

AFFECT REGULATION AND DECISION MAKING IN HEALTH-CARE PROFESSIONALS: TYPOLOGY APPROACH

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Abstract: The aim of the study was to investigate the relationship between affect regulation styles and decision making in health-care professionals. The authors suppose that emotions and affect regulation are closely connected with decision making in professional situations. 133 health-care professionals participated in the study which employed Melbourne Decision Making Questionnaire, Measure of Affect Regulation Styles, Multidimensional Health States Scale and subjective measure of decision making effectiveness. Using cluster analysis, the authors derived a typology of four types based on affect regulation strategies and well-being and ill-being variables. The individual types were compared in regard to decision making styles and decision self-efficacy. The results showed that highest subjective effectiveness and vigilance were found in types with high cognitive and behavioral engagement. Low subjective effectiveness with high hypervigilance, buck-passing and procrastination were found in types with low use of all affect regulation strategies, especially when they were connected with higher ill-being.

Key words: decision-making, affect regulation, well-being, health-care professionals

INTRODUCTION

Decision-making is a crucial element in the field of medicine. Health-care professionals, like physicians, paramedics and nurses have to determine what is wrong with the patient and recommend treatment. Decisions in health-care can be particularly strained, involving a complex web of diagnostic and therapeutic uncertainties, patient preferences, values and costs. Because of these conditions, there are often considerable disagreements about the best courses of action. Another point of current health-care decisions is that they have become complex.

A century ago, physicians had only a narrow range of possible diagnoses, a handful of simple tests, and a few, mostly ineffective, treatments to choose from. Today, there is a broad range of illnesses and imperfect treatment options. This combination increases our potential to help, but it also increases costs and makes decision-making more complex and difficult (Hunink, Glasziou, 2001).

Health-care professionals have to make good decisions to be effective in their work. But unlike most daily decisions, many health-care decisions have substantial consequences, and involve important uncertainties, complications and trade-offs. The uncertainties may be about the diagnosis, the accuracy of available diagnostic tests, the natural history of the disease, the effects of treatment in an individual patient or the ef-

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fects of an intervention in a group or population as a whole (Hunink, Glasziou, 2001). Another important factor in health-care decision making is time-stress. Klein and Zsombok (2009) speak of fatigue caused by lack of sleep or an excessive cognitive workload as a pervasive time-related factor that has a deleterious effect on decision making. There are many other factors, which enter the health-care professionals' decision making and make it complicated; e.g., *pressure* (time pressure, productive pressure) to make quick and effective decisions; *medical devices*, which can be clumsy automation devices and provide poor feedback, require awkward handling or involve excessive and unnecessary controls; *lack of clear command structure*; *lack of or inappropriate communication*; *high stakes*; *personal consequences* (Orasanu, Connolly, 1993; Klein, Zsombok, 2009).

As we can deduce from the above-described, decision making is an interaction between the problem which needs to be solved and the person solving this problem, in the context of a specific situation (Narayan, Corcoran-Perry, 1997). Decision making process is influenced by individual and *personal characteristics* on the one side and by situation and environment on the other side. Significant differences were found on the level of decision making styles in people with different cognitive styles. People with J (judgment) preference and ST (sensation-thinking) cognitive styles showed adaptive (vigilant) decision making style. In contrast, the NF (intuition-feeling) dimension and also the SF (sensation-feeling) dimension were positively correlated with maladaptive decision making styles (hypervigilance, buck-passing and procrastination) (Jurišová, Beňová, 2010). The choice, which decision making

style will be used also depends on basal psychic integration of personality. Emotional variability is shown to be effective in situations of stress and related solution of decision conflicts by adaptive form, mainly in connection with increasing length of professional career (Jurišová, 2009).

The large part of health-care decision making is formed by the above-mentioned uncertainty, risky environment, time pressure or other aspects of the situation, which bring to the fore factors connected with *emotions* (Halama, 2011). A lot of studies emphasize that affect and emotions, which are present at the time of decision making, influences how people make decisions, specifically, how they process information, how they respond to risk, and which outcomes they prefer (e.g., Mosier, Fisher, 2010; Motowidlo, Manning, Packard, 1986; Fisher, Noble, 2004). Concurrent emotions are predicted by skill, interest, effort and performance. The effect of effort on positive emotions was fully mediated through performance, whereas interest had an effect on emotions beyond performance. The effects of skill and effort on emotions changed sign when performance was controlled, suggesting that it was unpleasant to be skilled or exert an effort when performance did not improve commensurately. Perceived performance accounts for unique variance in emotions beyond that due to other predictors (Fisher, Noble, 2004). Also, correlation between interpersonal aspects of job performance (such as sensitivity, warmth, consideration, and tolerance), cognitive/motivational aspects (such as concentration, composure, perseverance, and adaptability) and self-reported perceptions of stressful events, subjective stress, depression, and hostility have been proven (Motowidlo, Manning, Packard, 1986). Pilárik and

Sarmány-Schuller (2011) researched the predictive power of selected personality factors related to emotions in the decision-making process of paramedics. In paramedics (men), it was possible to predict appropriate decision-making based on emotional stability, extraversion and quick reactions in the Stroop test. Appropriate decision-making of female paramedics could be predicted based on two zones of emotional intelligence (low emotional awareness and positive current conditions) and on quick reactions in the Stroop test. Jurišová and Sarmány Schuller (2013) also found, that emotionally based personality factors predict decision making coping strategies in a sample of paramedics. Specifically, they found that emotional stability and constancy predicts negatively hypervigilant behavior, procrastination and buck-passing.

These and other similar studies indicate that professionals' decisions necessarily include emotions, processing of emotions and their *regulation*. Emotion or *affect regulation* is one part of self-regulation, which helps control, direct and correct actions of individuals (Folkman, 1984). Most of the definitions of affect regulation include the idea of people taking action to maintain or change the intensity of affect or to influence the temporal duration of the affective episode. The goal of affect regulation is to achieve subjective well-being by increasing positive affect and decreasing negative affect (Larsen, Prizmic, 2004). Main components of subjective well-being are life satisfaction, positive affect and low levels of negative affect (Diener, 2000). Affect regulation (concretely two emotion regulation strategies, cognitive reappraisal and expressive suppression) and well-being were studied for example by Haga, Kraft and Corby (2009). They found in-

creased use of cognitive reappraisal to predict higher levels of positive well-being outcomes, while increased use of expressive suppression predicted higher levels of negative well-being outcomes. Several studies examined how frequently people use different affect regulation strategies (e.g., Totterdell, Parkinson, 1999; Thayer, Newman, McClain, 1994). Cognitive distraction, rationalization, pleasant or relaxing activities, social support, calling, talking to or being with someone, controlling thoughts, listening to music and avoiding the person or thing causing the bad mood were *the most frequently used strategies*. *The most effective strategies* were active mood management (exercise, stress management activities, putting feelings in perspective) and seeking pleasurable activities and distraction (engaging in pleasant activities, listening to music, changing location) (Totterdell, Parkinson, 1999; Thayer, Newman, McClain, 1994).

Previous research suggests that affect regulation and decision making are linked in numerous ways. Extent to which we allow our moods to influence how we make decisions may depend on our proclivity to regulate affect in light of the processing demands of a given task. Graupmann, Erber and Poe (2011) applied the social constraints model of affect regulation to decision making involving varying levels of risk. Participants indicated a desire to attenuate both positive and negative induced moods when faced with high-risk decision but not a low-risk decision. They also provided evidence that attenuated affect helps individuals to better identify decision-irrelevant information. Participants who were first made to feel happy or sad and then read a story that was incongruent with their mood were better at identifying decision-irrelevant information than

participants who read a story that was congruent with their mood.

There are not many research studies about affect regulation in health-care professionals' decision making, but we can mention Kovács et al. (2010), who investigated predictors of occupational burnout and emotional regulation among physicians and nurses. Nurses reported significantly higher emotional dissonance and fewer regulation possibilities, such as interaction and emotion control, than physicians. Nurses had fewer regulation requirements regarding sensitivity and sympathy. There was an effort to find out how and why emotion regulation is carried out by health-care professionals. The manipulation of emotional boundaries, to create an emotional distance or connection with patients and their families, emerged as a nascent strategy to manage anticipated, evolving, and felt emotions (Hayward, 2011). Most frequently used regulation strategies of health-care professionals are positive reappraisal (51.6%), planful problem-solving (51%), self-controlling (47.6%) and escape-avoidance method (32.9%). 69% used emotion focused strategies and only 29.5% problem focused strategies (Deklava, Millere, Crcenis, 2011).

The aim of our study was to investigate the relationship between affect regulation styles and decision making in health-care professionals. As previous research findings suggested, the effective affect regulation style could be an important variable in the way how health-care professionals make decisions. We chose to use a typology based approach to this problem which is focused on the creation of the typical pattern of researched variables. This approach brings important advantage in comparison to classical variable-centered approach, because it

takes into account the specific effect of variable configuration (Asendorpf, 2002). We decided to derive a typology, based on frequency of affect regulation strategies which were supplemented by well-being and ill-being variables, to relate these strategies to overall optimal functioning. In the next step, we compared individual types in regard to decision making variables, specifically, decision making styles and decision self-efficacy.

METHODS

Research Sample

The research was conducted using a sample of 187 respondents working in health service. We had to exclude 54 respondents because of missing values, so final sample included 133 respondents. This sample consisted of 53 emergency link operators, 33 paramedics and 47 nurses. The mean age was 39.09 years ($SD = 8.95$) and ranged from 23 to 59. The sample included 25 males and 108 females from Bratislava, Trnava, Trenčín, Banská Bystrica, Prešov and Žilina. Respondents were asked to participate in the research personally and they responded via paper and pencil questionnaire.

Measurement Instruments

Measure of Affect Regulation Styles - MARS (Larsen, Prizmic, 2004) is a self-report measure, which includes a comprehensive list of 32 strategies – affect regulation styles that can be divided into seven scales:

1) *Active distraction* defined as engaging in pleasant behavior to distract attention from negative feelings and described by examples such as: going out with friends, doing something fun and laughing.

2) *Cognitive engagement* defined as cognitive strategies using positive thinking to manage negative feelings, with examples such as thinking about positive things, thinking about things that are going well in life and putting things in perspective.

3) *Behavioral engagement* is defined as doing something to solve the problem which brought on the negative feelings. It is represented by examples such as making plans of how to avoid such problems in future, planning for the future, and taking action to solve the problem.

4) *Venting and expressing affect* is defined as behavior in which people verbally or physically express their affective states. The examples are: letting one's own feelings out by expressing them, and talking to someone about their feelings.

5) *Passive distraction and acceptance* is defined as passive behavior to distract one's attention from negative feelings, with examples such as praying, trying to accept it as my fate, drinking coffee and eating something.

6) *Rumination and withdrawal* is defined by behavior intended to analyze one's own affective states, and is represented by examples such as trying to understand one's own feelings, thinking about one's feelings and writing about one's feelings.

7) *Waiting* is defined as not being involved in any of the behaviors to manage the negative feelings. It is represented by examples such as doing nothing, letting things wait and day-dreaming about time without problems.

In the MARS questionnaire the respondents are asked to indicate how frequently they use each behavior/strategy to influence their feelings, either to increase positive moods or to decrease negative moods, using a Likert scale ranging from 0 (not at all) to 6 (almost always).

Melbourne Decision Making Questionnaire – MDMQ is an instrument for measuring decision-coping patterns identified in Janis and Mann's (1977) conflict theory of decision making. They begin with the assumption that stress engendered by decisional conflict is a major determinant of failure to achieve high-quality decision making. The psychological stress arising from decisional conflict stems from at least two sources: a concern about the severe personal, material, and social losses that might be incurred whatever the chosen alternative; and a concern over loss of reputation and self-esteem if the decision goes wrong.

Original pattern was a 31-item self-inventory – Flinders Decision Making Questionnaire, designed to measure tendencies to use three major coping patterns identified in the already mentioned conflict theory of decision making: vigilance, hypervigilance and defensive avoidance.

Melbourne Decision Making Questionnaire (MDMQ) (Mann et al., 1997), which is used in our research, is a shortened and improved instrument, containing 22 items, comprising four identifiable factors with good psychometric properties:

1) *Vigilance*. The decision maker clarifies objectives to be achieved by the decision, canvasses an array of alternatives, searches painstakingly for relevant information, assimilates information in an unbiased manner, and evaluates alternatives carefully before making a choice. Vigilance is associated with a moderate level of psychological stress. According to the conflict model, vigilance is the only coping pattern that allows sound and rational decision making.

2) *Hypervigilance*. The decision maker searches frantically for a way out of dilemmas. Due to time pressure, the decision maker

impulsively seizes upon hastily contrived solutions that seem to promise immediate relief. The full range of consequences of choices is overlooked because of emotional excitement, perseveration, and limited attention. In its more extreme form, hypervigilance is a panic-like state in which the decision maker vacillates between unpleasant alternatives. Hypervigilance is associated with severe emotional stress.

3) *Buck-passing*. Decision maker attributes another person or group with responsibility for one's own actions and decisions. It is also associated with hesitation in decision making.

4) *Procrastination*. Decision maker is replacing high-priority actions with tasks of lower priority, or doing something from which one derives enjoyment, and thus putting off important tasks to a later time or not making a decision at all. Procrastination is a mechanism for coping with the anxiety associated with starting or completing any task or decision.

Previous research (Mann et al., 1997) has confirmed the reliability of each factor. Internal consistency alphas are as follows: vigilance – alpha 0.80; hypervigilance – alpha 0.87; buck-passing – alpha 0.87 and procrastination – alpha 0.74. The respondents respond how much particular items influence their behavior in difficult decision making situations by checking “True for me” (2), “Sometimes true” (1) or “Not true for me” (0). The questionnaire has been successfully used in Slovak translation as well (Sarmány-Schuller, 1999).

Subjective perception of decision making effectiveness. Subjective perception of decision making and self-confidence in decision making was measured by a simple question: Do you think your decisions at work are ef-

fective and correct? The question was answered on Visual Analogue Scale format, using a 10 centimeter long line. Left pole of the line was signed by “absolutely no” and the right pole by “absolutely yes”. The score was extracted using millimeter scale from 0 (absolutely disagreement) to 100 (absolute agreement).

Multidimensional Health State Scale (MHSS) (Hardie et al., 2005) is a 30-item scale that refers to individual's health. The 15-item well-being (WB) scale includes five subscales: social WB (friendly, sociable, cheerful), physical WB (physically fit, active, energetic), emotional WB (calm, relaxed, content), cognitive WB (competent, confident, capable) and sexual WB (sensual, sexy, attractive). The 15-item ill-being (IB) scale includes five subscales: depression (miserable, gloomy, sad), anxiety (tense, nervous, worried), hostility (angry, frustrated, irritable), somatic symptoms (backache, muscle pain, headache), and cognitive IB (mentally tired, lack motivation, poor concentration). Each health state is rated on a 6-point scale (0 = not experienced, 5 = strongly experienced) for a specific timeframe, in this case, the past month. Each 3-item subscale was summed to yield five well-being subscale and five ill-being subscale scores, each with a possible range of 0 to 15. Previous research has confirmed the reliability and validity of the MHSS (Hardie et al., 2005). Internal consistency alphas for WB subscales ranged from .86 to .90, while alphas for IB subscales ranged from .80 to .92.

RESULTS

In the first step, we used cluster analysis to identify basic types of persons according to affect regulation strategies used in their

life. We used the version of cluster analysis named k-means, which divides the sample into clusters based on the nearest mean. Except affect regulation styles, we included also well-being and ill-being variables into the analysis, in order to identify intensity of experienced emotions (both positive and negative) in the individual types. Together nine variables (seven affect regulation styles, well-being, ill-being) entered into the analysis. We produced three, four, and five cluster solutions, however, in further analysis, we work with four cluster solution. Three cluster solution produced not enough differentiated types, and five cluster solution produced types with too small a number of persons. The four cluster solution is presented in Figure 1. There are profiles of mean score (scores are transformed to z values) of

variables for each type. As seen, the first type ($n = 45$) is characterized by average well-being and higher ill-being, and frequent use of all regulation strategies except behavioral engagement. The second type ($n = 28$) has high well-being, low ill-being, and it prefers to use both cognitive and behavioral engagement. Passive distraction and waiting are non-preferred strategies in this type. The third type ($n = 45$) has low well-being and higher ill-being, all affect regulation styles are under average, except waiting, which is around average. The fourth type ($n = 15$) is similar to the third type, because the use of affect strategies is generally low, even in the more extreme way than in the third type. However, contrary to the third type, the fourth type has higher well-being and lower ill-being.

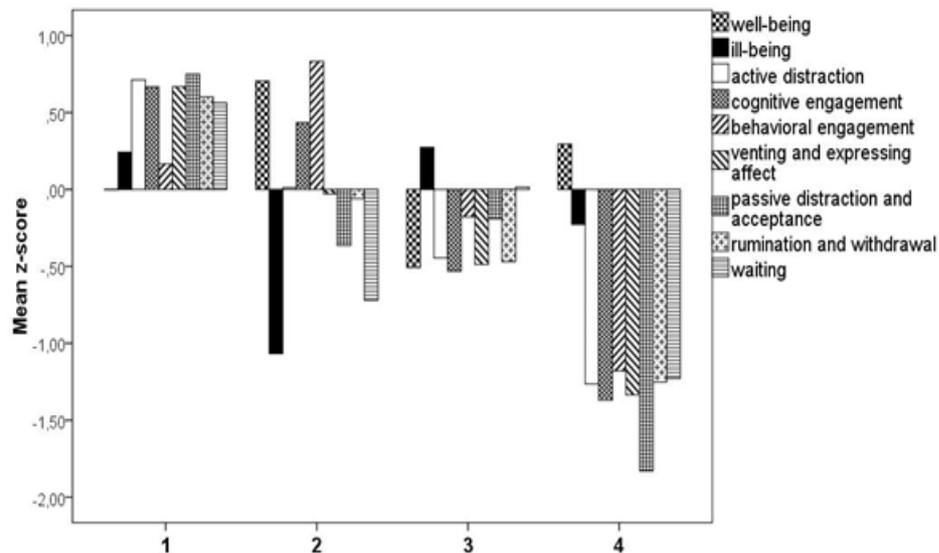


Figure 1. Basic type of health-care professionals according to affect regulation styles derived by cluster analysis

Further, we analyze the individual types in regard to demographical variables (see Table 1). The Chi-square test showed that the groups do not differ significantly in gender or in profession (emergency link operators, paramedics, nurses). Even, according to analysis of variance, the groups do not differ in age or in length of practice in health-care.

In the next step, we focused on the analysis of differences between the types in regard to decision making variables. We performed five one-way ANOVA analyses, with dependent variable: subjective perception of decision making effectiveness, vigilance, hypervigilance, buck-passing, and procrastination. The descriptive characteristics and results of the ANOVA are in Table 2. As seen, the groups differ significantly in self-perceived effectiveness of decision making, hypervigilance and buck-passing. Vigilance

showed difference with marginally significant difference, and no significant difference was found in procrastination. Subsequently, we applied post-hoc analysis of between group's differences using the LSD method and significance level 0.05. In case of subjective perception of decision making effectiveness, the 2nd type scored significantly higher than 1st and 3rd type. The 2nd type also scored significantly lower than 1st and 3rd type in hypervigilance. In this variable, the 3rd type scored significantly higher than the 4th type. The highest score in buck-passing was found for the 3rd type, and this score was significantly higher than all other types. As we found marginal significance of F value in vigilance, we performed post-hoc analysis for this variable too. In this variable, we found the lowest score for the 4th type, which was significantly lower than in 1st and 2nd type.

Table 1. Demographic variables analysis in individual types (Chi-square and ANOVA)

	Gender		Profession			Mean age	Mean length of practice in health-care (years)
	males	females	operators	paramedics	nurses		
1 st type (n = 45)	7	38	19	11	15	39.53	20.09
2 nd type (n = 28)	8	20	11	8	9	37.57	17.88
3 rd type (n = 45)	7	38	16	9	20	39.82	19.92
4 th type (n = 15)	3	12	7	5	3	38.43	19.09
Statistics	Chi-square = 2.38, n.s.		Chi-square = 3.65, n.s.			F = 0.423, n.s.	F = 0.243, n.s.

Table 2. Means and standard deviation, and ANOVA results of decision making variables in affect regulation types

	decision making effectiveness	vigilance	hypervigilance	buck-passing	procrastination
1 st type	74.70 (16.33)	10.02 (2.06)	4.62 (2.11)	4.80 (2.60)	3.46 (2.12)
2 nd type	85.74 (8.85)	9.75 (1.93)	3.25 (1.73)	4.40 (1.86)	2.70 (1.97)
3 rd type	75.35 (15.97)	9.37 (2.22)	5.02 (2.18)	5.92 (2.24)	3.77 (2.31)
4 th type	81.96 (15.65)	8.33 (2.79)	3.66 (2.16)	4.13 (2.58)	3.06 (1.48)
F (2.129)	3.94, p = 0.010	2.40, p = 0.071	4.99, p = 0.003	3.42, p = 0.019	1.57, p = 0.198

DISCUSSION

In the first step, we used cluster analysis to distinguish different types of affect regulation personalities in health-care professionals. The analysis also included scores of well-being and ill-being to identify overall emotional experiencing in individual types. Closer look at the individual types enables us to provide initial description of these types in more detail, however, with emphasis on their later validation in real environment.

In comparison to other groups, the first type perceives average score of well-being and higher score of ill-being. The results suggest that persons in this group try to manage their feelings by using a whole range of self-regulation strategies more frequently than other groups, except behavioral engagement, which is used more frequently by the second group. The profile of variables in this type can be interpreted in two different ways. First – members of this group can be more open to reflect their negative as well as positive feelings, as is typical for persons higher in self-complexity, or self-criticism at least (Gurňáková, 2002; 2004a). This can explain even their lower level of subjectively perceived effectiveness in decision making, which does not mean that they really fail more frequently than the others (only subjective assessment of decision making effectiveness was tested in this study). One can argue that this type is not very effective in self-regulation, because despite trying to use all self-regulation strategies frequently they still perceive higher level of negative emotion. However, the average level of positive feelings could be a reason for opposite interpretation. Members of this group could use broader range of self-regulation strategies

more frequently in order to manage higher occurrence of their negative feelings.

The second type is characterized by higher score of behavioral engagement and cognitive engagement, which suggests that they hold more proactive attitude in solving emotional disturbance. In comparison to other groups, they show the highest score of well-being and the lowest score of ill-being. The profile of this type supports findings from another study, indicating that higher use of cognitive reappraisal predicts higher levels of positive well-being outcomes (Haga, Kraft, Corby, 2009). Behavioral and cognitive engagement belong to active affect regulation strategies, because they include active positive thinking and acting to see a situation from another perspective and to distract negative feelings as soon as possible (Larsen, Prizmic, 2004). The least used self-regulation strategies in this group are waiting, passive distraction and acceptance, as opposed to the most effective strategy found in Totterdell and Parkinson (1999); and Thayer, Newman and McClain (1994), which is active mood management (exercise, stress management activities, putting feelings in perspective). To conclude, this group prefers more effective problem-oriented strategies of affect regulation and their effort among our types is most successful.

The third self-regulation type shows the lowest score of well-being and the highest score of ill-being, compared to other groups. All affect regulation strategies are at low level, however, the most frequent are waiting, passive distraction and acceptance. These strategies are defined as not being involved in any of the behaviors to manage the negative feelings, letting things wait and daydreaming about time without problems (Larsen, Prizmic, 2004). This suggests that

this group is characterized by passive attitude to solve their problems and negative feelings. Their negative feelings seem to dominate over positive feelings, but they are not able to regulate them. We suggest that this type can have connection with expressive suppression, which predicts higher levels of negative well-being outcomes (Haga, Kraft, Corby, 2009).

The fourth type is characterized by high score of well-being and lower score of ill-being, however, what is most specific, this group has very low frequency of all affect regulation strategies. This suggests that they rarely use any of the affect regulation strategies. The score of well-being and ill-being in this type also suggests that they do not experience too many negative feelings to regulate. However, we would like to note that this group is represented by 15 persons only, so other research should confirm whether this type occurred accidentally in our research or whether it is a stable type repeatedly confirmed in research data.

Analysis of the differences between four types in decision making variables has brought several important findings which we want to discuss. We compared these types in subjective perception of decision making effectiveness, and four decision making variables. From these styles, vigilance is generally considered as adaptive and effective decision making strategy allowing sound and rational decision making. All other decision making strategies – hypervigilance, buck-passing and procrastination are considered as maladaptive and not very effective strategies (Mann et al., 1997).

The ANOVA results confirmed the consideration related to the effectiveness of regulation strategies in the individual types, as we described above. The second type showed

the highest score in subjective perception of decision making effectiveness (significantly higher than 1st and 3rd type) and high score of vigilance (significantly higher than 4th type). Also, scores of hypervigilance in this type are lower in all types (significantly lower in 1st and 3rd type). We can suggest that preference of cognitive and behavioral engagement to regulate one's own emotions (typical for this type) is an adaptive strategy to regulate negative affect and make proper decisions. This suggestion corresponds to the results of Jurišová (2009) who also confirmed that active emotion regulation is connected with high vigilance and effectiveness in decision making. Cognitive and behavioral engagement could also be related to sensation-thinking cognitive styles, and it was also found to be related to adaptive (vigilant) decision making style in contrast to thinking and feeling of persons, whose decision making strategy was maladaptive (Jurišová, Beňová, 2010). Although not confirmed by significance testing, this group has the lowest score of procrastination. This suggests that persons from this type have a tendency not to hesitate with action and their self-confidence about accuracy in decision making is the highest of the whole sample. Overall, we suppose that effective affect regulation helps individuals to better identify decision-irrelevant information (Graupmann, Erber, Poe, 2011), which is a very important aspect of decision making, especially in work of health-care professionals.

The third type seems to be contrary to the second type. This group shows the highest score of hypervigilance (significantly higher than 2nd and 4th type), buck-passing (significantly higher than all other types) and procrastination (non-significant). Persons from this group are using maladaptive decision

making strategies that have a consequence for their decision effectiveness, because they perceive lower accuracy of their decisions. We suppose that this could be an outcome of preferred affect regulation strategy (waiting, passive distraction). Although waiting as emotion regulation strategy is relatively common among health-care professionals (Deklava, Millere, Crcenis, 2011), our research indicates that its effectiveness is very low and it does not contribute to well-being or proper decision making. It is possible that higher occurrence of passive problem solving and self-regulation strategies in this group, together with increased negative affectivity, can represent symptoms of burn-out syndrome as described by Maslach and her followers (Maslach, Jackson, 1981), although we were not able to confirm this assumption in this research. Concerning the first type, ANOVA showed that this group differs from other groups in subjective decision making effectiveness (the lowest score at all, significantly lower than 2nd and 4th type), the highest score in vigilance (significantly higher than 4th type), hypervigilance (significantly higher than 2nd type). This group is characterized by the highest vigilance and the lowest subjective effectiveness. This sounds like a very surprising result because vigilance is generally considered as an adaptive strategy (Mann et al., 1997), however, in this case it is related to low subjective effectiveness. We think that the explanation of this result can be related to the description of this type mentioned above. This type is more open to positive as well as negative feelings and thoughts (as is supported by higher vigilance) which can lead to higher self-criticism in subjective expression of their decision-making effectiveness (Gurňáková, 2004 b, c).

Finally, the fourth type significantly differs from other types in vigilance (the lowest score at all, significantly lower than 1st and 2nd type), hypervigilance (significantly lower than the 3rd type) and buck-passing (the lowest at all, significantly lower than the 3rd type). Globally, this type is characterized by low score in most variables related to affect regulation and decision making. The profile and variable scores in this type suggest, that low use of affect regulation strategies is related also to low score in decision making styles. However, the subjective effectiveness and well-being of such persons is not decreased, which means that they do not suffer from negative feelings or ineffective decision making. We can speculate that the fact that these persons do not perceive problems (or need to solve problems and self-regulate) very frequently could be related to some personality characteristics such as low sensation seeking (Zuckermann et al., 1978) or low openness for experience (Costa, McCrae, 1992). But as we have said, only a small number of participants belong to this type, so any interpretation or suggestions concerning the psychological mechanism lying behind it should be restrained and conditioned by further research.

CONCLUSION

In this study, we tried to investigate the relationship between affect regulation styles and decision making in health-care professionals. Our results suggest that affect regulation style could be an important variable in the way health-care professionals make decisions. They also point out that especially behavioral and cognitive engagement could be a very effective way of affect regulation, with strong consequences for decision mak-

ing style and effectiveness. Typological approach, which we chose for our research, showed that constellation of affect regulation styles is also an important factor, e.g., cognitive engagement together with behavioral engagement (type 2) can be related to high effectiveness, however, in a different constellation (e.g., with waiting and passive distraction, type 1) it could be related to lower effectiveness. Of course, limitation of this study is its self-report nature. Therefore, there is a need to validate the identified types in real practice and to analyze their functionality in regard to decision making. We hope that our study will attract more attention toward the problem of affect regulation and its interaction with decision making in the context of health-care professionals' work.

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REGULÁCIA EMÓCIÍ A ROZHODOVANIE U ZDRAVOTNÍCKYCH PROFESIONÁLOV: TYPOLOGICKÝ PRÍSTUP

I. K a m h a l o v á, P. H a l a m a, J. G u r ň á k o v á

Súhrn: Cieľom štúdie bolo preskúmanie vzťahov medzi štýlmi emočnej regulácie a rozhodovaním u zdravotníckych profesionálov. Autori predpokladali, že emócie a ich regulácia sú veľmi úzko prepojené s rozhodovaním profesionálov. Výskumnej vzorke 133 zdravotníckych profesionálov bol administrovaný Melbournský dotazník rozhodovania, Dotazník na meranie štýlov emočnej regulácie, Multidimenzionálna škála na meranie zdravotného stavu a otázka na zistenie subjektívneho vnímania efektivity rozhodovania. Pomocou clusterovej analýzy, autori odvodili typológiu, z ktorej vznikli 4 typy založené na používaní jednotlivých štýlov emočnej regulácie a premenných well-being a ill-being. Jednotlivé typy boli porovnávané vo vzťahu k rozhodovacím štýlom a subjektívne vnímanej miere efektivity rozhodovania. Výsledky poukázali na to, že najvyššia subjektívne vnímaná efektivita a vigilancia sa vyskytovala v typoch s najvyšším kognitívnym a behaviorálnym zaangažovaním. Na druhej strane, nízka subjektívne vnímaná efektivita rozhodovania, spoločne s vysokou hypervigilanciou, presúvaním zodpovednosti a prokrastináciou sa vyskytovala pri typoch s nízkou frekvenciou používania všetkých štýlov emočnej regulácie, obzvlášť keď boli spojené s vysokým ill-beingom.