

A STUDY OF THE PROBLEM SOLVING STRATEGIES OF UNIVERSITY STUDENTS

© Andrea J. KLÉR & © Ildikó BUDAVÁRI-TAKÁCS
(Szent István University, Gödöllő, Hungary)

kler.andrea@gtk.szie.hu & budavari-takacs@freemail.hu

In accordance with our initial hypothesis the majority of our students prefer problem oriented coping strategies which creates a favorable foundation for developing their counseling skills, and increases the number of ways they solve problems. However, when developing subject curriculum we must consider the fact that most student are better at problem analysis than at actual action oriented coping, and the number of those preferring passive techniques are not insignificant either. Our results clearly proved that possessing active forms of problem solving techniques positively correlates with having intrinsic life goals, results in increased feeling of competence, self-confidence and satisfaction, while it also facilitates a more flexible, and more self-determined behavior of the individual, along with better utilization of personal cognitive resources.

Keywords: coping strategies, personality traits, developing subject curriculum, problem solving techniques

Nowadays because of the efficiency of decision-making processes, the inner workings of organizations, and the increasing expectations towards employee's efficiency and competency organizations that are impacted heavily by globalizations and other social challenges require the availability of onboard organizational counselors and various forms of counseling activity.

Counselors appear within the life of an organization as solution seeking, problem- and change managing experts who are able to integrate and effectively utilize previously learned psychological, adult-educational, economic, legal and labor-market knowledge. Recognizing and accepting this real social demand the Human resource counselor master course was launched within the framework of the Bologna process in the Economics and Social Sciences Faculty of Szent István University, which provides a ground for the education of future organizational counselors.

Since counseling work is a highly knowledge intensive and interactive process heavily dependent on the personality traits, role interpretation of the practitioner, and can also be an innovative force within the organization, all the above factors should be considered in the development of the curriculum. In our study we will detail the problem solving strategies of students undertaking the Human resource counselor course, the socio-demographical and psychological factors behind the various student profiles, and the impact of these on the development of study material and the teacher's work.

The importance and significance of problem solving strategies in the success of the individual or the group has been researched and proved by applied sciences throughout the past decades. As a result of these studies

more and more people realize that in problem solving thinking: productivity and reproductivity co-exist, various problem-types can be well defined, like having or not having an enemy, semantically rich or poor (Chi & Glaser & Reese, 1982), well or poorly structured, and typical problem solving strategies.

According to Fischer, the success of problem solving, besides schemes, is influenced by the following factors:

- ✓ *Attitude* (interest, motivation, self-esteem, worries, tolerance for ambiguity, tolerance for tension, perseverance, refusal of untimely finish)
- ✓ *Cognitive skills* (knowledge, memory, critical and creative thinking, reading skill, spatial perception, meta-cognition)
- ✓ *Experience* (knowledge of the content and relations of the problem, problem solving strategies, age, and background).

If problem solving is interpreted as the application of coping strategies, then based on the cognitive model, the strategies can be divided into two groups: problem focused and emotion focused strategies. The individual utilizes both cognitive and behavioral efforts to effectively solve problems (Margitics & Pauwlik, 2006).

Several Hungarian and international studies focused on the specific application of coping strategies in various groups during the past two decades. These researches examined the special properties of such strategies among sportsmen, teachers, university students, and even in the whole Hungarian population as they apply to specific socio-cultural.

The role of emotional intelligence essential in the adaptation and problem solving of the individual when he defines it as a collection of non-cognitive skills and competencies influencing the individual's ability to cope with the demands and pressure of the external environment. In his theoretical model Baron connects mental skills (such as reality perception) with personality traits (such as autonomy or self-actualization) facilitating intelligent emotional and social behavior. When judging the role of emotional intelligence, he stresses that while its presence creates the opportunity for successful adaptation, it does not guarantee it all by itself.

For a counselor to become successful in his/her profession harmonic personality dispositions are needed, since without gaining the trust of the client there is little chance for a professional and supportive participation in the problem solving process.

When preparing for the counseling profession, the acquisition of the role must include the learning of the traits of the role partner, and the possible interaction patterns between the two parties. The reason for this is that the counseling practice does not only require the utilization of certain skills, but also the vindication of special interpersonal relations. „The practitioners of any institutionalized professions (like medical doctors, architects) must possess certain stable emotional, cognitive and behavioral traits in the complex system of interactions he/she works in” (Váriné Szilágyi, 1981). Social competence formed during the professional socialization represents a level of personality regulation, in which the individual is able to direct his/her behavior and activity in accordance with social norms, and as a result exert influence on another person or a group. Any cognitive, emotional and operative skills leading to control over ourselves and our environment become significant factors during the professional socialization process. The conscious and individualized development of these skills must be the basis of the training of future counselors. Emotional balance and modesty in activity are important conditions for effective problem solving. Their role

becomes even more significant when we consider that the behavior displayed by the counselor serves as a spontaneous model during the counseling sessions.

Our study

Subjects

During the pilot study the data from 100 students were analyzed. 83% of all subjects were female, while 17% of them were male. Their age spread between 18 and 55. The reason of the large standard deviation was that 66% of all subjects were corresponding while 34% of them were full-time students. Based on their personal report 76% of our subjects were employed, meaning that a portion of the full time students has a job too.

Research methods

When selecting our research tools, we put special emphasis on choosing reliable and previously applied tools in other Hungarian studies, thus making the comparison of data easier.

Studying Coping Strategies

Coping Strategies Questionnaire. To identify the coping strategies preferred by our subjects we chose a questionnaire containing relatively few items, but considered reliable. The main groups of strategies can be separated with this tool: problem oriented, emotional oriented and strategies based on asking for support. The latter can be realized on the basis of both problem oriented and emotional oriented strategies. The seven scales comprising the questionnaire are as follows: problem analysis, goal oriented activity, emotional driven activity, seeking emotional balance, withdrawal, adaptation and asking for support. The research subjects must indicate on a 4-point Likert scale for each 22 items the likeliness of utilizing these strategies in a problem situation.

Coping with Problems and Personality Traits

Studying Goals Related to the Future Profession (life-goal) – Aspiration Questionnaire. First we wished to discover how important reaching certain life goals is for our subjects. Then we wanted to find out what visions of future related to these goals they possess, and what they think of the probability of reaching these goals.

The Aspiration Questionnaire explores 35 long-term goals and motives related to seven life-goal categories. These seven life-goals are represented by the seven sub-scales of the questionnaire (wealth, fame, image, personal growth, social relations, commitment to society, health), each comprising of five items. The subjects judged the importance, probability and realization of the aspirations listed in the questionnaire on a seven-point Likert scale. (Our present study does not consider the latter). Komlósi et al. (2006) found the reliability of each scale excellent during the Hungarian adaptation of the questionnaire.

In our research we also wished to find out what efforts, skills, opportunities our subjects rely on in reaching their goals, what factors they emphasize in effective problem solving. For this, we used a modified version

of a previously devised tool for measuring success. Due to the dynamic changes in society during the past decades, new items were added to the original list of success factors. The subjects were presented with a 31-item list where they were required to judge how important each factor is in achieving success on a five-point Likert scale.

Emotional Intelligence. For mapping the correlations between coping strategies and certain personality traits the short version of the Baron Emotional Intelligence Questionnaire was used, where scales specifically related to the individual's problem solving behavior and its intrapersonal aspects are picked. In other words, we used adaptation (reality perception, flexibility, problem solving), and intrapersonal (self-confidence, autonomy, self-actualization) scales. Respondents rated to what extent each listed behavior characterizes them in everyday situations on a five-point Likert scale.

Subjective Judgment of Quality of Life (Diener et al., 1985). For Measuring this dimension, we used the Life Satisfaction Scale devised by an outstanding representative of positive psychology, a scale for which data from previous Hungarian studies are available.

This tool maps the cognitive factor of judging subjective well-being via five statements. Subjects indicate how true each statement is for them on a seven-point Likert scale. The reliability of this questionnaire was qualified as excellent during its Hungarian adaptation studies.

Rating Personal Effectiveness. Using this self-efficiency and competence measuring scale, we could find out how our subjects view themselves when dealing with challenging situations. Respondents rated to what extent the 4 statements of the questionnaire were true for them on a four-point Likert scale. This tool proved to be reliable during previous Hungarian studies (Rózsa et al., 2003).

The Goal of Our Study, Hypotheses

The goal of our present study was to identify preferred problem solving strategies, and discovering their related personality traits among university students studying for various human counseling professions. Our hypotheses, taking into consideration the results of several previous studies and our own experiences with working with students, were as follows:

- students prefer problem oriented coping strategies
- emotion oriented strategies are used mainly by females
- those having intrinsic life-goals prefer problem oriented coping strategies
- intrinsic goals and goal oriented activity as coping strategy correlate with higher life satisfaction
- students using problem oriented strategies have a stronger belief that their cognitive skills and personal efforts are important in achieving success, are more independent and more flexible
- the students self-esteem is lower than ideal, which is a great challenge for them, especially in unexpected situations.

Results – Coping Strategies

Our research results in accordance with our expectations showed the preference of problem oriented coping strategies on our sample of students since we the highest mean values in this dimension: 2.33 for problem analysis and 1.82 for goal oriented activity.

The preference of problem oriented strategies is desirable within a given population because it indicates the dominance of inner control attitude. In such cases, in the focus of the coping lies the solving of the problem, the mapping of resources and obstacles, which is followed by decision making and goal oriented activity after judging the possible consequences. The fact, based on the above data that the majority of the students are less inclined to make a decision and act accordingly after the phase of problem analysis is a less desirable state considering their future professional tasks. Nonetheless, the priority of analysis as opposed to emotional coping – where minimizing the problem, passively relying on on-going events, and connecting with other, stronger personalities are in the forefront of coping - is still a more desirable basis for developing the given skill than the restructuring of emotion driven situations by the teachers. The significant difference found between the mean values of these two strategies poses us with a new question, possibly worthy of further research: what relations can be indentified between the increasing level of postponing behavior among students (Takács, 2008) and their generally preferred coping strategies? Can we indentify certain personality traits related to both phenomena, if yes, which traits are these?

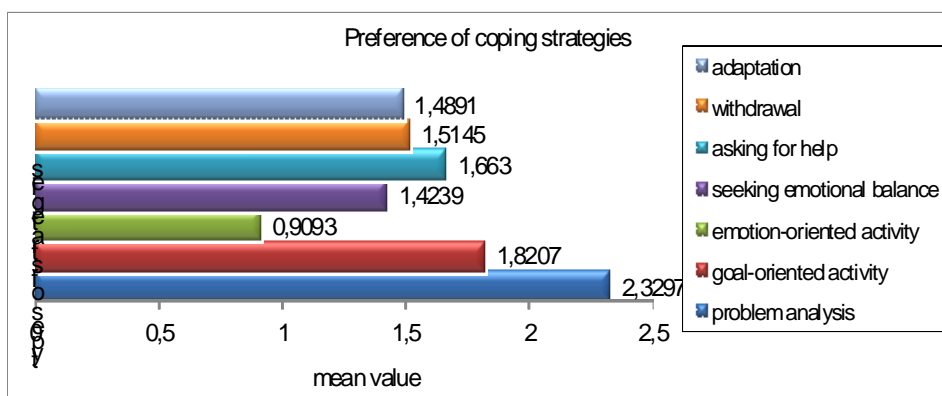
While the above described relations are still only hypotheses, it seems obvious that the skills of making decisions and realizing goal oriented action are necessary conditions of the effective counseling process. The development of our students' skills in these areas must be a key element in our pedagogy. Individuals who know that they must make efforts in problem situations, who know that it's worth being creative and open to various solutions, since through the change a new person is born in a positive sense, will be able to decide and act when the situation requires.

The third most frequently used coping strategy of our subjects was asking for support whose mean value of 1.66 is barely behind the mean value of goal oriented action. This tendency shows that our students are likely to turn to others – friends, professionals - for support when facing challenging situations, and many trust the power of prayer as well. Openness to social support is a significant protecting factor for the members of the society (Kopp & Kovács, Eds., 2006), and the ability of accepting support from others is especially important for those who practice supporting others as a profession.

Based on the mean values, asking for support are followed by passive strategies: withdrawal (mean value: 1.51) and adaptation (mean value: 1.49). While withdrawal represents escaping from the situation, and not facing the outside challenge, adaptation means obedience, the total acceptance of others' will, and blaming the self for failures. It's important to point out that the latter three strategies are used by individuals characterized by an outer locus of control who willingly pass the initiation to others so that they won't have to take responsibility for possible negative outcomes of failed problem solving.

Seeking emotional balance, activities like letting go of emotions, relaxation or going on a vacation, was not prevalent in our sample (mean value: 1.42). Introducing such techniques and activities to students (such as meditation, relaxation, etc.) however could be an important aspect of

education. Emotional balance is a prerequisite of effective problem solving, thus the application of emotion oriented strategies supports coping with conflicts in certain situations. The advantage of such strategies are especially evident in situations where it's obvious that we don't have influence over an event once it happened (like getting fired from a job). In such situation decreasing the emotional tension could have a positive effect on coping and on utilizing our cognitive resources.



We were also interested in whether the coping strategies are in any way related to various demographic data. Our results show that neither age, nor gender, marital status or the level of education of the mother are related to the preferred coping strategy. An interesting result however is that the children of fathers having a higher level of education are significantly more prone to show emotion-driven activities ($r=.453$). Thus it seems that children growing up under fathers having higher education are less capable to control their emotions.

In the next phase of data analysis we looked at the correlations between the coping strategies and various personality traits. According to our results, those preferring problem analysis are also more likely to have intrinsic goals ($r=.312$), thus they have an emphasis on meaningful relationships ($r=.287$), personal growth ($r=.329$), and social responsibility ($r=.264$). In everyday situation they have a more flexible thinking process ($r=.213$), it's easier for them to change their point of view or integrate others' opinions into their own thoughts. In accordance with the above ability, they probably have a more differentiated perception and have a tendency to think more creatively, which is highly important in general problem solving thinking. This tendency could be strengthened by the fact that, compared to the mean value of the whole sample, the members of this group are more ambitious, and more committed to self-actualization ($r=.258$) and to reaching their goals. Also, those who prefer problem analysis as a coping strategy regard the ability of making decisions ($r=.220$) highly important for self-vindication in life. When rating their own self-efficiency, they view themselves more self-confident than their peers, and say that problem analysis and coping would not be difficult for them in critical situations.

Those who prefer goal-oriented activity as coping strategy in many ways show similar personality traits than those scoring high on the problem analysis scale. They too, have intrinsic life-goals, such as personal growth ($r=.246$), social responsibility ($r=.273$), and self-actualization ($r=.487$). But unlike the previous group, they are more independent ($r=.249$), and less likely to follow the norms in their judgments and behavior. When facing decisions they are willing to take responsibility, and they generally have an inner locus of control. Regarding problem solving, they are more self-

confident about their competencies, they believe that they are able to make continuous effort in order to cope with the situation ($r=.377$), and able to face challenges when necessary ($r=.254$). They also believe that they are able to give adequate reactions to unexpected events ($r=.321$), and are able to effectively solve the problems they're facing ($r=.312$). In summary it's say to conclude that the results from the self-ratings of this group re-enforces the basic psychological principal that the sense of competence strengthens by taking effective actions.

Evaluating the above results from the viewpoint of education we can say that practicing a given competence in actual situations is an important aspect of skill acquisition. Besides the above results, practicing goal-oriented activity has a more general effect in our sample, as members of this group are more satisfied with the quality of their lives ($r=.295$), in other words, they live a happier life. From the factors determining self-vindication, members of this group emphasize the importance of making cognitive efforts, such as excellent intellect ($r=.341$), being well-informed ($r=.260$), but for achieving success they consider moral holding ($r=.330$) and young age ($r=.210$) more important than their peers. These results indicate strong self-esteem, a strong belief in the outside world, and a positive image of the future. This means that students see the opportunity to realize their goals via honest ways and means. I believe that such positive attitudes towards study and work could serve as an important resource for the students in the future, and they also suggest a good prognosis even in our current value-crisis stricken environment. The consciously accepted efforts and the value of work is also of high importance among human counseling practitioners because the counselors serves as model for their own clients. It's worth noting that unlike the above described group those who tend to turn away from proactive actions and choose withdrawal strategies instead gave the lowest scores regarding their self-esteem. They feel helpless: problem solving ($r=-.312$), unexpected situations ($r=-.321$), coping ($r=-.350$).

It's interesting to note that while those subjects having a problem oriented focus consider moral holding important in life, those preferring emotion driven activity are just the opposite. According to the latter group, the necessary factors for a successful life are pushing forward ($r=.220$), and having good relationships with the right people ($r=.213$), both representing relying support from the environment. Those who have a tendency to asking for help among the members of this group, believe that being young ($r=.213$) and being a female ($r=.216$) is a disadvantage in achieving success. This latter belief is also shared by those applying passive coping techniques and withdrawal strategies ($r=.222$). Based on the answers given by our subjects the tendency of withdrawal from others and the openness for asking for help are significantly correlated ($r=.618$). This outlines a type of group whose members prefer to delegate problem solving to others in either overt or less obvious forms. At the same time, both sub-groups considers restoring their own emotional balance a more important task, while they tend to show emotion-driven activity and share their experiences with openly with others ($r=.273$). Further general characteristics of those having emotion oriented strategies that there are significant correlations among the various scales. Thus those considering their own emotions the most important aspects of a problem situation tend to express this disposition in various forms, being explicit or symbolic.

References

- CHI, M. T. H. & GLASER, R. & REES, E. (1982): *Expertise in problem solving*. In: Sternberg, R. I. (Ed.): *Advances in the psychology of human intelligence*. Vol. 1. Lawrence Erlbamm Associates Hillsdale, NJ, pp. 7-75.
- DIENER et. al. (1985): The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49 (1), pp. 71-75.
- KOPP M. & KOVÁCS M. E. (Eds.) (2006): *A magyar népesség életminősége az ezredfordulón*. Semmelweis Kiadó, Budapest.
- MARGITICS F. & PAUWLIK Zs. (2006): Megküzdési stratégiák preferenciájának összefüggése az észlelt szülői nevelői hatásokkal. *Magyar Pedagógia*, 106 (1), pp. 43-62.
- RÓZSA S. et al. (2003): A középkorú magyar népesség egészségi állapota. A Hungarostudy 2002 országos reprezentatív felmérés módszertana és a minta leíró jellemzői. *Psychiatria Hungarica*, 18 (2), pp. 83-94.
- TAKÁCS I. (2008): *What procrastination means in Hungarian higher education: the relationship between behaviour and personality*. In: Giovazolias, T. & Karademas, E. & Kalantzi-Azizi, A. & Ellinika (Eds.): *Crossing Internal and External Borders: Practices for an Effective Psychological Counselling in the European Higher Education*. Grammata Publ., Athens, pp. 127-135.
- KOMLÓSI A. V. et al. (2006): Az Aspirációs index rövidített változatának pszichometriai jellemzői hazai mintán. *Mentálhigiéné és Pszichoszomatika*, 7 (3), pp. 171-191.
- VÁRINÉ SZILÁGYI I. (1981): *Fiatal értelmiségiek a pályán*. Akadémiai Kiadó, Budapest.