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The Effects of Worksite Stress Management Intervention on Changes in Coping Styles

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In this study the effects of a worksite stress management intervention on changes in coping styles were examined. Ninety-five participants were randomly assigned to an experimental group participating in the intervention or to a control group with a delayed intervention. The stress management intervention was structured on enhancing so-called positive coping styles focused on problem solving and social diversion and on decreasing negative—emotion-focused and distraction—coping. The results showed that in the experimental group the level of positive coping styles significantly increased. The effect of decreased negative coping styles due to the intervention was observed only in the group of participants with a high level of negative affectivity.

occupational stress management well-being styles of coping with stress

1. INTRODUCTION

Stress prevention in organisations is aimed at preventing individual and organisational distress in three stages: primary prevention (stressor-directed prevention), secondary prevention (response-directed prevention), and tertiary prevention (symptom-directed prevention; Ivancevich, Matteson, Freedman, & Philips, 1990; Quick, Quick, Nelson, & Hurrell, 1997). Cooper and Cartwright (1997) claim that while primary prevention is focused on adapting the environment to "fit" the individual, secondary prevention should be

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concerned with the detection and management of experienced stress by "increasing awareness and improving the stress management skills of individual through training and educational activities" (p. 8). Secondary prevention thus focuses on developing self-awareness and providing individuals with a number of coping techniques improving the "adaptability" of the individual to the environment. The aim of the present study is to examine if such secondary stress management intervention would result in changes in individual coping styles.

2. COPING WITH WORK STRESS

Osipow and Davis (1988) stated that "high occupational stress does not in itself predict strain; only by including the degree to which individual coping recourses exist is an adequate prediction of strain possible" (p. 2). According to Lazarus and Folkman (1984), when confronted with stressors, an individual will first engage in primary appraisal. If he or she views the situation as stressful, the individual engages in secondary appraisal, which is the process of assessing his or her abilities to cope with stress. If these coping methods are unavailable, ineffective, or impractical then several psychological, behavioral, and physical strain outcomes can occur (Lazarus & Folkman, 1984). Folkman (1984) defines coping as any "cognitive and behavioural efforts to master, reduce, or tolerate internal and/or external demands that are created by a stressful event" (p. 843).

The process of coping is usually complex, so several strategies of coping or styles of coping being a more stable preference to use particular strategies are distinguished (Carver & Scheier, 1994; Carver, Scheier, & Weintraub, 1989). One of the most popular categorisations of coping divides it into emotion-focused and problem-focused coping (Folkman, 1984). Emotion-focused coping refers to regulating the emotional response to the problem and might include avoiding, minimising, and distancing oneself from the problem (Lazarus & Folkman 1984). Problem-focused coping is directed at managing or altering the problem that is causing distress and usually includes defining the problem, generating alternative solutions, determining the costs and benefits of these solutions, and acting to solve the problem.

Carver et al. (1989) suggested that there can be some other forms of coping not included in the previous categorisation. In their COPE Inventory they divided coping into problem-focused coping (e.g., active coping and

planning), emotion-focused coping (e.g., positive reinterpretation and growth), and coping through behavioural and mental disengagement (e.g., using drugs and alcohol to cope, giving up, sleeping, or working more to avoid the problem).

Endler and Parker (1990), who distinguish coping as a strategy and as a style, state that problem-focused coping expresses a tendency to use cognitive reinterpretations or to solve problems in a planned way. Emotion-focused coping is revealed in concentration on one's emotions in order to reduce strain. They distinguish a third way of coping, avoidance coping, which is a tendency to avoid thinking about stressful events through excessive eating, drinking, watching TV, or seeking social contacts.

There are studies that show some links of particular forms of coping with various positive psychological health outcomes. Decker and Borgen (1993) showed that cognitive reinterpretation and coping that includes social support was associated with lower perceived strain. Greenglass and Burke (1991) in their study on police officers found that problem-focused coping was associated with better health, decreased depression, anxiety, and somatisation.

Violanti (1992) showed that both problem-solving coping and emotion-focused coping (distancing oneself from a problem) were associated with decreased psychological distress in police recruits. Violanti also found that other types of emotion-focused coping, such as positive reappraisal and accepting responsibility, were not associated with distress.

Studies of cancer patients show that participants in the intervention group who aimed at greater use of active expressive—not passive and resignation—strategies showed beneficial changes in various immune parameters (Fawzy et al., 1993).

The discrepancies in findings might be caused by the different measures used in these studies. Moreover, both positive and negative coping styles exist within the same measures of problem and emotion-focused coping styles. For example, emotion-focused coping might include positive reappraisal of the situation and venting negative emotions at the same time.

A very clear trend in literature on coping is that the use of avoidance or emotion-focused coping is dysfunctional (maladaptive) for workers because it allows them to only temporarily escape from the stressors (Jex, Bliese, Buzzell, & Primeau, 2001; Keoske, Kirk, & Keoske, 1993; Latack & Havlovic, 1992). Moreover, forms of coping like mental and behavioural disengagement have been shown to be associated with perceived stress (Griffith, Steptoe, & Cropley, 1999). Coping with work stress through excessive alcohol has

also been associated with decreased psychological well-being, and satisfaction (Grunberg, Moore, Anderson-Connolly, & Greenberg, 1999; Sears, Utizar, & Evans, 2000). Coping through denying or avoiding a problem has also been associated with greater self-reported psychological distress (Violanti, 1992).

In Day and Livingstone's (2001) study of military personnel the only negative coping styles—denial/disengagement—demonstrated direct relationships with health complaints. Similarly, in their study of teachers, principals, and directors, Cooper and Kelly (1993) found that those who reported that they smoked, drank, and used medication as coping strategies perceived greater psychological distress comparing with those who did not.

Carver and Scheier (1994) found in their prospective studies that only positive reappraisal predicted the diminishing of negative emotions.

3. NEGATIVE AFFECTIVITY

There are also some important theoretical assumptions concerning the phenomenon of coping, which is a complicated process involving mediating and moderating variables.

Both the course and the result of coping depend on situational and individual factors and on the interaction between them (Lazarus, 1993; Parkes, 1994). Among situational variables control over the situation, work demand, and social support are listed. Among individual variables like locus of control, negative and positive affectivity, Type A, self-efficacy, and hardiness are listed as moderators of the coping process (Cox & Ferguson, 1991; Decker & Borgen 1993; Greenglass & Burke, 1991; Jex et al., 2001; Parkes, 1990, 1994).

Negative affectivity is a variable reflecting a predisposition to low self-esteem and negative emotionality, and is characterised by a tendency to focus on negative aspects of a person and the world (Watson & Clark, 1984). Some evidence suggests that negative affectivity might inflate correlation between self-reports of perceived work stressors and medical symptoms of stress (Burke, Brief, & George, 1993), although Chen and Spector (1991) suggest that somatic responses might be more sensitive to this problem than affective ones.

Parkes (1990) tested the hypothesis that direct (problem-focused) coping would moderate relations between work stress and mental health, whereas suppression (a form of emotion-focused coping) would show an overall effect. The results supported her hypothesis, showing that high levels of suppression were associated with low levels of mental health. In contrast,

direct coping showed a significant interactive relationship with both work demand and work support in predicting mental ill health. Besides, Parkes showed that negative affectivity might influence the relation between work stress and mental health in two ways: as a confounding factor inflating those relations, or as a vulnerability/reactivity factor.

Spector, Zapf, Chen, and Frese (2000) point to all possible substantive mechanisms to explain why negative affectivity relates to job stressors and job strain. The authors mention the perception mechanism in which negative affectivity reflects a person's tendency to see the work environment as more stressful than it really is, and his or her individual resources as weaker than they really are. Watson and Pennebaker (1989) have also discussed a hypothesis corresponding to this mechanism.

Another possible mechanism of the relationship between negative affectivity and greater stress listed by the authors is the stressor creation mechanism, which suggests that high NA (negative affective) persons might get into conflicts with others, and do a worse job than low NAs. It might also show that high NA persons use rather emotion-focused, like venting anger on their coworkers or escaping from a problem, than problem-focused coping styles, which usually lead to removing a stressor.

Because of the vulnerability to stressors of persons high in negative affectivity or their overuse of emotion-focused coping (Elliott, Scherwin, Harkins, & Marmarouch, 1995; Fogarty et al., 1999) they could thus be in greater need of stress management interventions aimed at decreasing emotion-focused coping than low NA persons.

4. WORKSITE STRESS MANAGEMENT INTERVENTIONS

Although there is a large number of worksite stress management training, studies have shown little evidence of any long-term impact on employee well-being or performance (Heron, McKeown, Tomeson, & Teasdale, 1999). The effectiveness of an organisational level of stress management interventions turned out to be limited, and uniformly positive effects were not found (Briner & Reynolds, 1999; Klink, Blonk, Schene, & Dijk, 2001).

There is evidence that traditional, individual interventions such as counselling and psychotherapy applied in work-related contexts reduce levels of psychological distress and might improve job perception (Corr & Gray, 1995; Firth & Shapiro, 1986; Klink et al., 2001; Mintz, Mintz, Arruda, & Hwang, 1992; Pennebaker, 1990/2001; Seligman & Schulman,

1986). Unfortunately, there is little reference literature available that has evaluated how these different psychological interventions enhance particular coping with work stress using standardised checklists (Coyne & Racioppo, 2000; Lazarus, 2000; Lindquist & Cooper, 1999; Parkes, 1982).

Bond and Bunce (2001) used two kinds of worksite stress management interventions to enhance the ability of media workers to cope with their work-related stress. As the authors wrote "one was an emotion-focused SMI that increased the individual ability to cope with work-related strain, and another was a problem-focused intervention that trained workers to identify and alleviate the workplace stressors that give rise to strain" (p. 156). Improvement in mental health and work-related variables was observed following both interventions. In the first condition changes in the outcome variables were mediated by the acceptance of undesirable thoughts and feelings, in the second condition, outcome change was mediated by attempts to modify stressors.

5. PRESENT STUDY

As it has been stated in section 2 there is evidence that some coping styles are positive in a sense that they are associated with lower stress and better health condition, and others are negative because they are connected with greater stress and poorer health. The immediate consequence of this statement is that effective secondary stress management should be directed to improve the former coping styles, and to diminish the latter ones. In order to assess the effectiveness of such stress management training, changes in these coping styles should be analysed.

Because the moderating role of negative affectivity in the stress process has been shown in the studies, it is also hypothesised that the effect of intervention on coping styles would depend on the level of negative affectivity. In the group of participants who are high in negative affectivity greater enhancement of positive and reduction of negative coping styles should be observed than in participants who score low in negative affectivity.

- Hypothesis 1: The stress management intervention will enhance the use of problem-focused and social diversion coping styles in participants of the intervention and diminish the use of emotion-focused and distraction coping styles.
- Hypothesis 2: The changes mentioned in hypothesis 1 will be greater in the group of participants with high scores of negative affectivity than in the group with low scores of negative affectivity.

Positive coping will include problem-focused coping: instrumental methods to cope with a problem, avoiding cognitive distortion and fantasy (e.g., "I plan my time better," "I figure out what is the most important task to do," "I try to understand the situation," etc.), and seeking social contacts.

Negative coping will mainly concentrate on negative emotions (e.g. "I become depressed," "I concentrate on my physical symptoms," "I vent my anger on the others," etc.), and strategies like withdrawal, restraint, ignoring the problem.

6. METHOD

6.1. Participants

Eighty-five workers of the financial sector (banks and insurance companies) participated in the study. Their mean age was 37.7 years (range: 22–56). More than 75% of the group were persons below 40 years old. Sixty-one of them were women and 24 were men. More than half of them had no children (56%). Most participants had higher education (95%). The average number of years they had worked at their current post was 4.06.

6.2. Procedure

Ninety people volunteered to participate in the stress management intervention "How to cope with work-related stress." Participants were recruited by means of a notice sent to the human resources departments of several banks and insurance companies. They were randomly assigned to either the experimental group with stress management training or to the control group with delayed intervention. The coping styles and negative affectivity were assessed in the experimental and control groups before the intervention and again a month after the intervention. Five participants dropped out of the intervention or did not supply the final questionnaires. In the end, 40 participants completed the intervention, and 45 participants were controls.

Stress management intervention

The intervention involved a total of ten 4-hr weekly sessions that were held over a 10-week period. Participants were exposed to group sessions and

various experience-oriented exercises (Żołnierczyk-Zreda, 2000). The sessions were structured to cover specific topics concerning changing some emotion-focused coping styles like anger control, reducing impatience, hostility, and depression or the feeling of guilt. Participants were encouraged first to identify such personal and environmental features that led to strain and then to change those features through training in assertiveness skills, behaviour rehearsal, and role-playing exercises. The aim of the intervention was to enhance problem-focused coping through increasing control latitude over work, work environment restructuring, and time management. Cognitive methods were introduced to develop self-awareness concerning both the workplace stressors that existed and the personal abilities and limitations in coping with these stressors (Quick et al., 1997).

One of the most important tasks of the training was to enhance the participants' coping through social diversion by teaching them how to seek social support and to give it to others.

6.3. Variables

6.3.1. Coping styles

Individual coping strategies were assessed using the Coping Inventory for Stressful Situation (CISS) developed by Endler & Parker (1990), and translated by Szczepaniak, Strelau, and Wrześniewski, (1996). The CISS is a 48-item multidimensional inventory that assesses three basic coping styles of 16 items each: task, emotion, and avoidance coping. The avoidance scale has two subscales: distraction and social diversion.

The task-(problem)-focused subscale includes items like "I concentrate on the problem and figure out how to solve it," "I plan my time better," "I figure out what is the most important to do in my situation," and so forth. The emotion-focused subscale includes items like "I become more strained," "I blame myself for what happened," "I vent my anger on the others," and so forth.

The distraction subscale includes the following items: "I watch TV," "I go to buy something for me," "I try to fall asleep," and so forth. The social diversion subscale has items "I spend my time with someone close," "I speak to somebody whose advice I appreciate," and so forth.

Respondents indicated on a 5-point Likert scale, ranging from 1—*not at all* to 5—*very much*, how often they engage in various activities when they encounter a difficult, stressful, or upsetting situation.

The coefficient alpha reliability for this sample was .86 for problem-focused coping, .88 for emotion-focused coping, .78 for the distraction, and .85 for social diversion.

6.3.2. Positive and negative affects

The Polish version of Bradburn's questionnaire, translated by Lewicka and Czapiński (Czapiński, 1995), was used to measure two independent dimensions: negative and positive affects. The questionnaire consists of 10 items: 5 for each scale. Participants answered *yes* or *no*. The statements for positive affectivity were "You were proud of what you have done," "You were delighted," and so forth. The statements for negative affectivity were "You were depressed or felt unhappy," "Somebody's critical comments threw you off balance," and so forth.

In this study the Cronbach's alpha indexes were .60 for the positive affect and .62 for the negative one. Relatively low indexes are due to the length of scales.

7. RESULTS

Statistical analyses are based on the following group sizes: the stress management (intervention) group: 40, and the control group with delayed treatment (nonintervention): 45.

In order to test the hypotheses whether participation in the intervention influenced changes in the scores of the four types of coping styles depending of the level of negative affectivity, multivariate analyses of variance (MANOVA) were performed with an SPSS for Windows package (SPSS, 1999).

The changes in the scores of coping styles were the dependent variables, computed by subtracting pre-test from post-test scores. The independent variables were intervention (I), negative reactivity (NA), and the intervention $\times$ negative reactivity (I $\times$ NA) interaction. On the basis of the median values two levels for negative affectivity variable were determined (2×2).

In order to test the second hypothesis, post hoc analyses were undertaken using the Least Standardised Deviations (LSD) test in those cases where the intervention $\times$ negative affectivity interaction turned out to be significant. Table 1 shows the descriptive statistics of the data.

TABLE 1. Means and Standard Deviations for Outcome Variables

Variable	Experimental Group, $n = 40$			Control Group, $n = 46$	
	M	*SD*	Range	*M*	*SD*
Problem-focused coping			16–80		
Pre-test	60.31	7.08		61.71	8.22
Post-test	62.44	7.60		61.92	8.25
Emotion-focused coping			16–80		
Pre-test	43.26	9.22		43.11	10.16
Post-test	42.68	9.32		43.20	10.18
Distraction			8–40		
Pre-test	18.81	4.80		19.89	6.30
Post-test	18.81	4.76		19.98	6.29
Social diversion			5–25		
Pre-test	14.57	4.32		16.10	3.90
Post-test	15.55	4.41		15.59	3.63

7.1. The Main Effects of Intervention

7.1.1. Problem-focused coping

As Table 2 shows in problem-focused coping the main effect of intervention turned out to be significant: $F(1, 84) = 11.15$, $p < .001$. There was a greater

TABLE 2. Main and Interactive Effects of Intervention and Negative Affectivity on Changes in Different Styles of Coping

Variable	Intervention Group, $n = 40$		Nonintervention Group, $n = 46$	
	High Negative Affectivity	Low Negative Affectivity	High Negative Affectivity	Low Negative Affectivity
Problem-focused coping[a]				
M	3.37	1.22	0.29	0.14
SD	0.76	0.65	0.54	0.51
Emotion-focused coping[b, c]				
M	–2.87	1.09	3.22	0.13
SD	1.04	0.88	0.74	0.69
Distraction				
M	3.31	–2.73	0.19	2.77
SD	0.49	0.42	0.35	0.33
Social Diversion[a]				
M	0.68	1.18	–0.45	–0.55
SD	0.53	0.45	0.38	0.35

Notes. a—a main effect for intervention, b—a main effect for negative affectivity; c—an interaction of intervention and negative affectivity.

increase in the intensity of problem-focused coping in the group participating in the intervention ($M = 2.30$) than in the group who did not participate in the intervention ($M = 0.21$).

7.1.2. Emotion-focused coping

MANOVA (Table 2) did not reveal a significant effect of intervention on changes in emotion-focused coping.

7.1.3. Distraction

Table 2 shows no main intervention effect on changes in distraction.

7.1.4. Social diversion

MANOVA revealed (Table 2) a significant effect of intervention on changes in coping concentrated on social diversion: $F(1, 84) = 10.73$, $p < .001$. Analyses indicated that in the intervention group the level of using the coping style concentrated on social diversion increased ($M = 0.93$), whereas in the control group the use of this coping style decreased ($M = –0.50$).

7.2. The Main Effect of Negative Affectivity

MANOVA results revealed a significant effect of negative affectivity only on changes in coping focused on emotions: $F(1, 84) = 5.70$, $p < 0.01$. Participants with high scores of negative affectivity decreased in using the coping style concentrated on emotions ($M = –1.42$), whereas participants with low scores of negative affectivity slightly increased in using this style of coping ($M = 0.61$).

7.3. Interaction Effect of Intervention and Negative Affectivity

Figures 1, 2, 3 and 4 show interaction effects of negative affectivity and intervention on changes in different styles of coping.

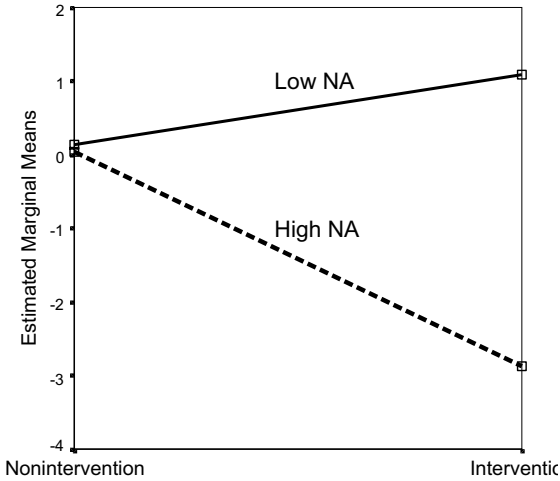

Figure 1. Estimated marginal means of emotion-focused coping. *Notes.* NA—negative affectivity.

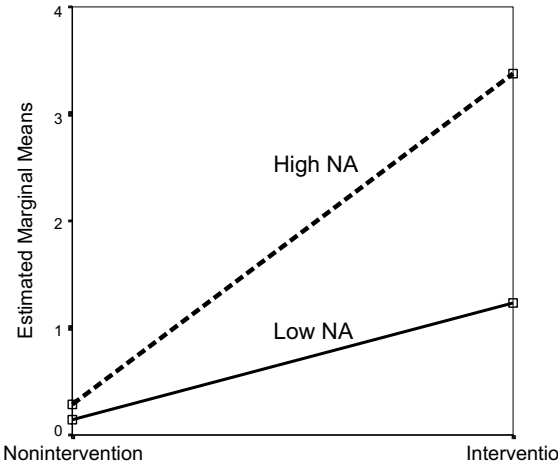

Figure 2. Estimated marginal means of problem-focused coping. *Notes.* NA—negative affectivity.

As reported in Table 2 the interaction had a significant effect only on changes in the emotional coping style: $F(2, 82) = 5.12$, $p < .02$. Post hoc LSD analysis revealed a significant difference between the groups of high and low negative affectivity participating in the intervention.

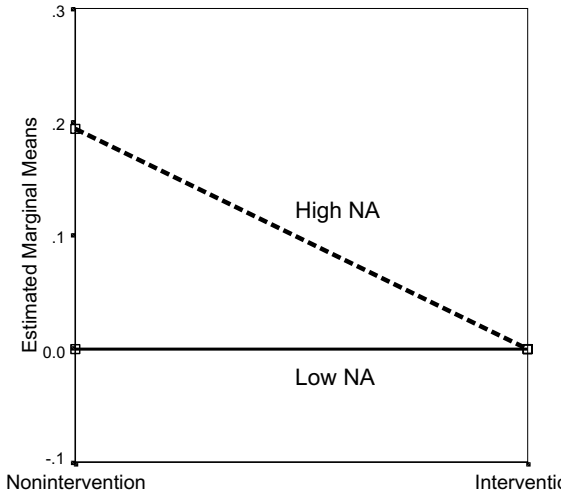

Figure 3. Estimated marginal means of distraction coping. *Notes.* NA—negative affectivity.

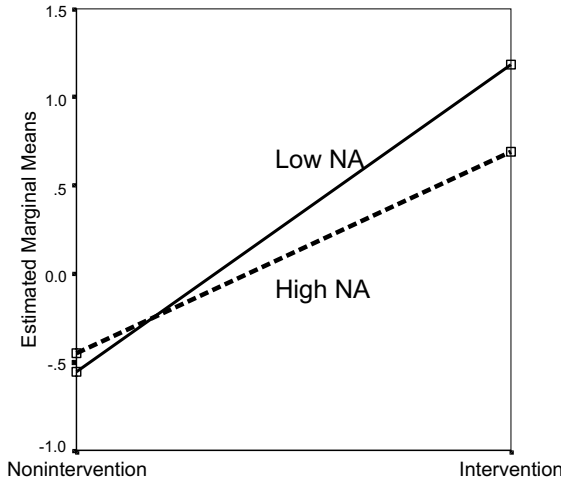

Figure 4. Estimated marginal means of social diversion coping. *Notes.* NA—negative affectivity.

The group of high negative affectivity (Figure 2) reported a significant decrease in the level of the coping style concentrated on emotions after the intervention ($M = -2.87$, $p < .01$), whereas in the group with low negative affectivity an increase in using this style due to the intervention was observed ($M = 3.22$, $p < .001$).

8. DISCUSSION

The data confirmed the first hypothesis regarding the prediction that the intervention would have a significant influence on enhancing positive—problem-focused and social diversion—coping. The intervention was aimed at increasing the participants' self-efficacy, both behavioural and cognitive control over their work, so as to avoid being helpless or self-blame prone. Simultaneously, the participants were encouraged to express their negative emotions (e.g., anger) in a socially accepted way to avoid venting those emotions on others.

The hypothesis on lowering negative—emotion-focused and distraction—coping due to the intervention was not confirmed. Two possible explanations of this outcome are possible. According to one of them, the intervention used in the study turned out to be not effective enough in diminishing emotion-focused and distraction coping styles.

The other possible explanation points to some limitations of the assumption about the dysfunctional character of emotion-focused and distraction coping. The statement about the adaptive role of this kind of coping has some confirmation in the existing literature. There are studies, mostly on medical patients, which revealed that emotion-focused coping can also reduce stress outcomes. The benefits of denial were shown among breast cancer patients by Greer (1991). Similarly Levenson, Mishra, Hamer, and Hastillo (1989) found that patients admitted to a coronary care unit with high denial scores experienced fewer episodes of angina and reached a stable medical condition more rapidly than nondeniers. The results of Czapinski's (1995) study on Polish nonclinical population has also pointed to the withdrawal (distraction) strategy as effective for the well-being of women.

Similarly, the results of Bond and Bounce's (2001) study show that an intervention aimed at enhancing emotion-focused coping significantly improved mental health outcomes (General Health Questionaire, GHQ, and Beck Depression Inventory, BDI) and a work-related propensity to innovate. An acceptance of reality and turning to oneself is also the aim of many therapeutic schools (Ellis & Robb, 1994; Williams, Watts, MacLeod, & Mathews, 1997).

As it has been mentioned, coping depends on both individual and environmental factors (Parkes, 1994; Steptoe, 1991). In a situation in which an individual had little or no control over what he or she was exposed to suppression as a form of emotion-coping turned out to be an adaptive way of alleviating distress (Parkes, 1990).

The outcome of this study is in line with a statement of many authors who avoid evaluating coping (Folkman & Moskowitz, 2000; Lazarus, 2000)

or evaluate it in response to changing goals over the course of managing with a difficult situation (Coyne & Racioppo, 2000). Recently, as our environment is ever-changing, adaptiveness of coping flexibility is strongly implied (Cheng, 2001; Neufeld, 1999; Parkes, 1994). Perhaps coping is effective when both coping styles are used in a good "proportion" by an individual or both styles are equally available to him or her in different stress situations.

This suggestion would correspond with the outcome concerning the second hypothesis of this study. The outcome showed that high NA persons, as persons probably overusing the emotion-focused coping style, could achieve a balance (or a better proportion) between emotion and problem-focused coping reporting a significant decrease in the former style of coping due to stress management intervention. In this sense the stress management intervention used in this study has also turned out to be effective.

In order to definitely state whether the changes in coping due to the intervention indicate an improvement in their coping, these changes should be followed by changes in stress symptoms, too. The analysis of improvement in coping should also take into account other important elements of this process, like environmental variables. The control latitude participants really have in their work seems to be the most predictive environmental variable for the evaluation of an effectiveness of the changes in coping that were observed. In the case of limited control latitude, maintaining some distraction coping strategies (e.g., "I try to fall asleep" or "I take some time off") would be adaptive for them. In this case, it could also be too difficult for the participants to get rid of all the negative emotions stress evokes in them, or—as Bond and Bunce (2001) revealed—a conscious use of emotion-focused strategies would not necessarily lead to negative stress symptoms.

In future studies on the effectiveness of stress management interventions aimed at improving coping with stress, the broader extent of the coping process should be included in the analysis. Perhaps, in evaluating coping efficacy we should also take into account other criteria, such as physiological, behavioral, or objective health-related ones and assess the interrelationships between stressors, behaviours, and consequences of stress (O'Discroll & Cooper, 1994).

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