proportion reports that work affects their health negatively (Eurofound and EU-OSHA, 2014). Sources of stress specific to different jobs but the two most frequently reported risk factors across all sectors are "having to deal with difficult customers, patients, pupils, etc." and "time pressure" (Eurofound and EU-OSHA, 2014). Army is an under researched group, although the nature of work is more stressful than any other professions. According to the Carrercast.com military jobs ranked as the most stressful occupation in the United States for the year 2016[2]. There are several studies available on humanitarian and peacekeeping missions, little research is available on occupational stress of peacetime military work environment (Pflanz, 2001; Pflanz and Ogle, 2006; Hourani et al., 2006).

Literature defines psychosocial risks or hazards as "those aspects of work design and the organization and management of work, and their social and environment contexts,

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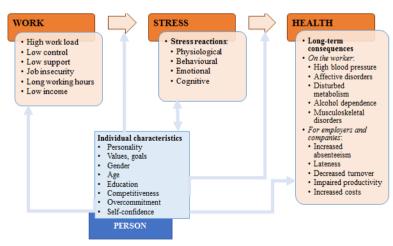[2] http://www.careercast.com/jobs-rated/most-stressful-jobs-2016

which have the potential for causing psychological, social and physical harm" (Cox and Griffiths, 1995).

Psychosocial risks are linked to the way work is designed, organised and managed, as well as to the economic and social context of work (EU-OSHA, 2000). Unfavourable psychosocial work environment may result in work-related stress, occurring when work demands are not matched with the resources available to workers to cope with them, finally leading to a deterioration of workers' mental and physical health (ESENER-2).

According to the European Commission's definition, work-related stress is "a pattern of emotional, cognitive, behavioural and psychological reactions to adverse and noxious aspects of work content, work organisation and work environment. It is a state characterised by high levels of arousal and distress and often by feelings of not coping" (EC, 2000).

Work related stress symptoms include problems that are emotional (for example irritability, feeling exhausted), cognitive (for example difficulties in concentrating and making decisions, negative thinking, making errors) and behavioural (for example becoming negligent, abusing alcohol or drugs, smoking). Prolonged work-related stress may lead to serious health impairments such as anxiety, depression (Rugulies et al., 2006; Nieuwenhuijsen et al., 2010), cardiovascular diseases (Kivimäki et al., 2002, 2006; Clays et al., 2007), diabetes (Heraclides et al., 2009) and musculoskeletal problems (Ariëns et al., 2001; Hoogendoorn et al., 2000). Individual characteristics such as personality, age, gender, level of education etc. can either exacerbate or alleviate the effects of risk factors at work. Kompier and Marcellisen (1990) summarised the work-related stress process in a model (Fig.1.) that illustrates the risk factors at work, the stress reactions, the long term consequences of stress and the individual characteristics as well (Eurofound, 2010).

*1. Figure: Model of causes and consequences of work-related stress
(own editing based on Eurofound, 2010)*

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At the organisational level the main outcome of stress is absence from work which is also one of the easiest indicators to monitor work-related stress. Other outcomes such as reduced productivity, reduced employee engagement and motivation or reduced quality of products and services are perhaps harder to measure with any certainty.

Occupational health psychology's literature identifies a number of psychosocial hazards which can be experienced as stressful or has the potential for harm. These include organizational culture and function, interpersonal relationships at work, role in the organization, career development, home-work interface, control, task design, workload and work pace, work schedule and environment and equipment. These characteristics of work might be conceived as relating to the context to work or the content of work (Table 1.)

WORK CHARACTERISTICS (Examples of conditions defining hazards)	WORK CHARACTERISTICS (Examples of conditions defining hazards)
CONTEXT OF WORK	**CONTENT OF WORK**
ORGANIZATIONAL CULTURE AND FUNCTION (poor communication, non-supportive culture, lack of definition of/ agreement on organizational objectives)	**TASK DESIGN** (high uncertainty in work, lack of variety, fragmented or meaningless work, under use of skills)
INTERPERSONAL RELATIONSHIPS AT WORK (social or physical isolation, poor relationships with superiors, interpersonal conflict, lack of social support)	**WORKLOAD AND WORK PACE** (work overload or under load, high levels of time pressure, lack of control over pacing)
ROLE IN THE ORGANIZATION (role ambiguity, role conflict, high responsibility for people)	**WORK SCHEDULE** (shift working, inflexible work schedules, unpredictable work hours, long or unsociable work hours)
CAREER DEVELOPMENT (career uncertainty, career stagnation, poor pay, low social value to work, job insecurity)	**ENVIRONMENT AND EQUIPMENT** (inadequate equipment availability, poor environmental conditions (lack of space, poor lighting, noise etc.)
HOME-WORK INTERFACE (conflicting demands of work and home, low social or practical support at home, dual career problems)	
CONTROL (low participation in decision making, lack of control over work/overload, shift working)	

1. Table: Stressful characteristics of work (ESENER, 2012)

WORK-RELATED STRESS IN MILITARY ORGANIZATIONS

As I mentioned earlier military job was the most stressful occupation in the United States in 2016 according to the Careercast.com. In this study the work-related stress defined by the Jobs Rated methodology, the ranking system considered 11 different job demands (travel, deadlines, working in the public eye, competitiveness, physical demands, environmental conditions, hazards encountered, the life of oneself or others at risk, meeting and interacting with customers and/or the public, and the potential for job growth) which can reasonably be expected to evoke stress and each demand was assigned a range of points.

By the nature of the task, military personnel and forces have always been exposed to stressful situations for example, work in uncomfortable and unhygienic living conditions, see acts resulting from man's inhumanity to man, the likelihood of being attacked or the inadvertently killing or injuring non combatants (Pomeroy, 2013). The connection between the stress of humanitarian (Britt and Adler, 1999), peacekeeping (Bartone et al., 1998) and wartime (Adler, Vaitkus and Martin, 1996; Hoge et al., 2004) operations and the health of the military personnel is well documented. Table 2 presents the identified dimensions of specific psychological stressors of these different types of operations.

HUMANITARIAN OPERATIONS (Britt and Adler, 1999)	PEACEKEEPING OPERATIONS (Bartone et al., 1998)	WARTIME/COMBAT OPERATIONS (Adler, Vaitkus and Martin, 1996; Hoge et al., 2004)
Trouble communicating	Threat/danger	Threat of enemy attacks
Feeling far away from familiar	Ambiguity	Dealing with the death of fellow soldiers
Travel restrictions		Being responsible for killing another human being
Isolation	Isolation	Handling human remains
Limited in helping locals	Powerlessness	
Boredom when off duty	Boredom	
Boring/repetitive work	Workload/ deployment stress	

2. Table: Dimensions of specific psychosocial stressors of different types of military operations

Since "9/11" western military forces have been experiencing new forms of warfare which has been labeled variously as the "global war on terrorism", "asymmetric warfare" or "fourth generation warfare" and brought a new set of stressors as well. Soldier's psychosocial stressors range from concerns about the security of one's family left behind during deploy-

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ment, to boredom, to ambiguity of the mission, to feelings of isolation, to lack of meaningful work, and of fears of sniper threats, and so forth. (Krueger, 2008). Table 3 presents the general categories of stressors in modern military operations.

STRESSOR	CHARACTERISTICS
ISOLATION	Foreign culture and language; Distant from family and friends; Remote location; Unreliable communication tools; Newly-configured units; do not know co-workers; low cohesion
AMBIGUITY	Unclear or changing mission; Unclear rules of engagement; Role confusion; Unclear norms or standards of behavior in the host culture; Unclear command or leadership structure
POWERLESSNESS	Movement restrictions; Rules of engagement constraints on response options; Policies prevent intervening, providing help; Forced separation from local culture, people, events and places; Problems in the supply chain; Differing standards of movement, behaviour etc. for different units in the area; Intermediate deployment length
BOREDOM (ALIENATION)	Long periods of repetitive work; Lack of work that can be construed as meaningful or important; Few options for play and entertainment; Overall mission or purpose not understood as worthwhile or important
DANGER (THREAT)	Real risk or serious injury or death, from: - enemy fire, bullets, mortars, mines, explosive devices - accidents, "friendly fire" - disease, infection, toxins in the environment - chemical, biological or nuclear materials used as weapons
WORKLOAD	High frequency, duration, and pace of deployments; Long work hours and/or days during deployments; Long work hours and/or days in periods before and after deployments

3. Table: Primary psychosocial stressor dimensions in modern military operations
(Bartone, 2006)

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Unfortunately only few research has investigated the work-related stress of routine military work in peacetime. Although, Bartone says to study soldier stress we should concentrate not only on the battlefield, but we should give consideration to military setting (including the garrison or home-station environment, the foward-deployed environment for troops stationed at overseas locations, and the deployed environment for troops on an actual military mission) (Bartone et al, 1998). According Pflanz (2001) the routine stressors like, low autonomy and little control over work are related to more stress among military patients than military specific stressors. In a study conducted on 472 military personnel found that 26% of respondents were suffering from work stress and the typically reported stressors were common in the civilian arena such as change in work responsibilities, work hours and trouble with supervisors (Pflanz and Sonnek, 2002). According to Pflanz's later study (N=326) the most commonly reported sources of job stress were inadequate staffing (39%), work overload (33%) and long work hours (30%), duty schedule conflicted with time for family (23%), missile field duty (19%), deployments (10%) and problems with supervisors (8%). These data suggests work stress is a significant occupational health hazard in the military, which can be affecting both the health of the troops as well as mission performance. That's why the military should rigorously examine all possible sources of work stress and try to reduce or manage it. (Pflanz and Ogle, 2006). Hourani, Williams and Kress (2002) made a population based survey to assess the prevalence and sociodemographic correlates of occupational stress in the military. The sample consisted 12.756 military personnel, who completed self-administrated questionnaires anonymously. The average prevalence of high occupational stress was 32.3% and it was highest in personnel who were 20 or younger (37.8%) and in married personnel whose spouses were not present at their duty location (37.4%). These findings point to the need for the development of coping strategies and stress management skills early in a service member's military career. Martins and Lopes (2012) made a cross-sectional study of armed forces serving at Brazilian army (N=506) to evaluate the prevalence of common mental disorders (CMD) and its association with job stress and rank among military personnel in peacetime. CMD was evaluated using the GHQ-12 and job stress was assessed by the ERI model. Prevalence of CMD was 33% and 16% of respondents were suffering from job stress (high effort and low reward), the highest prevalences could be seen among lieutenants (40%) and corporals (37%). Job stress displayed the strongest association with CMD. In the Indian Army Sharma made a study (N=415) to identify the factors causing occupational stress in Indian soldiers. He used on a 5 point Likert scale varying from 1 meaning "no stress" to 5 meaning "severe stress" to measuring occupational stress and found nine factors: lack of control at work (mean value: 4.58), role conflict (mean value: 4.27), inadequate awareness about profession (mean value: 3.99), workload and job pressure (mean value:3.96), indifferent organizational attitude (mean value: 3.39), unsupportive colleagues (mean value: 3.12), , inadequate training (mean value: 2.89), role ambiguity (mean value: 2.76) and ineffective leadership style (mean value: 2.67) (Sharma, 2015).

Work-related stress in military organisation can lead to impaired performance, can contribute to a variety of physical and mental health difficulties, and can result in a variety of social adjustment problems such as family violence, divorce, substance abuse (Krueger, 2008).

After defining the main stressors, the next section provides an overview of theories and models of work-related stress.

THEORIES OF WORK-RELATED STRESS

There are several psychological theories and models in the scientific literature that address work-related stress and have helped to clarify the causes and mechanisms that underpin it. This chapter reviews four theories of them. The first three are interactional theories and they focus on the structural characteristics of the person's interaction with their work environment. The last is a transactional theory which describes the psychological mechanisms that underpin the relationship between the antecedent and outcomes. According to this theory stress resides neither solely in the person nor solely in the environment, but the transaction between the two.

PERSON-ENVIRONMENT FIT THEORY (P-E FIT THEORY)

The person-environment (P-E) fit approach to stress has received widespread recognition in the occupational health literature, and numerous investigations have been designed around this concept. This theory stems from the early work of the social science. Lewin conceptualized that the interaction between the person and environment is the key to understand people's cognitive, affective and behavioural reactions. According to the P-E Fit theory stress occurs when there is a lack of fit between the individual's skills, resources and abilities, and the demands of the work environment. French and his colleagues (1982) identified two components of fit concept:
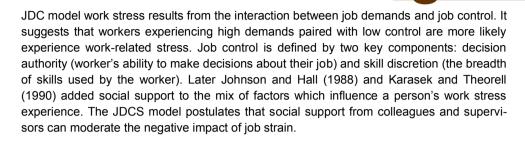
1) *Demands-ability fit* (D-A fit): the match between the demands people confront at work and their abilities, skills to meet those demands.
2) *Supplies-values fit* (S-V fit): the match between environmental supplies and personal values, motives, goals and, needs.

The environmental (E) and person (P) variables can be described both objectively and subjectively and subjective S-V or D-A misfit will produce negative psychological, physiological, and behavioural outcomes (French et al., 1982).

JOB DEMANDS-CONTROL (JDC) AND JOB DEMANDS-CONTROL-SUPPORT (JDCS) MODEL

This theory proposed initially by Karasek (1979) who thought that, although excessive job demands can have an impact of stress levels, by themselves they are not the most important factors to work stress experiences. He suggests that job control (also referred to decision latitude) buffers (moderate) the impact of job demands on strain. According to

JDC model work stress results from the interaction between job demands and job control. It suggests that workers experiencing high demands paired with low control are more likely experience work-related stress. Job control is defined by two key components: decision authority (worker's ability to make decisions about their job) and skill discretion (the breadth of skills used by the worker). Later Johnson and Hall (1988) and Karasek and Theorell (1990) added social support to the mix of factors which influence a person's work stress experience. The JDCS model postulates that social support from colleagues and supervisors can moderate the negative impact of job strain.

EFFORT-REWARD IMBALANCE (ERI) MODEL

The ERI model - was developed by Siegrist et. al (1986) -, focuses on reciprocal relationship between efforts and rewards at work. Given that I used the ERI model for the measurement of stress at work, I will present this theoretical approach in more detail. According to the model work-related benefits depend upon a reciprocal relationship between efforts and rewards at work. High efforts and low rewards represents a reciprocity deficit between "costs" and "gains" and this imbalance may lead to stress reactions by evoking strong negative emotions. High cost/low gain condition is maintained: (1) when there is no alternative choice on the labor market, (2) for strategic reasons, and (3) when the employee copes with demands at work through overcommitment (Siegrist, 1996). Overcommitment is a personality character based on the cognitive, emotional and motivational elements of Type A behaviour (Siegrist, 1998). A questionnaire was developed to measure all components (effort, reward, overcommitment) of ERI model (Fig. 2.).

2. Figure: ERI model (own editing based on Siegrist, 1999, p.40)

In a shorter version of so-called ERI Questionnaire (ERI-Q) the effort scale contains 3 items of which the content varies from time pressure, interruptions to increasing demands. Reward in the ERI-Q has been operationalized by means of 7 items, content varies from

receive respect from superior, changing work situation, job security, job promotion to ade-
quate salary. Overcommitment is measured by 6 items (e.g. being overwhelmed, thinking
about work problems, trouble with sleeping).

TRANSACTIONAL MODEL OF STRESS

One of the earliest and most fundamental perspectives on psychological stress is the
transactional model. According to the transactional models, stress is a result of a dynamic
interaction between the individual and the environment. They treat the stress psychological
state as the internal representation of problematic transactions between individuals and
their environment, which involving aspects of both cognition and emotion. In Lazarus's
approach, the central element is the personal attitude to stress as the individual condemns
the stressor. In this way, any aspect of the work environment can be perceived as a stress-
or, therefore unlike previous models transactional models are not limited by the types and
number of psychosocial hazards they can account for. When a shocking event occurs, the
individual performs an appraisal on two levels: in the primary appraisal, he judges the im-
portance of the event, and the secondary appraisal he evaluates the availability of coping
resources and gives judgment on how he can cope with this threatening, unexpected situa-
tion. The main difference between the two appraisals is the contents of the appraisal, but
each is part of a common process (Lazarus, 1999, 78.). Primary appraisal involves a con-
tinual monitoring of the person's transactions with his environment, focusing on the ques-
tion "Do I have a problem?". Lazarus identifies three types of primary appraisals:
  — *harm/loss*- something that has already occurred;
  — *threat*- the possibility of some harm of the future;
  — *challenge*- where the person engages with the demand (Lazarus, 1999, p. 76.).
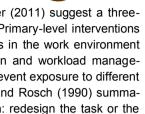In the secondary appraisal involves an analysis of possible coping strategies, focusing on
the question "What can be done about it? ". Stress arises when individuals perceive that
they cannot adequately cope with the demands. Lazarus and Folkman identified two types
of coping: problem-focused and emotional-focused coping (Folkman and Lazarus, 1980).
Summary according to the transactional models the degree of stress experienced will be
the result of the cognitive assessment and coping ability of a stressed person.

In this chapter I have not attempted to cover all of the theories relating to work stress,
but rather to discuss a few major ones that have highlighted different perspectives for un-
derstanding the transaction between the individual and the environment. In the next section
provides an overview of the methods and strategies used to manage and prevent work-
related stress.

MANAGING AND PREVENTING WORK-RELATED STRESS

In order to manage work-related stress, effective interventions applicable to the workplace
are required. Psychosocial risk management interventions can be targeted at the organisa-

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tion and at groups or individuals as well. Cartwright and Cooper (2011) suggest a three-pronged approach: primary, secondary and tertiary prevention. Primary-level interventions are concerned with reducing or eliminating the sources of stress in the work environment (for example organisational policies and procedures, job design and workload management). These are proactive interventions by nature and aim to prevent exposure to different occupational hazards and the effects of the risk factors. Elkin and Rosch (1990) summarised a useful range of possible strategies of primary prevention: redesign the task or the work environment, include the employee in career development, provide social support and feedback, build cohesive teams, share the rewards. Secondary prevention is developing individual's skills to deal with the stresses in their work lives (for example stress management training, time management training). These are proactive interventions by nature and aim to modify an individual's response to work-related stress factors. And tertiary prevention which is concerned with the treatment and rehabilitation of individuals who have suffered from stress (for example employee assistance programmes, return-to-work programmes). These are reactive by nature and aim to reduce the negative health effects of psychosocial risks of work.

Only secondary or tertiary prevention without primary prevention seemed to have a limited effect on the reduction of work-related stress. Research suggests that a mixed approach, including primary, secondary and tertiary forms of interventions, is the most effective to management and prevention of psychosocial risks and work-related stress. The multilevel interventions use a combination of such approaches:

— Primary level: eliminating psychosocial risks in the workplace to reduce/prevent stress
— Secondary level: where psychosocial risks cannot be eliminated, training employees to optimise their coping abilities
— Tertiary level: for those who 'fall through the cracks' and are experiencing symptoms associated with work-related stress, providing them with rehabilitative resources and support (Eurofound and EU-OSHA, 2014).

In military organisation many risk factors are either unavoidable or they are the direct product of National policy decisions. For these reasons many behavioral health interventions focus on developing programs designed to help soldiers cope with known risk factors. The importance of training programs is also highlighted by the MHAT (Mental Health Advisory Team) in his reports, where participation in training is a protective factor in soldier's emotional well-being (MHAT-9). MHAT conducts comprehensive mental surveillance of US service members in combat environments and in his reports recommends to develop, validate and integrate resiliency and life skills training into the military training.

The majority of the training programmes focused on training in techniques such as relaxation and other behavioural skills (e.g. cognitive restructuring, assertiveness, reshaping of personel perceptions by logical reasoning), these techniques have been applied to improve an individual's psychological resources and responses.
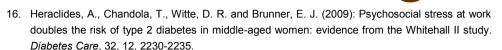
The following part of the article presents the steps of introducing a stress management training in the Hungarian Army and the effectiveness of it.

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