

Cognitive appraisal and strategies of coping applied in an exam situation

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Summary

The presented research concerned the influence of cognitive appraisal upon the process of coping with examination stress. Cognitive appraisal with the exam situation as a challenge results in the application of strategies directly confronting a stress situation. Such strategies are: creating a schedule of preparations for an exam, activity according to plan or instrumental preparing for an exam. Appraisal of a situation as a threat helps the application of ways of coping involving diverting attention off a stressor and one's own reactions.

Here we should mention wishful thinking and searching for social support. This type of cognitive appraisal also contributes to the minimalization of a problem and reduction of stress. Intermediary influence of coping strategy, between cognitive appraisal of a situation and examination result has also been noted. On the basis of analysis of relations between variables made in the hereby study we may conclude that in the situation of examination stress, cognitive appraisal of a situation plays a significant role in a process of coping with stress.

Key words: exam stress, coping with stress, cognitive appraisal.

Introduction

Relational paradigm of stress has been the theoretical basis of presented researches. The main contribution to its prevalence has been attributed to Lazarus, who along with his colleagues worked out a still developed transactional conception of stress and manners of coping with it [1, 2, 3]. The importance of a situational context and relation individual – environment in each aspect of human activity became the main plot of Lazarus's deliberations. The essence of his perception of stress is based on putting it in categories of relation between human and environment, that is evaluated by the person as aggravating or exceeding his resources and threatening his prosperity [1, 4, 5, 6]. Cognitive appraisal is the key concept in Lazarus' theory. It is based on determining the relation between requirements, restrictions and resources of the environment and personal features of an individual.

In this study cognitive appraisal made in categories of a challenge or threat as well as its influence on the process of coping with stress have been the subject of analyses. Challenge is a subtype of stressful situation that is connected with positive emotions like hope, enthusiasm, but also with negative ones like worries and uncertainty. Apart from potential advantages, such a situation brings about also the danger of exceeding or exhausting the resources that a particular individual owes. The individual estimates the situation as difficult, but is sure that using or gaining particular resources gives a real chance of meeting the requirements. Perception of the situation in the categories of threat takes place when a person treats the environment as a danger and assumes that he lacks resources to control the environment. Usually it is accompanied by the negative emotions like fear and worries.

The exam is a source of stress for a numerous and important social group. This issue is widely reflected in researches in this area. They give the information on processes connected with the exam stress. However, the results of some researches are ambiguous. The exam situation that is the subject of this work has been a frequent area of researches on psychological stress, especially during their dynamic development initiated in the 1980's [2, 7, 8, 9, 10, 11]. Previous researches of this aspect familiarize ourselves with the relations connected with the situation of exam stress. However there are questions with no unequivocal answers. The results of some researches are surprising because they do not fit in with the common knowledge. Conclusions lack in relation between instrumental, coping focused on the problem, emotional distress and exam results [10, 12]. No relation or a weak relation with the exam merits has also been observed referring to forms of coping directly focused on preparing for the exam. Previous researches referring to the aspect of exam stress were usually based on the search for similarities and differences between its particular stages. Research made by S. Folkman and S. Lazarus [2], C. A. Smith and P. C. Ellsworth [9], or Ch. S. Carver and M. F. Scheier [10] are worth mentioning here. Detailed analysis of significance of cognitive appraisal for the process of coping with exam stress, that is also a subject of this work, has been done till now only by R. F. Scherer, P. M. Drumheller and C. L. Owen [13]. Cognitive appraisal of situation and strategies of coping with stress have been the analyzed variables. Authors have used modified versions of research tools of Lazarus and Folkman. Scale of Cognitive Appraisal and Questionnaire of Ways of Coping with Stress have been used. In this work analysis of strategies has been done more precisely [1].

Material and methods

The study was conducted within the Project KBN Nb 1 H01f 014 14 which was directed by Irena Heszen-Niejodek and entitled: "Style of coping with stress, type of stressful situation versus processing and effectiveness of coping". This project covered five stages of research: stage I – at the beginning of second term of studies, stage II - two days before the exam, stage III – two days before revealing the merits, stage IV - five days after revealing the merits, stage V – two days before the make-up exam. Because of the subject of this study in order to verify the placed hypothesis,

results from the second and fourth stage have been analyzed. The second stage took place two days before the exam and included measurement of cognitive appraisal of the situation and remedial strategies. The fourth stage took place after revealing the merits of the exam. Information from this stage, which has been used in the process of verifying the hypothesis, referred to students' exam merits.

Research covered the first-year and full-time psychology students at the Silesian University and first-year medicine students at the Silesian Academy of Medicine, Department in Katowice. In these two cases, the test exam chosen was one with a high level of difficulty. For psychology students it was the exam from the biomedical basis of behaviour that is usually failed by 30-50% of students at first their attempt, and for medicine students it was their chemistry exam, was failed by 70% of the students, at first go in previous academic year. Taking part in the research was voluntary.

The model of the presented research had a quasi-experimental character. Because of the fact that hypotheses have been tested on the basis of a model of path analysis, concepts of endogenic and exogenic variables have been used. Within this method the independent variable has the character of an exogenic variable, whereas the dependent variables are described as endogenic. An exogenic variable is reflected by cognitive appraisal of the exam situation, described on the basis of the Questionnaire of Situation Appraisal, which is theoretically based on the mentioned concept of cognitive appraisal by Lazarus and Folkman [1, 2, 3, 12].

Coping with the situation characterised by the description of strategies used for coping with stress and preparing for the exam was the endogenic variable. Strategies of coping were described on the basis of Behaviour Questionnaire I, which is a modification of the well-known WCQ Folkman and Lazarus questionnaire and on the basis of the Behaviour Questionnaire II, which consists of particular behavioural categories, separated as a result of factor analysis. These are: wishful thinking, fighting, tension releasing, personal development, distance keeping, problem minimising, change of perspective, consoling oneself, acting according to plan, drawing on time reserves, searching for information, distraction, searching for social support, rationalizing, regulation of emotion on the biochemical level, making schedules, problem solving.

Instrumental coping in the preparation for the exam was described on the basis of the Questionnaire on Preparing for the Exam. It was drawn up to examine the instrumental strategies for knowledge acquiring. Its items refer to time devoted to preparing for the exam as well as to the ways of studying. In formal respect they differ regarding in the way of answering: apart from dichotomic scales, scales describing their intensity also appear, for example: "While preparing for the exam on the basis on literature I was confined to reading; I marked more important fragments; I drew up some notes". Behaviour Questionnaire II and Questionnaire of Preparing for the Exam were prepared by professor Heszen-Niejodek's team.

Results

The relation between variables was tested by the path analysis. The LISREL 8.12 Program for Windows was applied to analyse this. Formal characterisation of the

achieved model of relations between variables has been described on the basis of two indexes of goodness of fit: CHI-square (CHI^2) and Goodness of fit index (GFI). They amounted to 103.67 with 82 degrees of freedom for CHI^2 , and 0.94 for the GF. The level of significance was established at $p=0.001$. On the basis of these values it is possible to claim that the achieved model is formally correct. In an adequate way it describes the real relations between variables.

The verified hypotheses referred to the influence of cognitive appraisal on the types of strategies used for coping with stress.

- Results proved the hypothesis on cognitive appraisal of a situation as a challenge, that has an influence on the application of strategies focused on direct confrontation with a stressful situation. These are:
 - problem solving (correlation coefficient 0.57);
 - fighting (0.60);
 - acting according to the plan (0.29);
 - making schedules of preparing for the exam (0.37);
 - instrumental preparing for the exam (0.17);
 - personal development (0.18);

This rule is not confirmed only by the fact of the existence of a positive correlation between cognitive appraisal of the exam situation as a challenge and tension releasing (0.21).

- The results show that cognitive appraisal of the situation in categories of a challenge has a negative influence on the strategies based on turning attention from the stress factor and one's own reactions:
 - a. rationalising (correlation coefficient -0.19);
 - b. distraction (-0.22);
 - c. keeping distance (-0.22);
 - d. regulation of emotion on the biochemical level (-0.17).
- Cognitive appraisal of a situation as a threat influences the use of strategies based on turning attention from the stress factor and one's own reactions:
 - a. wishful thinking (correlation coefficient 0.52);
 - b. problem minimising (0.23);
 - c. searching for social support (0.28);
 - d. tension releasing (0.23).
- The hypothesis that cognitive appraisal of a situation as a threat influences negatively the use of strategies of coping focused on direct confrontation with the stressful situation was proved in empirical material only in regard of the way of coping described as fighting (correlation coefficient -0.13).
- The results proved the hypothesis that cognitive appraisal of a situation as a challenge supports the instrumental preparing for the exam (correlation coefficient 0.17), that has a positive influence on exam merits (correlation coefficient 0.27).
- It was also claimed that treating the situation as a threat which leads to wishful thinking (0.52), negatively influences the exam merits (-0.30).

Discussion

Relations between cognitive appraisal of the situation and strategies used for coping with stress were the subject of analysis. It turned out that expectations towards these aspects were mainly confirmed. Cognitive appraisal of a situation as a challenge influences the use of strategies of coping focused on direct confrontation with the stressful situation. A high correlation was noted regarding acting, characterised as fighting (e.g.: "I know what to do, so I make double effort to make everything ok.") and problem solving (e.g.: "I focus on things to do and on the next step"). These results are similar to those obtained by Folkman and Lazarus [2] and Scherer, Drumheller and Owen [13]. Treating the situation as a challenge also supports the making of schedules of preparing for the exam, acting according to the plan, instrumental preparing for the exam and personal development. However, it decreases the probability of such ways of coping like rationalizing, distraction, keeping distance or regulation of emotion on the biochemical level. We can observe that cognitive appraisal of the exam situation as a challenge not only supports application of the strategy of coping with stress focused on direct confrontation with the situation, but also prevents strategies based on turning attention away from the stress factor and own reactions from appearing.

Treating the situation as a threat has basically the opposite influence on choosing the remedial strategy. It supports using ways of coping based on turning attention away from the stress factor and one's own reactions. Here wishful thinking and searching for social support are to be mentioned. This relation has also been noticed in their researches by Scherer, Drumheller and Owen [13]. This type of cognitive appraisal also leads to problem minimising and tension releasing (for example: "I burst out, I reveal my emotions").

Present research is also aimed at verifying the hypothesis according to which strategies used for coping with stress mediate between cognitive appraisal of a situation and exam merits. Existence of mediating influence on the instrumental preparation for the exam between cognitive appraisal of a situation and the exam merits has been claimed. As mentioned before, cognitive appraisal of a situation as a challenge supports instrumental preparing for the exam that positively influences the exam merits. A similar effect is observed in researches of Klinger [8]. Relation between efforts put in preparing for the exams and exam merits has been noticed also by Susułowska and Nęcki [14], who took into account mean grades from the whole period of studies. The mediating, negative influence of wishful thinking, supported by cognitive appraisal of a situation as a threat on the exam merits was proved. The results of the study clearly prove a negative impact of wishful thinking on the exam merits. The more frequently such strategy is applied, the lower the probability of high exam merits. Negative influence of wishful thinking has been also noticed by Folkman and Lazarus [2].

Conclusions

On the basis of analysis of relation between variables presented in this study, it is possible to claim that in the situation of exam stress, the cognitive appraisal plays a

significant role in the process of coping with stress. Conclusions from the study can be helpful for those who experience the situation of exam stress regarding the properly organised preparation for the exam, coping with emotional stress and preventing failure.

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