

Extraversion, Coping Styles and Problem Solving Perception in Adolescents

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Received 30 March 2018 ▪ Revised 30 May 2018 ▪ Accepted 10 June 2018

Abstract

Our study aimed to investigate the association of extraversion with preferred coping styles and also problem solving perception in adolescents. A sample of 131 high-school adolescents was included in the study, 75 girls and 56 boys, age varying from 15 to 18. Data were collected using the Five-Factor Personality Questionnaire, COPE Inventory and Problem Solving Inventory. Results showed that girls with a lower level of extraversion have a higher level of confidence in problem solving abilities, compared with the group with higher level of extraversion. We found a positive correlation between high levels of extraversion and active coping, which means that extraverted adolescents tend to adopt problem focused coping style, compared to introverted adolescents which have the tendency to adopt a passive behavior in stressful situations. By identifying present coping mechanisms in an early period, we can increase awareness of maladaptive use of coping styles and we also can provide multiple skills that helps adolescents to achieve a sense of mastery over stressful situations.

Keywords: extraversion, coping styles, problem solving, adolescents.

1. Introduction

Adolescence is considered a tumultuous and complex period, being a transition from the stage of the child to the future adult. It is the moment when a series of changes occur both at the biological level: somatic development and sexual maturity, as well as at psychosocial level: intellectual, social and personality development. All of this together with new experiences and demands from the outside environment causes tension and a stress factor during adolescence. Individuals discover their own way of reacting and confronting events that cause distress.

Over time, the human being has developed a set of strategies to deal with stress. These are the coping mechanisms that represent any mechanism of conditioning or adaptation to stress, any interaction between the subject and the environment in order to reduce the intensity of stress.

Lazarus model about stress – the Transactional Model of Stress and Coping (Lazarus, 1966; Lazarus & Folkman, 1984), has been lately the most influential used model in research on stress. Stress was considered a dynamic process, but Lazarus only took into account some personality dimensions of intermediate stability, such as some motivational (achievement

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motivation) and evolutive aspects, disregarding stable personality traits in stress and coping processes (Leandro, 2010).

Lazarus divides the coping mechanisms into problem-focused coping and emotion-focused coping. Problem-focused coping refers to all behaviors that have the function of preventing or reducing the reaction to stress. Almost all behaviors can perform this function – fight or flight response, annihilation of the stressor, social or emotional support, planning activities, are some of the adaptive behaviors. In most cases, stress control is a modality to reduce stress, but the effect does not occur automatically, investigations demonstrating that the experimental group controlling the stressor (e.g. the intensity and frequency of an electrical shock) are less stressful than those in the control group. According to evolutionary theory, control is an essential element for survival and the low ability to control a situation can easily induce anxiety. Thus, behavioral or instrumental control of the environment is necessary to cope with stressors, behavioral coping reduces stress only if it is followed by feedback on behavioral efficiency, if the cost does not outweigh the benefits or if it reduces ambiguity or uncertainty over the stressful situation (Miclea, 1997). Emotion-focused coping or indirect coping occurs in order to reduce or control the emotional response to stressors. In the category of emotion-centered coping, palliative behaviors such as alcohol consumption, sedatives, psychoactive substances, smoking, etc., are included.

Often problem focused coping is associated with mental health, having beneficial effects in the long run, and emotion centered coping is considered to be effective when the individual has no control over the stressor. The use of certain coping mechanisms is determined by the individual factors, depending on the personality type and the perception towards a coping mechanism, as well as the effectiveness and needs of the individual in stressful situations.

The most studied relationship is that of the personality trait neuroticism and its role in the coping process but also the existing evidence is sufficient to suggest that each of the other Big Five traits are significantly related to coping. Looking at extraversion, McCrae and Costa (1986) found that extraversion was associated with increased use of rational action, positive thinking, substitution and restrain. The role of extraversion is viewed by Amirkhan (1995), as a hidden personality trait in coping. Extraversion was positively correlated with problem-focused coping, positive reappraisal and support seeking in correlational and experimental studies and negatively related to emotion-focused coping (Amirkhan, Risinger & Swickert, 1995; Costa et al., in press; Hooker et al., 1994; Rim, 1987; Vickers et al., 1989). Martin (1989) found extraversion as a predictor of active coping among survivors of a miocardic infraction.

Extraversion is usually associated with active, social and optimistic ways of dealing with stressful situations (Costa, 1996).

Studies on well-being show that people with a high level of extraversion are more likely to experience positive affective states (Wilson, 1967). If we look at sociability, it was found that subjects with a high level of extraversion are happier in the social environment and have a significantly higher level of well-being than those with a low level of extraversion (Diener, 1984, 1999).

Problem solving is a self-directed cognitive-behavioral process through which a person tries to identify or discover effective or adaptive solutions to specific problems encountered in everyday life (Marian, 2011). Problem solving is one of the main activities of thinking that occurs when the individual encounters problematic situations that are considered as obstacles or cognitive difficulties. Problem solving is based on three components: problem solving, problem itself and solution. A problem is a situation or task that asks the individual to respond to adaptive functioning, but for whom the person does not have an effective response at the time of confrontation due to the presence of obstacles. Obstacles relate to the novelty of the situation, the ambiguity, the unpredictability, the conflicting stimuli – known and unknown elements, the

individual's resources and the requirements of the environment, poor skills in a given field, or insufficient resources.

2. Materials and methods

2.1 *Aim of research*

In this research the aim was to find out to what extent there are differences between high school students looking at confidence in their own problem-solving capacity and coping strategies used in relation to the extroversion dimension, to what extent extroversion influences school performance and what coping strategies are positively correlates between extroversion and the style of problem approach.

2.2 *Participants and procedure*

The study was conducted in Romania including a total sample of 131 high school students (75 girls, mean age 16.72 years, $SD = .60$, age range 16-18; 56 boys, mean age 16.46, $SD = .60$, age range 15-18 years), from different high school programs (humanistic, mathematics) in the eleventh and twelfth year.

2.3 *Measures*

To measure coping styles, participants completed COPE Questionnaire designed by Carver, Scheier and Weintraub (1989). This form contains 53 items divided in 14 scales measuring both problem-focused coping (Active coping, Planning, Positive Reframing, Eliminating Competing Activities, Restraint, Use of Emotional Support, Use of Instrumental Support, Acceptance, Religion) and emotion-focused coping (Denial, Mental Disengagement, Behavioural Disengagement, Venting of Emotions, Substance Use).

Students had to rate on a 4-point scale how they usually respond in a stressful situation, ranging from 1="Usually I don't do this at all" to 4="Usually I do this a lot". To use this scale appropriately in our research, we calculated the Cronbach alpha for the results obtained by applying the scale, in this case the internal consistency was .78.

To assess the perception of students' problem solving ability, we used the Problem Solving Inventory designed by Heppner and Petersen (1982). PSI consists of 32 item rated on a 6-point scale, ranging from "strongly agree" to "strongly disagree" assessing people's preferred problem solving styles measuring the perceived quality and effectiveness of problem solving. Authors identified three major factors: Problem Solving Confidence, Personal Control and Approach-Avoidance Style.

For the assessment of extroversion personality dimension we used the Five Factor Questionnaire which is designed by Monica Albu (2008) to evaluate the five factors of the Big Five, following the model of the Five-Factor Personality Inventory. The scale includes 130 items, out of which 23 evaluate the extroversion dimension. The items are rated on a 5-point scale where 1 means "fits me very little" and 5 "fits me a lot". In our study we obtained high internal consistency .85.

3. Results

First of all, we examined the relationship between coping styles and extroversion. It can be seen in Table 1 that our results are consistent with those reported by previous research,

extraversion is being broadly associated with problem-focused coping. We can conclude that a higher level of extraversion is positively correlated with Active Coping ($rs=.26$, $p=.03$), Instrumental Support ($rs=.20$, $p=.01$) and Emotional Support ($rs=.23$, $p=.05$) that reveal the need for extraverted individuals to seek support in people around and to engage in problem-focused coping in a stressful situation. Extraverts engage in more social interaction and are less likely to avoid stressful situations than introverts (Eysenck & Eysenck, 1985).

We found negative correlation between extraversion and Restraint ($rs=.23$, $p=.06$) with a lower significance level which can show only a tendency for people with lower extraversion level to engage in retention from action in stressful situations. Between extraversion and Behavioral Disengagement we found a negative correlation ($rs=.39$, $p=.01$), lower levels of extraversion can lead to passive coping styles.

Among the specific coping styles (factors of the COPE questionnaire), the most used are the following: Instrumental support and Emotional Support for both levels of extraversion, Acceptance for students with a higher level of extraversion when we compared students from eleventh and twelfth grade, Venting of Emotions in the case of 11th grade students with a higher level of extraversion, Restraint used by students with lower levels of extraversion from the 10th grade, Active Coping for students with higher levels of extraversion, Positive Reframing for individuals with lower levels of extraversion and Behavioral Disengagement for lower levels of extraversion. The less used styles are: Planning, Religion, Substance Use, Denial and Eliminating Competing Activities.

Table 1. Correlations between extraversion and coping styles.

		Active Coping	Restraint	Instrumental Support	Emotional Support	Behavioral Disengagement
Extraversion	Correlation Coefficient	.26**	-.23**	.20*	.23**	-.39**
	Sig.(2-tailed)	.03	.06	.01	.06	.01

Note. ** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

We found a relationship between extraversion and problem-solving perception, using T Test for Independent Samples (Table 2), we obtained significant results at Problem-Solving Confidence in girls with a lower level of extraversion ($t=2.49$, $p=.01$) and also negative correlation between high levels of extraversion and Problem-Solving Confidence and Total Score at PSI, mentioning that higher scores at all PSI scales reflect less effective problem-solving ability.

Looking at results, we can find a relationship between low levels of confidence and we can understand the tendency for students with a higher level of extraversion to seek emotional support and instrumental support. Our results are similar with findings of Watson and Hubbard (1996) where extraversion was in a positive relation with Avoidance and Seeking of Social Support styles. Also, women with high scores of extraversion choose these styles more frequently than those scoring lower levels of extraversion.

Table 2. Influence of the level of extraversion on problem-solving confidence in girls.

		Problem-Solving Confidence	Total PSI Score
	Person Correlation	-.42**	-.32**
Extraversion	Sig.(2-tailed)	.01	.01

Table 3. Influence of the level of extraversion on Problem-Solving Perception and Total PSI Score

	Gender	Extraversion	N	Mean	Std. Deviation	t	p
Problem-Solving Confidence	Girls	Low Level	32	36.46	8.69	2.49	.01
		High Level	43	31.81	7.48		

Correlations among the COPE scales are displayed in Table 4. Similar to Carver's results (1989), correlations between scales are not strongly inter-correlated. We haven't found any correlation between conceptually polar opposite tendencies as: Acceptance and Denial. Also in Carver's study the correlation between those two were not strong, arguing that these results have two explanations, one conceptual, the other more pragmatic. Conceptually, this pattern tends to support the assumption that people dealing with stress experience a relatively wide range of coping impulses, including instances of both sides of a mutually exclusive dichotomy such as acceptance and denial. Pragmatically, the fact that the coping tendencies are separable empirically means that it should be possible to study their effects separately (Carver, 1989).

COPE scales do tend to correlate in conceptually meaningful ways. One cluster is made up of what theoretically are adaptive strategies. We found that Active coping was strongly associated with Planning and Eliminating Competitive Activities, medium correlated with Restrain, Instrumental Support, Emotional Support and Positive Reframing and negatively correlated with Behavioral Disengagement. More specifically, denial, behavioral disengagement, religion and venting of emotions were all moderately inter-correlated. This group of coping strategies tended to be inversely correlated with the theoretically more functional strategies such as Instrumental Support, Active Coping, Planning and Positive Reframing.

Table 4. Correlations among COPE scales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Extraversion		.26* * .01			- .23* * .06	.20* .01	.23 ** .01	.24* * .05					- .38* * .01		
2.Active Coping	.26* * .03		.55* * .01	.35* * .01	.20* * .02	.38* * .01	.17 * .01	.31* * .01					- .39* * .01		
3.Planning		.55* * .01		.42* * .01	.33* * .01	.36* * .01		.31* * .01					- .36* * .01		
4.Eliminating Competing Activities		.35* * .01	.42* * .01		.22* * .01	.23* * .01		.25* * .01							
5. Restraint		.20* * .02	.33* * .01	.21* * .01								- .18 * .03			
6.Instrumental Support	.20* * .01	.28* * .01	.36* * .01	.23* * .01			.63 ** .01	.43* * .01			.24* * .01		.21* * .01		
7.Emotional Support	.23* * .01	.17* * .04				.63* * .01		.24* * .01			.47* * .01				
8.Positive reframing	.24* * .01	.43* * .01	.31* * .01	.21* * .01		.43* * .01							- .34* * .01		- .33* * .01

Table 5. Correlations among COPE scales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
9.Acceptance															
10.Denial											.22 * .01	.28* * .01	.20 * .01		
11.Venting Emotions							.47* * .01			.22* * .01		.22* * .01	.17* * .01		
12.Religion						- .18 * .03				.28* * .01	.22 * .01				
13.Behavioral Disengagement	- .39 ** .01	- .35* * .01	- .36* * .01			.21* * .01		- .34* * .01		.28* * .01				.33* * .01	
14.Mental Disengagement										.20* * .01	.17* * .04			.33* * .01	
15.Substance Use								- .33* * .01		.19* * .02					

4. Discussion

Stress is part of the everyday life of each individual, which is why, over time, the human being has developed a set of strategies to deal with stressful situations. Depending on the situation and the control over the situation, individuals choose a certain type of coping mechanism, depending on the needs and the effectiveness it has to remove or adapt to stressors.

Often, problem-focused coping has been associated with good mental health, while emotion-focused strategies are considered to be effective only when the individual has no control over the situation. The way we perceive stress and attitude towards stressful situations are the essential elements that ensure optimal physical and psychological balance. In our study we assessed extraversion personality dimension and the influence of extroversion has on coping strategies among high school students and on the perception of their own problem-solving ability. Looking at the limits of research, we can focus on the small sample of participants in the research, their implications and lack of desirability control in completing the questionnaires, although the answers were anonymous.

For future research, we will choose a bigger sample group of subjects, taking into account several age ranges, and with regard to the tools we use, we aim to evaluate all five dimensions of the Big Five Model, assessing also the level of self-esteem and of student's perception of well-subjective state.

5. Conclusion

Results of this study contribute to better understanding of the relationship between personality trait extraversion, coping styles and problem-solving perception in high school students. High levels of extraversion were positively correlated with Active Coping, seeking for both Instrumental and Emotional Support and negatively correlated with Behavioral Disengagement. Lower levels of extraversion were positively correlated with Behavioral Disengagement and a higher level of Confidence in Problem-Solving Abilities. For future research and also for planning an intervention to help adolescents adapt better to stressful situations, we can take into consideration the results obtained, to identify which ones can be the most effective coping styles for each individual to get over stressful situations with a low level of distress.

References

- Amirkhan, J. H., Risinger, R. T., & Swickert, R. J. (1995). Extraversion: A "hidden" personality factor in coping? *Journal of Personality*, *63*, 189-212.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*(2), 267-283.
- Costa, P. T., Jr., Somerfield, M. R., & McCrae, R. R. (in press). Personality and coping: A reconceptualization. In: M. Zeidner & N. M. Endler (Eds.), *Handbook of coping*. New York: Wiley.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*, 542-575.
- Diener, E., Suh, E., Lucas, R.E., & Smith, H.L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*, 276-302.
- Eysenck, H. J., & Eysenck, M. W (1985). *Personality and individual differences: A natural science approach*. New York: Plenum Press.
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York, NY, US: McGraw-Hill.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

- Marian, M., Drugaș, M., & Roșeanu, G. (2005). *Perspective psihologice asupra sănătății și bolii*. Oradea: Editura Universității din Oradea.
- Martin, P. (1989). Personality and coping in survivors of a myocardial infarction. *Journal of Social Behavior and Personality*, 4(5), 587.
- Miclea, M. (1997). *Stres și apărare psihică*, Cluj Napoca: Presa Universitară Clujeană.
- Rim, Y. (1987). A comparative study of two taxonomies of coping, personality, and sex. *Personality and Individual Differences*, 8, 521-526.
- Vickers, R. R., Jr., Kolar, D. W., & Hervig, L. K. (1989). *Personality correlates of coping with military basic training* (Rep. No. 89-3). San Diego: Naval Health Research Center.
- Watson, D.K. & Hubbard, B. (1996). Adaptational style and dispositional structure: Coping in the context of the five-factor model. *Journal of Personality*, 64, 737-774.
- Wilson, Warner R. (1967). Correlates of avowed happiness. *Psychological Bulletin*, 67(4), 294-306.

