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Modification of Pathological Type A as Worksite Stress Management and Disease Prevention Intervention

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The importance of helping an employee to better cope with occupational stress as the aim of stress management interventions is presented. It particularly concerns the employees who have the poorest temperamental and personality potential for effective coping and should be the target of primary stress intervention and prevention. According to evidence, Type A workers are at risk of occupational stress and disease, especially when some personality features of Type A are accompanied by high reactivity. The concept of pathological Type A is introduced.

The already existing programs of modifying Type A and the framework of a program based on the elements that have been established to be the most therapeutic for pathological Type A are presented.

worksite stress management pathological Type A
cognitive and behavioral methods

1. INTRODUCTION

Interest in occupational stress has rapidly increased in recent decades. The United Nations stated that job stress—as a 20th century disease—has permeated almost every occupation around the world and was so severe and pervasive that it had now reached the proportions of a global epidemic (Jones & Bartlett, 1995, as cited in Quick, Quick, Nelson, & Hurrell, 1997).

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During the two last decades in Western countries worksite stress management interventions have become a very popular way of helping workers to combat their stress in a workplace. Stress management intervention (SMI) is defined as any activity, program, or opportunity initiated by an organisation, which focuses on reducing the presence of work-related stressors or on assisting individuals in minimising the negative outcomes of exposure to these stressors (Ivancevich, Matteson, Freedman, & Philips, 1990). Stress management interventions have different levels depending on which stage of the stress process they address.

Cooper and Cartwright (1997) claim that primary prevention is concerned with taking action to eliminate sources of stress inherent to the work environment, secondary prevention is essentially oriented to limiting damage and improving the adaptability of the individual to the stressful environment, and tertiary prevention is concerned with the treatment, rehabilitation, and recovery process of those who are suffering from ill health as a result of stress.

There is a wide array of SMI techniques but their value for a worker's and an organisation's health is sometimes questioned (Briner, 1997).

Although primary-level intervention—as intervention directed at the stressor—is considered the most effective (Cooper & Cartwright, 1997), many questions arise, for example, what the real stressor in a workplace is or if the same stressor has the same impact on different workers in an organisation. As Briner (1997) points out, 50% of the workforce show a strong negative reaction to reduction in control or autonomy, whereas the other 50% do not, or they even show a positive reaction to a reduction in control. Thus, changing job design may benefit some, but it may be detrimental to others.

Another problem is that there are very few methodologically evaluated worksite stress management interventions.

In order to develop a really effective SMI of considerable preventive value, it is necessary to identify the group of workers most at risk of stress and to adopt an approach based on the existing scientific evidence.

This article claims that the Type A pattern is a potential internal source of stress, especially when accompanied by some other temperamental feature of an individual. Modification of pathological Type A as a high stress and disease risk factor should be a target of an individual level of primary intervention and worksite preventive stress and disease management. It can be an example of reactive primary prevention aimed at preparing individuals to react effectively to stressors (Catalano & Dooley, 1980).

Evidence of the efficiency of Type A alteration and a proposal for a framework based on the concept of pathological Type A and the adoption of the most efficient techniques for pathological Type A modification are presented in the following sections.

2. THE CONCEPT OF PATHOLOGICAL TYPE A

The type A phenomenon is particularly interesting for occupational psychologists because of its role in increasing job performance and because it is strongly influenced by organisational environments. Type As are intensively work oriented, concerned with deadlines, they exhibit competitiveness: characteristics encouraged and rewarded in most Western countries, and now in some of the Eastern countries, too (Ivancevich & Matteson, 1988).

Type A, in contrast to the easy-going Type B, is involved in an incessant endeavour to achieve more and more in less and less time (Friedman, 1979). In its broadened concept the following characteristics of Type A are listed:

1. an intense, sustained drive to achieve self-selected but often poorly defined goals;
2. a profound inclination and eagerness to compete;
3. a persistent desire for recognition and advancement;
4. a continuous involvement in multiple and diverse functions;
5. habitual propensity to accelerate the rate of execution of most physical and mental functions;
6. continuous alertness;
7. aggressive and hostile feelings (Rosenman, Swan, & Carmelli, 1988).

Type A personality is referred to as "risky" because of a widespread belief in the literature that this characteristic is related to coronary heart disease (CHD).

In 1978 a group of biomedical and behavioural scientists concluded that "Type A behaviour is associated with an increased risk of clinically apparent CHD in employed, middle-aged U.S. citizens. The risk is greater than that imposed by age, elevated values of systolic pressure, and serum cholesterol, or smoking, and appears to be the same order of magnitude as the relative risk associated with the latter of these factors" (Cooper et al., 1981, p. 1200).

Although it is a generally accepted statement, some extensive reviews of Type A show this relationship is not as clear as it had been thought (Matthews & Haynes, 1986; Ragland & Brand, 1988).

The most common explanation of the inconsistent outcomes concerning Type A as a predictor of cardiovascular diseases is the existence of some toxic or lethal (responsible for diseases) elements within the syndrome of Type A. There is no agreement among researchers which elements of Type A are more, and which are less toxic. The dimensions of anger, hostility, and aggressiveness (AHA syndrome) characteristic for Type A are thus most commonly seen as related to cardiovascular diseases (Dembroski, MacDougall, Williams, Haney, & Blumenthal, 1988; Diamond et al., 1992; Friedman, 1979; Houston, 1988). Researchers try to settle whether anger suppressed (anger-in) or anger expressed (anger-out) is more dangerous for a Type A individual's health, and there is some evidence that it is anger expressed in an unpreferred (personally determined) mode rather than the kind of anger that is related to cardiovascular diseases (Engelbreton, Scheier, & Matthews, 1989).

Although hostility and anger are cited most frequently as carrying the risk of CHD, some authors point to time urgency and impatience as Type A components closely linked to ill health (Wright, 1988). Edwards and Baglioni (1991) claim the linkage between ill health and time urgency is closer than between ill health and the Jenkins Activity Survey (JAS) global score, the most frequently used paper-and-pencil measure of Type A.

The results of other studies show that the time urgency/impatience subscale of JAS was positively and uniquely related to cynical-hostility (Ho) scores of Cook and Medley (Swan, Carmelli, & Rosenman, 1990; Wadden, Anderson, Foster, & Love, 1983) and to physiological reactivity (Ochman, Nordby, & Svebak, 1989).

Physiological reactivity understood as the responsiveness to emotional stress in terms of heart rate, blood pressure, and endocrine responses is commonly pointed to as related with Type A, especially measured by the Structured Interview (Contrada, Krantz, & Hill, 1988; Haynes & Matthews, 1988).

Reactivity treated as a dimension of temperament manifested in sensitivity to weak stimuli and resistance to strong ones (Strelau, 1988) is found to be responsible for Type A and disease linkage by Elias (Elias & Cofta, 1992; Elias & Wrześniewski, 1991). In Elias and Cofta's (1992) study, high reactive Type As suffered from significantly more somatic symptoms than low reactive Type As.

Elias (1995) named the Type A in which high reactivity and low need for stimulation coexist—pathological Type A. According to Elias, pathology of this kind of Type A lies in the lack of cohesion between the behavioral

manifestation of pathological Type A—manifested by its involvement in challenging and stimulating activities—and its temperamental abilities—low need of stimulation. Analytically oriented psychologists have described this mechanism very reasonably. Price (1988) pointed to a poor private self-image (self-esteem) of Type As, encapsulated in the belief that “I am not enough yet.” The chronic struggle for success of Type As is described as a way to cope with feelings of insecurity they experience in a task situation. This struggle concerns mostly professional activity, but other areas of activity like physical health or interpersonal relationships may be subordinated to it as well.

It is considered widely that Type A can be developed during childhood and depends on the quality of the parent-child relationship characterised by insecure and avoidant attachment (Thorensen & Pattillo, 1988) or demanding and critical reinforcement towards children. Such a way of bringing up children is assumed to be a direct source of aggressiveness and hostility in them.

The aetiology of pathological Type A could be thus determined both genetically—by the high reactivity feature—and environmentally, mostly by the particular parent-child interaction (Wrześniewski, 1993).

Pathological Type A is a syndrome based on such fundamental cognitive schemata like “Because I am not sufficiently what I am, I must try harder,” with open or suppressed feelings of anger and hostility. It manifests itself in a chronic struggle for achievements or other high stimulating activities against the natural low need for stimulation characteristic for pathological Type As.

Such understanding of pathological Type A allows treating it as a potential source of stress. Stress is commonly connected with an individual's negative appraisal of his or her possibilities (resources) of responding to environmental or internal (internalised values and behavior standards) demands (Hobfoll, 1989; Lazarus & Folkman, 1984; Strelau, 1997). Because of the individuals' belief in their insufficiency, pathological Type As are involved in a chronic struggle for achievements, which is too stimulating for them as high reactive persons. Type A's beliefs of insufficiency can be also viewed as a distal factor, which makes the process of coping maladaptive and ineffective (Sarason, 1999).

The physiological mechanism of Type A and CHD correlation has not been thoroughly explained, although it is hypothesised that Type As respond with greater activity of the sympathetic-adrenomedullary and perhaps also the pituitary-adrenocortical systems (Schwartz, Pickering, & Landsbergis,

1996; Williams & Barefoot, 1988). In some physiological studies feelings of anger and hostility, characteristic for these persons, have been observed as a direct mechanism of CHD through promotion of the process of platelet aggregation (Wennenberg et al., 1997).

3. TYPE A AND ITS MODIFICATION IN EXISTING PROGRAMS

During the two last decades, a great deal of effort has been devoted to attempts to modify the Type A pattern. Several programs have been designed to modify Type A among both ill (coronary diseases, mainly CHD) and healthy persons. The various psychological methods of intervention have been used with varying success. In several of the early studies (Blumenthal et al., 1978; Suinn, 1975; Suinn & Bloom, 1978), treatment focused mainly on reducing stress and tension.

The controlled study by Suinn and Bloom (1978) offered Anxiety Management Training (AMT) and Visuo-Motor Behavior Rehearsal (VMBR) for Type A behavior. AMT was based on the identification of particular external sources of stress and learning relaxation in order to eliminate or reduce stress reactions. VMBR was developed as a method of rehearsing behaviors alternative to those that are usually provoked by Type A behaviors. In comparison with Type A's controls, treated participants showed significantly lower post-test scores on the JAS Hard Driving/Competitive and Speed/Impatience factors. This outcome convinced the authors of the study that intense, short-term therapy can be efficient for Type As. However, they confirmed that the programs joining AMT with elements of cognitive therapy had turned out to be more efficient (Jenni & Wollersheim, 1979; Suinn, 1982).

Other well-known programs in which cognitive techniques were used are studies by Roskies (Roskies et al., 1986; Roskies, Spevak, Surkis, Cohen, & Gilman, 1978; 1979). In her first study, healthy and diagnosed as having CHD Type A male participants (professionals or managers) were randomly assigned to two groups: (a) progressive muscle relaxation and (b) brief psychotherapy, in which a therapist discussed with the men their childhood experiences that may have led to their competitive, hard-driving behavior. The results of intervention consisting of 14 weekly sessions showed that both groups improved with respect to their feelings of time pressure, blood cholesterol levels, and blood pressure. However, during the 6-month fol-

low-up period, the relaxation group maintained their improvement better than the psychotherapy group. This outcome encouraged Roskies and her co-workers to enlarge the program by using a multimodal approach (Roskies et al., 1986). They added cognitive and behavioral components to the program and stress-inoculation training. This was then tested in a study of 107 men who exhibited Type A in the Structured Interview. They were randomly assigned to one of three groups: (a) focused on a multimodal program, (b) focused on aerobic training, (c) focused on a weight-training program. After two or three sessions a week for 10 weeks, the Structured Interview, blood pressure, and heart rate reactivity were assessed again. Although none of the three interventions reduced the participants' heart rate reactivity, the multimodal program was significantly more successful than either of the exercise programs in reducing the three components of Type A behavior. In the psychotherapy group, the significant reduction (of about 13–23%) occurred in such Type A scores like hostility, competitiveness, and anger controlling.

The alteration of Type A was also made using typical behavioral therapies. Levenkron, Cohen, Mueller, and Fisher (1983) conducted a study in which a group of 38 healthy Type A men (diagnosed with JAS) received three kinds of manipulations: (a) behavioral therapy (self-control methods like removing one's wristwatch when unavoidably delayed, taking less work home in the evening, adjusting personal schedules, and choosing alternative routes to work), relaxation training conducted in 8 weekly meetings lasting 90 min each; (b) group support (open-ended group discussions used for personal understanding of Type A and for promoting motivation for behavioral change), conducted like in (a) in 8 meetings lasting 90 min; (c) brief information—minimal treatment condition, during one session a cardiologist and a psychologist gave participants a handout on stress, Type A, and practical suggestions for habit change.

The outcomes of the studies proved greatest efficacy of behavioral therapy in altering Type A in comparison to group support and brief information.

Among other successful programs using the cognitive-behavioral training in altering Type A, were large-scale investigations called the Recurrent Coronary Prevention Project (RCPP; Friedman et al., 1986; Powell, Friedman, Thorensen, Gill, & Ulmer, 1984) and the United States Army War College (USAWC) study (Gill et al., 1985). In the former study, approximately 1,000 postinfarction Type A participants were randomly assigned to one of three groups:

1. Type A and cardiac counselling aimed to teach participants to identify an array of overt manifestations of Type A, exaggerated physiologic, cognitive, and behavioral reactions to stressful situations, and to develop competence in mental and physical relaxation as an alternative response;
2. Cardiac counselling providing information about the pathogenesis of myocardial infarction, alteration of other than Type A coronary risk factors only, for example, heavy fat meals, excessive smoking, lack of physical exercises;
3. Physical examination—the control group.

For 4 1/2 years, the participants' functioning was observed and measured with Type A assessment made by the participant, the participant's spouse, a work colleague, and an independent rater or a videotaped Structured Interview. Participants receiving Type A and cardiac counselling exhibited a significantly greater reduction in Type A behavior than the other groups, and had a lower cardiovascular recurrence rate than the control group, including the difference in the number of cardiac deaths between experimental and control participants. Moreover, in a study of healthy officers in the military who attended the same shaped sessions over 9 months, the participants significantly reduced their Type A behaviour and enhanced the quality of their familial and vocational relationships and performance (Gill et al., 1985).

Interventions that focused on reducing anger and hostility have also proved to be efficient in modifying the Type A pattern. This kind of Type A management was used in Bennett, Wallace, Carroll, and Smith's (1991) study. Sixty-three mildly hypertensive Type A participants were randomly given

1. stress management training (SMT) involving training in self-instruction, cognitive restructuring, and relaxation;
2. type A management involving the aforementioned techniques, modification of urgent behavior, time management, practicing anger control, and assertiveness training;
3. delayed Type A management (TAM) intervention control.

The results showed that both SMT and TAM were relatively successful in lowering blood pressure and modifying Type A behaviors. TAM intervention was superior to SMT in modifying a number of Type A behaviors, including anger, hostility, and global Type A.

Apart from behavioral and cognitive techniques modifying Type A, relaxation, concentration methods, and physical exercises were also used

with patients with ischemic heart disease. Some effective programs also included elements of yoga and visualisation (Ornish et al., 1983).

The aforementioned programs prove that a brief psychological intervention can promote changes in Type A and in some physiological factors that can contribute to a cardiovascular disease like hypertension (Bennett et al., 1991; Houston, 1988).

The variety of approaches that have favourable effects on Type A suggests that any comprehensive stress management program may have an impact on individuals whose experience of organisational stress is influenced by Type A. However, cognitive and behavioral methods—including relaxation and meditation—turned out to be the most effective (Bennett et al., 1991; Roskies et al., 1978).

These results are evidence that reduction of behavioral and physiological reactivity should be an important target of Type A modification intervention. Methods teaching Type As how to slow down and how to control behavioral stress response can be efficient especially for the anger-prone. Some cognitive methods used, although to a limited extent in the studies of Friedman et al. (1984, 1986), Powell et al. (1984), Price (1988), and Roskies et al. (1978) proved that successful altering of Type A depends on a philosophical shift in basic Type A cognitive schemata.

4. A FRAMEWORK OF MODIFYING PATHOLOGICAL TYPE A

The choice of methods for pathological Type A modification program should be determined by

- the way of conceptualisation of pathological Type A;
- the efficiency of particular methods used in the already existing interventions leading to Type A alteration, presented in section 2.

It was said earlier that pathological Type A can be treated as a syndrome based on such fundamental cognitive schemata like “Because I am not good enough yet, I must try harder,” with open or suppressed feelings of anger and hostility. This manifests itself in a chronic struggle for achievements or other high stimulating activities against the natural low need for stimulation characteristic for pathological Type As.

Resulting from the aforementioned, the main suggestions for shaping a framework of an effective program of pathological Type A modification follow:

1. Some cognitive schemata, accompanied feelings (anger and hostility), and behavioral patterns of pathological Type A should be identified and modified (subdued). Particular stressors in the work environment should be identified and changed as much as possible for better fitting them to the temperamental abilities of pathological Type A;
2. Temperamental resources should be strengthened by providing skills to reduce chronic hyperactivity in pathological Type A.

4.1. Modifying Particular Cognitive, Affective, and Behavioral Patterns of Pathological Type A

An attempt to modify Type A should be based on the generally accepted by therapists assumption that a real change is possible through new understandings, especially new capacities for understanding one's own psychological reality (Ryle, 1995). The new understanding should be then followed by new experience and new desired behaviors.

To obtain permanent change in pathological Type As, they should be first helped to identify and understand all the dysfunctional beliefs and emotions that constitute their pattern. It is not an easy process, because these kinds of feelings and beliefs are usually nonconscious and difficult to accept. It is especially important to detect all the irrational and even destructive beliefs concerning self-esteem: measures of success, the meaning of work, and perfectionism as the only ways of self-manifestation; over-emphasis on achievements as a measure of self-worth. These beliefs can be as follows: "If I am not perfect, I am nothing," "I have to be the best," "I can not have a rest yet," and so forth.

Relations with co-workers are very important for better understanding. Perceiving others as rivals in the way of success, hypersensitiveness to criticism, jealousy, distrust, suspicious, anger, and hostility are often the feelings to discover, as much as the beliefs of pathological Type As like "I have to be vigilant," "I have to fight," "They want to prove that I am worthless." Not only do these beliefs impair relationships but they also cause unrealistic demands on oneself.

It is postulated that in the proposed program, techniques allowing to identify the aforementioned destructive cognitions and to learn what their influence on behavior is should be used. Roskies et al. (1986), Friedman et al. (1984), and Powell et al. (1984) used the following techniques and other stress management programs: monitoring one's thoughts, questioning irrational ideas, correcting expectations. The "rational thinking" method allows to detect cognitive distortions, debate them, discriminate between rational and irrational thinking, and maintain closer contact with reality (Ellis, 1977; Wycherley, 1988).

Difficult to accept beliefs and thoughts, usually inaccessible to an individual, can be revealed with the help of some Gestalt techniques like a dialog with an empty chair, writing an autobiography or letters to oneself, and so forth. They are successfully used by Polish therapists in curing similar to Type A features like perfectionism and workaholism (Eichelberger, 1995). Clarification of values (Bradshaw, 1992/1996), like the methods just mentioned can facilitate pathological Type As in gaining appropriate distance to the professional success, the way of appraising oneself and others, and so forth.

Similarly to the 1974 Friedman and Rosenman's (Friedman & Rosenman, 1974, as cited in Quick et al., 1997) philosophical guidelines for their Type A patients, the clarification of values proposed for pathological Type A should help them to maintain a healthy balance between their career and personal life. Newly gained values can concern home life, social life, artistic and cultural activities, and sometimes spiritual and religious life as potential sources of satisfaction and significant rewards. Leisure time, a search for important values can provide these persons with a sense of optimism and feelings of closeness with a higher power.

As Donald Meichenbaum and his colleagues stated in their stress-inoculation procedure (Meichenbaum & Cameron, 1983), the stage of conceptualisation must be followed by skills acquisition and rehearsal. The existing programs of successful Type A altering propose a wide array of methods that consist of trying behaviors alternative to Type A behaviors. One of the most popular methods, behavior rehearsal technique, may concern, for example, eating slowly, not interrupting others, especially a boring interlocutor, patiently waiting in a queue or in traffic jams, and so forth (Powell et al., 1984; Tylka, 1996).

Modifying one's own behaviour usually requires restructuring one's work environment. Adjusting the work environment to one's temperamental features is especially important for pathological Type As seeking challenging,

stimulating work situations against a temperamentally determined low need for stimulation. Restructuring work environments means for pathological Type A proper planning and time managing, which are the main skills of managing occupational stress and key preventive stress management strategies (Quick et al., 1997).

Goal statement, establishing priorities, and scheduling have beneficial effect on job tension, stress, and satisfaction not only for Type A workers (Macan, 1994).

Proper time management allows pathological Type A to set reasonable deadlines, redefine the scope of an assigned task, focus on one thing at a time, avoid rushing and a sense of being overwhelmed by demands and details, have sufficient time for rest during work breaks, and so forth.

Social support is a commonly accepted coping strategy (Kelly & Houston, 1985; Shaw, Fields, Thacker, & Fisher, 1993) and another very important target of pathological Type A modification. Seeking social support usually demands ameliorating relations with others: co-workers and close ones. Role-playing, empathy listening, and responding techniques are good methods of teaching pathological Type A how to build helping relationships, ask other people for support and give it back to them. Special attention should be paid to the way a pathological Type A person communicates with others, how that person can re-label messages from hostile into neutral ones, or decrease a "flight-fight" response (Friedman et al., 1986).

Apart from modifying some cognitive and behavioral aspects of pathological Type A, it is very important for an effective intervention to help pathological Type As to release their emotional tension and to manage their anger (Bennett et al., 1991; Engebreston et al., 1989). The beneficial role of emotional outlets like talking things out, writing things out, and acting things out (e.g., shouting, crying, screaming) has always been known, and has recently been admitted as an effective, although irrational coping mechanism (Lazarus, 1993), on the basis of Pennebaker, Kiecolt-Glaser, and Glaser's (1988) study, where writing about trauma improved the functioning of the immune system.

Without establishing whether anger-out, anger-in, or expressing anger in a nonpreferred mode (Engebreston et al., 1989) is more dangerous for Type A's health, it can be recommended for pathological Type A to learn how to contain anger and to express it in a nonaggressive way. This aim can be realised with the help of assertiveness training, which is widely used not only in Type A interventions (Wycherley, 1988).

Modelling is the recommended way of modifying some cognitive, affective, and behavioral aspects of pathological Type A. Observing Type B

behaviors is the generally accepted method of modifying Type A (Gill et al., 1985; Roskies, 1987). This seems to facilitate the process of identifying, and "dissolving" often unconscious patterns of behavior. An audiotape presentation (Friedman et al., 1986), perhaps humorous, is thus a much-suggested way of establishing a basis for a further use of the techniques.

4.2. Modifying Pathological Type A Through Increasing the Relaxation Response

It is unrealistic to assume that we can change the temperamental characteristic of persons during several sessions of treatment, but what we can do is to increase the relaxation response (Benson, Beary, & Carol, 1974) in chronic hard-driving Type As. This idea was successfully realised in some Type A interventions (Friedman et al., 1986; Levenkron et al., 1983, Roskies et al., 1986).

Benson (1974) described a relaxation response as a patterned response leading to a generalised decrease in the sympathetic nervous system activity, sometimes accompanied by an increase in parasympathetic activity, which includes decreases in metabolic rate, heart rate, respiratory rate, and an increase in the intensity of the slow alpha waves (Leovey, 1987/1997).

In the proposed program, meditation and concentration exercises supported by deep and natural breathing and physical exercises are strongly encouraged.

4.2.1. *Concentration and meditation exercises*

There are many forms of meditation and concentration, such as Transcendental Meditation and numerous meditation practices of Eastern origin, including Chakra yoga, Rinzai Zen, Soto Zen, Zazen, Ananda Marga yoga, Mudra yoga, Sufizm, Kundalini yoga, and others. Apart from some differences, concentration on a word, sound, breath, or movement is their common feature. Although the aim of meditation is much deeper than gaining a relaxation response, it is commonly appreciated by Western nations as a valuable coping strategy.

The state of concentration (focusing attention on one object or process, usually breathing) and meditation (focusing on a state of mind about this object) increases the metabolic, emotional "peace," decreases skeletal muscles tension, and enhances the psychoneurovegetative balance (Romanowski, 1986). The subjective appraisals of benefits from meditation are

calmness, a feeling of "being beside," beatitude, energy, and so forth. (Leovey, 1997).

There are also studies showing a beneficial effect on workers practicing some kind of meditation and concentration exercises. Employees of the New York Telephone Company who reported stress and practiced meditation twice a day for 18 months showed a significant decrease in depression, anxiety, and hostility, and improvement in several physiological measures compared with those who did not meditate (Carrington et al., 1980).

Bank employees and hospital cleaners in Finland who received relaxation training over a 6-month period improved markedly their heart rate variability in the cardiac autonomic nervous system function (Toivanen, Lansimies, Jokela, & Hannainen, 1993).

Very suggestive results come from the study of Ornish et al. (1983), where patients with the ischemic heart disease treated for 24 days with stress management including meditation and progressive relaxation improved significantly their cardiovascular status compared with the control group of patients, who did not received any intervention.

The effectiveness of relaxation techniques was also proved in other studies modifying hypertension (Chesney, Black, Swan, & Ward, 1987; Irvine, Johnston, Jenner, & Marie, 1986) and Type A behavior (Bennett et al., 1991; Roskies, 1987; Suinn, 1975).

Because of their effect of moderating sympathetic arousal, meditation and concentration exercises are of indisputable value for hyperreactive pathological Type As.

On the behavioral level, these methods can be the best and simplest tool of overcoming chronic feelings of time urgency, and impatience or anger-proneness of pathological Type As.

4.2.2. Exercises improving stomach breathing

Exercises improving stomach breathing are also very significant for pathological Type As. The function of proper breathing is considerably impaired in all individuals in a state of emotional distress (Lowen, 1986/1991, 1990/1992).

Emotional distress with feelings of anxiety, fear, or helplessness is always accompanied by restricted breathing: The greater the stress, the more impaired the breathing. On the body level, restricted breathing is also manifested by raised shoulders and a strained diaphragm. Relaxing the diaphragm makes the breath deeper and more stomach reaching. Stomach

breathing is connected with parasympathetic arousal, which is responsible for relaxation and regeneration, opposite to quick and short chest breathing accompanying stress and sympathetic arousal (Grochmal, 1986). According to experienced therapists, breathing exercises are one of the simplest and most effective stress management techniques, which can be practiced without any coach and in almost all circumstances, including work conditions (Lowen, 1992; Tylka, 1996). They claim that exhalation is most beneficial for Type As, because on a psychological level it means letting off, resignation. The point for Type As is to give up struggle and the illusion that more effort and achievements will make them more worthy and acceptable. On an emotional level, stomach aspiration and deep, slow exhalation helps to discharge the strain connected with anger and hostility in Type As.

5. CONCLUSIONS

Workers' health and well-being depend as much on organisational factors as on their own patterns of behavior. If there is a constant search for an effective stress management intervention, it should be directed at pathological Type A persons. These are workers at greatest risk of stress and diseases. They are those Type A persons who do not have sufficient temperamental resources to be in a permanent struggle for success: a pattern of behavior they probably use as a strategy for coping with their stress. This maladaptive way of coping can result in impaired psychological functioning and somatic symptoms including cardiovascular diseases.

As evidence from the aforementioned studies show, Type A modification can constitute prevention against coronary disease and it improves psychological functioning. According to evidence, changes in pathological Type A do not impair occupational functioning.

The aim of the proposed program is to teach pathological Type As coping strategies that will help them to relieve their sources of stress (both internal and external) on the one hand, and to strengthen their temperamental resources through moderating their hyperreactivity, on the other.

The proposed program is based on those elements in which the observed changes in Type A and disease symptoms were greatest.

To verify the efficacy of the program, valid and reliable measures of both pathological Type A and psychological, behavioural, and medical symptoms of stress should be used. The outcomes should be compared with

those from a control group of pathological Type A, who will not be treated with a modification program. The stability of changes should be tested in a follow-up study.

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