



SELECTED PERSONALITY CHARACTERISTICS AND COPING WITH STRESS STRATEGIES

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Source of support: Own sources

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Introduction: The aim of the study was to verify the correlation between selected personality characteristics and preferred coping strategies in stressful situations as well as to elucidate individual differences in coping strategies with respect to the personality characteristics of the study participants.

Methods: From the group of 331 participants, we selected individuals identified by “enthusiastic” ($N = 99$) or “fearful” ($N = 101$) personality characteristics. Personality traits, dispositions and beliefs were assessed with Polish adaptations of the following psychometric tools: personality traits with the NEO-FFI Personality Inventory by Costa and McCrea; trait-anxiety with the STAI by Spielberg; optimism with the Revised Life Orientation Test (LOT-R) by M.F.Scheier, Ch.S. Carver, and M.W. Bridges; locus of control with the I-E Questionnaire by Rotter; self-efficacy beliefs with the Hope for Success Questionnaire (HFS) by Laguna, Trzebinski and Zieba, based on the Snyder’s hope theory; beliefs in word’s positiveness, meaning and order with the Basic Hope Inventory (BHI-12) by Trzebinski and Zieba based on the Erikson’s hope theory; and coping strategies with the COPE inventory by Carver, Scheier and Weintraub.

Results: The results suggested that individual differences in coping strategies can be explained by personality characteristics.

Discussion: Our study demonstrates that the “enthusiastic” personality characteristics correlate positively with the active coping strategies, planning, positive reinterpretation and growth, as well as with the suppression of competing activities. Furthermore, the

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“fearful” personality characteristics correlate positively with such strategies as denial, mental disengagement, restraint, and substance use. Moreover, we outline differences in preferred coping strategies between Enthusiastic and Fearful participants.

Conclusions: Selected personality characteristics were significantly associated with the use of particular coping strategies and significantly differentiated them.

Keywords: strategies of coping stress, personality, anxiety, optimism, locus of control, self-efficacy, beliefs in word’s positiveness, meaning and order, hope

INTRODUCTION

Psychological stress is an integral part of everyone’s life. Interestingly, different people react in different ways when faced with the same challenge depending on their personality. Personality theories (trait theories) assume the existence of relatively stable individual traits or dispositions that determine the way of reacting and adapting to given conditions. Thus, there is a close relationship between personality traits and strategies of coping with difficult situations [12,13,38]. In the literature on the subject matter, “coping” is even described as “personality working under stress” [3, p. 525]. There is evidence that personality traits have an influence on the majority of behavioral reactions [32,48], although the results of particular studies are often contradictory.

The aim of this article is to identify associations between selected personality characteristics and strategies of coping with psychological stress. Another aim is to examine how individuals with the various personality characteristics differ in their coping strategies. This article refers to coping in a specific situation characterized by the emotion of hope. It is a part of a series of studies, carried out by the author, that verify the transactional theory of stress as it applies to hope [39]. Because of that, in current investigation among the personality traits, dispositions and beliefs are included those that seem important in the appraisal process, which is essential to hope experience as well as to coping process, according to Lazarus’s transactional model and appraisal theory of emotions. The following variables are included: personality traits according to McCrea and Costa [42,43], locus of control by Rotter [55], trait-anxiety by Spielberger [60,61], self-efficacy beliefs (hope for success) by Snyder [58, 59], beliefs in word’s positiveness, meaning and order by Erikson [18], referred to as “basic hope” after Trzebinski and Zieba [64,65], and optimism according to Scheier and Carver [56]. Coping is defined within the framework of the transactional theory of psychological stress

by Richard Lazarus [34 35]. It is worth pointing out that the relations between the above-mentioned variables, taking into consideration the moderating role of hope, are described in a separate article (Malkiewicz, in preparation). In this article, only the correlational analyses are presented as well as the examination of personality differences in coping in a stressful encounter.

In later part, a review of empirical studies, regarding the personality characteristics related to coping with stress, is described.

Personality and coping stress

There is evidence demonstrating that neuroticism is associated with a more common use of emotion-focused and avoidant coping strategies as well as with a less frequent use of problem-focused coping strategies [14,46,27,49]. Neuroticism is primarily associated with wishful thinking, avoidance and concentration on emotions, but also with self-blame, fantasizing, withdrawal, and indecisiveness [12,36]. Dayna Lee-Baggley, Melady Preece and Anita DeLongis [36] noticed a weak relationship between neuroticism and seeking social support. Their conclusions were drawn from a longitudinal study of spouses who started new families and brought up children from their first marriages. Other studies find neurotics to employ denial as a coping strategy, or use of psychoactive substances such as alcohol [1]. Alcohol and drugs use by highly neurotic people was also shown by Adrian Furnham [1992, after: 38].

The role of extraversion in coping with stress seems to be ambiguous. Margarete Vollrath and Sverre Torgersen [66] claim that the effects of extraversion on experiencing stress and coping depend on a specific combination of neuroticism and conscientiousness. Similarly, L.A. Witt [67] found that extraversion improves performance (during a job interview) in people with high conscientiousness. At the same time, extraversion is associated with a poor performance during a job

interview in people with low conscientiousness. Some authors [16,23,41,53] claim that extraversion is associated with a tendency to use rational and planned coping strategies that are focused on problem-solving. Burger and David Caldwell [6] notice that it is only the combination of extraversion and positive affect that results in active coping and high interpersonal activity. The effect of extraversion alone is not significant in predicating behavior when positive affect is controlled for in the regression analysis. Other authors have found that extraversion tends to favor coping strategies that are focused on emotions such as seeking of social support [12,14,23, 41,67], positive reinterpretation and positive thinking [14,41,67]. Marja Kokkonen and Lea Pulkkinen [32] showed that extraversion leads to reliance on social support as a regulator of emotions. Other studies [23,36] indicate that a high level of extraversion is related to a rare use of maladaptive strategies that are focused on emotions such as self-blame, wishful thinking, or avoidance. On the other hand, David and Suls [14], based on a study on daily coping, in which respondents reported their strategies in various stressful events, conclude that although emotion-focused strategies are associated with extraversion, they are not adaptive. Other studies [14,23,36,46,49] do not find any significant relationship between problem-focused coping, and seeking social support.

Studies on the relationship between openness to experience and coping with stress found that openness to experience is related to active coping strategies [49], as well as to positive reinterpretation and planned problem-solving [46,67]. People with a high level of openness to experience often employ humor as a coping strategy [41], are more flexible and more creative in their approach to problems [67]. McCrae and Costa [41] showed that people open to experience resort to religion less frequently when faced with stress. Moreover, they are more emphatic than people with low levels of this trait. Their openness to emotional states applies to other people, as well as to themselves [40,46]. These findings are confirmed by studies that point to a relationship between high openness and coping strategies based on interpersonal engagement [36]. Robert McCrae and Angelina Sutin [40] found that a low openness is associated with the confrontational type of social functioning, problems in interpersonal communication, and passive-aggressive behavior towards partners. Moreover, low openness is associated with distancing oneself from problems [36].

The relationship between agreeableness and coping strategies is not clear. The associations reported by researchers are rather weak [36,23]. Karen Hooker et al. [23] found weak, albeit significant, associations between agreeableness and seeking social support. People with a high level of agreeableness tend to seek support more often than people with low levels of this trait. The same authors found people with high levels of agreeableness to rarely use emotion-focused coping, such as self-blame or avoidance. Similarly, Dayna Lee-Bagley, Melady Preece and Anita DeLongis [36] also indicated a relationship between agreeableness and the use of strategies of avoidance and self-blame, whereby high levels of agreeableness are associated with a less frequent use of avoidance and self-blame. Other authors [46] found a relationship between agreeableness and the tendency to avoid confrontation. Moreover, David Watson and Brock Hubbard [67] claim that people with high levels of agreeableness more frequently use reappraisal and planned problem-solving. Julie Penley and Joe Tomaka [49] described a weak relationship between agreeableness and seeking social support and the use of passive coping.

There is research substantiating the existence of a relationship between conscientiousness and planning, positive reinterpretation and the ability to suppress competing activities. Highly conscientious people are perceived as employing more active as well as problem-focused strategies of coping with stress [23,67]. They use emotion-focused coping strategies such as self-blame [23,46], or distraction less frequently [67]. However, the relationship between conscientiousness and coping is ambiguous. Some researchers have not found conscientiousness to be significantly associated with any of the coping strategies [49]. David and Suls [14] demonstrated only a weak association of high levels of conscientiousness with the strategy of religious coping.

Locus of control and coping stress

Coping with stress and locus of control represent a research field that has been studied by multiple authors. Based on the current evidence, the nature of the relationship between these two variables is not clear. Most studies point to an association of an internal locus of control with active coping with stress, whereas an external locus of control seems to be associated with emotion-focused coping [2,25,50]. Although some researches [47] did not find any relationship between the locus of control and seeking social support under stressful conditions, Carolyn Declerck, Albert de Brabander,

Cristopher Boone and Paul Gertis [15] noticed an association of an internal LOC with the social support of the family during coping with cancer.

Losiak [37], Drwal [17], Poznaniak [52], Szmigiel-ska [62], and Matthews, Dear and Whiteman [38] reviewed reports on people with different loci of control with respect to reinforcements. People with a strong external locus of control do not believe in their own ability to control events when coping with a stressful situation. They are convinced that their actions are futile, and because of that there is no reason to take them. They rid themselves of any responsibility and consequently avoid active coping with threats. It is worth mentioning that denying responsibility for a failure helps maintain self-esteem. People with an internal locus of control are more active and independent. When faced with stress, they use active strategies of coping such as information seeking, and are less likely to use emotion-focused coping strategies. They cope well in short-term stress situations, but are not as successful when faced with long-term stressful situations. This is explained by an increasing feeling of helplessness [Cohen, Evans, Stokol, after: 37]. In general, internally driven people believe in their capabilities but tend to blame themselves for their failures. They prefer to engage in behaviors that let them regain the feeling of being in control over a given situation.

Anxiety and coping stress

The relationship between anxiety and preferred coping strategies appears to be obvious. Research confirms that trait anxiety is significantly associated with a preferential engagement in certain behaviors [7,22,31,57]. Under stressful conditions, a high level of trait anxiety is associated with a more frequent use of self-blame, fantasizing, avoidance, and rationalization as well as with a rare seeking social support and focusing on the problem at hand [24]. Other studies [29] demonstrated that high trait anxiety is associated with avoidance coping, whereas low trait anxiety predisposes to active coping. No differences were found in strategy of turning to religion.

Self-efficacy, world benevolence, world meaningfulness, optimism, and coping stress

Snyder's notion of dispositional hope is a strong motivational force that plays an important role in coping. Research points to the existence of a significant relationship between "hope for success" [58,59] and coping in a difficult situation. Researchers [10,11] claim that people with high levels

of hope use problem-focused coping strategies more often than people with low levels of hope. Moreover, people with high levels of hope use avoidant coping strategies (such as refusal to face a problem, social isolation) to a lesser extent than people with low levels of hope. Another study carried out among hurricane Catarina survivors [21] did not find any association between hope and problem-focused coping. However, it did find a negative relationship between hope and avoidance coping. Studies performed by Chang [10] looking at students during a specific situation of an examination found differences in wishful thinking, self-blame and social isolation depending on the level of hope. People with high levels of hope used these three strategies less often than people with low levels of hope. However, the author did not find any differences in problem-focused strategies, cognitive reappraisal, seeking support, and emotional expression. Another study by the same author, in which students had to solve a social problem, noticed differences in coping depending on the level of hope. People with high levels of hope use positive and rational problem-focused strategies more often than people with low levels of hope. In contrast, the latter group of respondents uses negative problem-focused and avoidant strategies more frequently. In a setting of social problem solving participants did not differ only in impulsive/careless coping strategies. Kennedy, Evans, and Sandhu [30] determined that hope strongly favors such coping strategies as acceptance or strong will. This study [30] was carried out among spinal cord injury patients, in whom the above-mentioned variables were measured with the scale adapted for coping strategies in such situations. Scott Roesch and his co-workers [54] report that pathways thinking, a component of hope, is associated with problem-focused coping, planning, positive thinking, religious coping, and mental disengagement. Agency thinking, another component of hope, is associated with seeking instrumental support and positive thinking.

Beliefs in word's positiveness, meaning and order (basic hope) [18] are also closely related to strategies of coping with stress. However, coping behaviors are dependent on the interaction between basic hope and hope for success. This means that only people with high levels of basic hope and hope for success are able to react behaviorally in response to difficulties [64]. Under the conditions of stress, and more precisely conditions of a loss (according to Lazarus), researchers [65] found an association of hope and the type of difficulty, reported by participants, with the strategy of

withdrawal. People with high levels of hope, who experienced irreversible loss, used withdrawal less frequently. In turn, people who reported a failure in spite of having a high hope used the strategy of withdrawal only rarely and more frequently preferred problem-focused strategies. When faced with an irreversible loss, high basic hope helped retreat from a situation, in which nothing could be done, whereas in case of a failure, it favored active coping. It should be mentioned that the relationship between basic hope and active coping was rather weak. Importantly, no relationship between basic hope and religiosity was observed, although positive correlations between hope and very deep religious practices were found [64].

The relationship between optimism [9] and coping with stress was studied by multiple authors. Research evidence consistently indicates a positive relationship between optimism and problem-focused and cognitive coping strategies, as well as with the ability to see positive aspects of difficult situations. Moreover, optimistic people use the strategy of seeking social support more often. In contrast, pessimistic people resort to the strategies of denial and distancing. They also concentrate on the negative aspects of a difficult event [9,20,56,63]. It is worth mentioning that a positive relationship between a high level of optimism and acceptance/resignation found by Scheier, Weintraub and Carver [56] held true only in the case of situations deemed uncontrollable. Fontaine, Manstead and Wagner [20] indicated that it was only women characterized by a high level of optimism who used positive reinterpretation, and an analogous observation for men was not significant. Furthermore, there were no gender differences in the remaining strategies. Likewise, Fred Bryant and Jamie Cvengros [4] determined a positive influence of optimism on positive reappraisal, which was even larger than the influence of hope. Other studies [45] indicate a positive relationship between optimism and strategies concentrated on removing, reducing and other ways of coping with stressors or with emotions, as well as a negative relationship with avoidance and withdrawal. Those findings are confirmed by the latest research performed by Carver, Scheier and Segerstrom [9] linking optimism with active coping strategies. In contrast, Edwarad Chang [9] found no differences between optimists and pessimists with respect to problem-solving strategies. Chang [9] demonstrated that optimists use cognitive strategies, wishful thinking, self-criticism, and withdrawal more frequently than pessimists.

The studies reviewed above point to non-uniformity within this particular field of research. Moreover, the relationship between personality traits and preferred coping strategies in a specific situation characterized by the emotion of hope has not been studied empirically so far [39]. Thus, this research complements previous studies and verifies earlier work on the relationship between personality traits and preferred coping strategies. This article attempts to explain the association between selected personality characteristics and coping strategies as well as personality differences in coping.

METHODS

Hypotheses

The aim of the study was to verify the relationships between selected personality characteristics and preferred coping strategies as well as to find out if selected personality dimensions significantly favor specific strategies of coping with a stressful situation characterized by the emotion of hope. The theoretical background and studies reviewed above suggest the existence of such associations and differences in the coping strategies depending on personality characteristics of participants. Therefore, the following hypotheses were put forward:

Hypothesis 1. There is a relationship between selected personality characteristics and preferred coping strategies.

Hypothesis 1a. Higher levels of extraversion, openness to experience, agreeableness, conscientiousness, optimism, world benevolence and world meaningfulness, pathways thinking, agency thinking, an internal locus of control, as well as lower level neuroticism and anxiety favor the use of active coping strategies, planning, positive reinterpretation of difficulties, suppression of competing activities, restraint, seeking instrumental and emotional support, focusing on and venting of emotions, and religious coping.

Hypothesis 1b. Higher levels of neuroticism and anxiety, and lower levels of extraversion, openness to experience, agreeableness, conscientiousness, optimism, world benevolence and world meaningfulness, pathways thinking, agency thinking, and an external locus of control favor the use of denial, restraint, distracting attention, humor, and substance use.

Hypothesis 2. There is a difference between individuals with the various personality characteristics in the preferred coping strategies.

Hypothesis 2a. Participants characterized by higher levels of extraversion, openness to experience, agreeableness, conscientiousness, optimism, beliefs in word's positiveness, meaning and order, pathways thinking, agency thinking, an internal locus of control, as well as a lower levels of neuroticism and anxiety (hereinafter referred to as the "enthusiastic personality type") will use active, problem- and emotion-focused coping strategies such as active coping, planning, positive reinterpretation, suppression of competing activities, restraint, seeking social and instrumental support, focusing on and venting of emotions, religious coping, and acceptance more frequently than participants characterized by the opposite traits (hereinafter referred to as the "fearful personality type").

Hypothesis 2 b. Participants characterized by the "enthusiastic personality type" will use avoidant strategies (such as denial, restraint, mental disengagement, humor, substance use) less often than participants characterized by the "fearful personality type".

Characteristics of participants

We enrolled 331 students from three Polish universities: Cardinal Stefan Wyszyński University in Warsaw, Nicolaus Copernicus University in Toruń, and The Main School of Fire Services in Warsaw. In this article, we show statistical analyses involving 200 participants – 105 female (mean age of 22 years), and 95 male (mean age of 25 years).

Methods

NEO-FFI was used to measure personality traits. This personality inventory is based on the "big five theory of personality" by P.T. Costa and R.R. McCrae, and was adapted in Poland by Zawadzki, Strelau, Szczepanik, and Sliwinski [70]. It measures the following five personality dimensions: neuroticism, extraversion, conscientiousness, agreeableness, and openness to experience. Cronbach's alpha for the NEO-FFI scales varies from 0.68 to 0.82 [70].

STAI Inventory (part X-2, trait-anxiety) by Spielberg, in the Polish adaptation by Wrzesniewski et al. (2006), was used to measure anxiety as a relatively stable personality trait. Cronbach's alpha as a measure of reliability varies, depending on a study, from 0.87 to 0.91 [69].

Life Orientation Test-Revised (LOT-R) by F. Scheier, Ch. S. Carver, and M. W. Bridges, in the Polish adaptation by Poplawa and Juczynski [51] was used to measure dispositional optimism. The method has a satisfactory reliability with a Cronbach's alpha of 0.76 [51].

I-E Questionnaire by R.B. Rotter, in the Polish adaptation by Karylowski, was used to measure locus of control, which can be found on a continuum between a generalized internal locus of control and a generalized external locus of control. The reliability of the scale, determined by the split-half method, was $r=0.65$, $r=0.79$ when calculated according to the Spearman-Brown equation, and $r=0.69$, $r=0.79$, $r=0.70$ when calculated with the use of the Kuder-Richardson equation in three separate measurements [28].

Hope for Success Questionnaire (HFS), based on Snyder's theory, in the Polish version by Laguna et al. [32] was used to measure self-efficacy beliefs. The questionnaire determines two components: agency thinking (awareness of one's own efficacy manifesting itself in pursuing one's goals and being constant in one's purpose), and pathways thinking (defined as the awareness of one's own knowledge and intellectual abilities, which manifest themselves in creating new ways of achieving one's goals). Cronbach's alpha for the scales of the HFS varies from 0.62 to 0.86 [32].

Basic Hope Inventory (BHI-12), based on the theory by E. Erikson, in the Polish adaptation by Trzebinski and Zieba [64] was used to measure beliefs in word's positiveness, meaning and order. Cronbach's alpha for the general index of basic hope varies from 0.60 to 0.81 depending on a study [64].

COPE, a multidimensional coping inventory by Charles S. Carver, Michael F. Scheier, and Jagdish K. Weintraub, in the Polish adaptation by Juczynski and Oginska-Bulik [26] was used to measure strategies of coping with stress. This psychometric tool was based on the transactional model of psychological stress and coping by Richard Lazarus and Susan Folkman. Cronbach's alpha, as a measure of the psychometric reliability, varies from 0.48 to 0.94 depending on the subscale [26].

Course of study

The study consisted of two parts. The first part dealt with the measurement of personality characteristics of participants. The second part looked at the use of coping activities in a specific stressful situation, which was characterized by the emotion of hope. The study was questionnaire-based.

RESULTS

Preliminary analyses

Statistical analyses were performed using SPSS 21 statistical software. Firstly, we tested the normality of distributions of the measured variables.

Kolmogorov-Smirnov test indicated minor deviations from normality, within the range of [-1; 1] [39], which allowed us to apply parametric methods in further analyses [5,19]. Subsequently, we used k-means clustering [8,44] in order to distinguish subgroups in the studied population, that differ with respect to the selected personality characteristics, which according to the literature, are significant to coping with stress and hope experience. The aim of this clustering was to compare coping strategies preferred by people with different personality characteristics. Moreover, it allowed us to determine the relationships between personality types (i.e. high intensity of specific personality characteristics in a given group) and preferred coping strategies.

Importantly, it was not the aim of this study to formulate a new personality typology. The term "personality type" is used here as a simplification, and refers to personality traits, dispositions and beliefs that differ in degree of intensity.

Based on cluster analysis, we distinguished three groups of participants [39]. Because of the fact that the largest differences in various personality dimensions were seen between the two extreme groups (the first and the third) (Table 1), further analyses are limited to them. As can be seen in table 1, the values of the effect size indicated the existence of substantial differences ($\eta \geq 0.50$) in personality characteristics between the distinguished groups. The only exceptions were "agreeableness" characterized by a moderate effect size (η value), and "openness to experience", in case of which the effect size was small [19].

The first group consisted of people operationally referred to as the "Enthusiastic personality type" and characterized by a high level of extraversion, low levels of neuroticism, moderate openness to experience, high agreeableness and conscientiousness, low anxiety, high self-efficacy beliefs (pathways thinking and agency thinking) as well as high beliefs in word's positiveness, meaning and order (basic hope), and an internal locus of control. In contrast, "the fearful personality type" was characterized primarily by low self-efficacy beliefs, pessimism, low basic hope, an external locus of control as well as by high anxiety, high neuroticism, low openness to experience, low conscientiousness, and agreeableness [see 39].

It is worth noting that the analyses refer to personality types irrespective of gender. This line on thinking was assumed after we did not find significant differences, or only minor gender differences in coping strategies and personality characteristics.

Relationship between selected personality characteristics and strategies of coping stress

Tau-Kendall test was used in order to verify hypothesis 1, on the relationship between the selected personality dimensions and strategies of coping with stress. We highlight that in this particular case, the ranks allocated to groups of participants reflect the intensity of traits, and are ordinal in nature. Therefore, the Tau-Kendall test was used. Based on this test, we found significant relationships between the personality type (the lower value was allocated to the "enthusiastic personality

Tab. 1. Significance of differences with respect to personality characteristics between the Enthusiastic N= 104) personality type and the Fearful personality type (N = 116)

	Enthusiastic (N=99)		Fearful (N = 101)		t	df	p	η
	M	SD	M	SD				
Extraversion	34.55	5.46	26.45	6.50	9.535	198	.001	.56
Neuroticism	12.67	4.94	27.74	6.54	-18.381	198	.001	.79
Openness to experience	27.34	6.74	24.70	5.67	3.002	198	.003	.21
Agreeableness	31.55	5.63	25.64	5.78	7.316	198	.001	.46
Conscientiousness	35.96	6.52	27.45	6.52	9.233	198	.001	.55
Pathways thinking	27.04	2.98	21.18	3.32	13.139	198	.001	.68
Agency thinking	26.10	2.83	19.63	3.04	15.549	198	.001	.74
General score	68.03	5.64	60.50	7.05	8.334	198	.001	.51
Beliefs in word's positiveness, meaning and order	33.97	4.23	27.10	3.43	12.629	198	.001	.67
Locus of control	8.61	3.85	13.94	3.44	-10.335	198	.001	.59
Trait-anxiety	33.80	5.78	49.36	5.80	-18.995	198	.001	.80
Optymism	32.00	3.48	21.78	4.81	17.201	198	.001	.77

* The η parameter denotes the effect size [19].

type" and the higher value to the "fearful personality type") and the preferred coping strategies.

The "fearful personality type" was associated negatively, albeit moderately, with active coping, $\tau = -.34$, $p < .001$, planning, $\tau = -.41$, $p < .001$, and positive reinterpretation and growth, $\tau = -.43$, $p < .001$, and negatively, albeit weakly, with suppression of competing activities, $\tau = -.18$, $p = .004$. On the other hand, we found a strong positive correlation between the "fearful personality type" and behavioral disengagement, $\tau = .54$, $p < .001$, a moderate positive correlation with denial, $\tau = .42$, $p < .001$, and substance use, $\tau = .36$, $p < .001$, and a weak positive correlation with mental disengagement, $\tau = .29$, $p < .001$. In the case of the remaining strategies (i.e. use of emotional and instrumental support), religious coping, restraint, acceptance, focus on and venting of emotion, humor), no relationship with either of the personality type was found.

Individual differences in coping strategies with respect to selected personality characteristics

In order to verify hypothesis 2, assuming the existence of differences in preferred coping strategies with respect to personal characteristics, we used the t-Student test for independent samples and the Eta parameter (η) in order to measure the effect size [19]. Moreover, because of minor deviations from normality and unequal variances regarding four of the studied variables (religious coping, denial, restraint, substance use) we performed comparisons with the use of the Brown-Forsythe test. The results gave an identical picture regarding the differences, as in the case of the t-Student test.

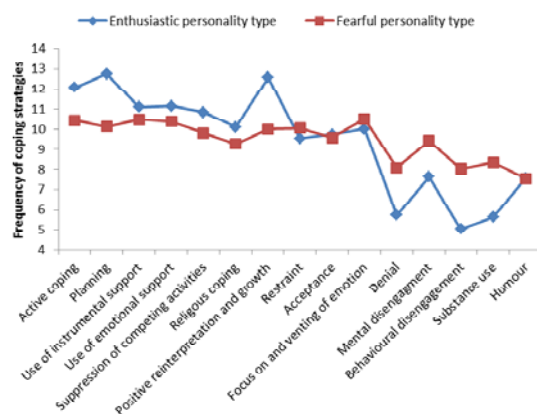


Fig. 1. Significance of differences in preferred coping strategies between the Enthusiastic personality type (N = 99) and the Fearful personality type (N = 101).

Figure 1 shows the differences between the "enthusiastic" and "fearful" personality types with respect to strategies of coping with stress in a situation characterized by the emotion of hope. The differences we found were notable. The most pronounced difference was seen in the behavioral disengagement strategy, $t(198) = -9.817$, $p < .001$, $\eta = .79$. It means that, when faced with stress, the "fearful personality type" ($M = 8.02$, $SD = 2.62$) gives up and reduces efforts to deal with the problem significantly more frequently than the "enthusiastic personality type" ($M = 5.04$, $SD = 1.52$). Another strong difference was found with respect to the strategy of positive reinterpretation and growth, $t(198) = 7.936$, $p < .001$, $\eta = .49$, which said that the "enthusiastic personality type" ($M = 12.59$, $SD = 2.40$) sees positive aspects of difficulties significantly more frequently than the "fearful personality type" ($M = 10.01$, $SD = 2.19$). A similar result was seen with respect to the strategy of planning, $t(198) = 7.617$, $p < .001$, $\eta = .48$. The "enthusiastic personality type" ($M = 12.76$, $SD = 2.36$) planned the necessary steps in order to cope with a difficult situation significantly more frequently than the "fearful personality type" ($M = 10.14$, $SD = 2.50$). Another difference was found in denial, $t(198) = -7.646$, $p < .001$, $\eta = .48$. This said that the "fearful personality type" ($M = 8.08$, $SD = 2.55$) deny their difficulties significantly more frequently than the enthusiastic personality type $M = 5.74$, $SD = 1.68$). We also noticed a difference in active coping, $t(198) = 5.660$, $p < .001$, $\eta = .37$, which said that the "enthusiastic personality type" ($M = 12.08$, $SD = 1.82$) takes specific actions in order to solve a problem significantly more frequently compared to the "fearful personality type" ($M = 10.45$, $SD = 2.24$). The "fearful personality type" ($M = 8.34$, $SD = 3.75$), in turn, employed the strategy of substance use significantly more frequently than the "enthusiastic personality type" ($M = 5.65$, $SD = 2.92$), $t(198) = -5.651$, $p < .001$, $\eta = .37$. Moreover, the "fearful personality type" ($M = 9.44$, $SD = 2.57$) used strategy of mental disengagement significantly more frequently than the "enthusiastic personality type" ($M = 7.62$, $SD = 2.26$), $t(198) = -5.319$, $p < .001$, $\eta = .35$. Lastly, we found a difference in the strategy of suppression of competing activities, $t(198) = 2.969$, $p = .003$, $\eta = .21$, which meant that the "enthusiastic personality type" ($M = 10.86$, $SD = 2.63$) was pre-occupied with activities unrelated to a particular problem less frequently compared to the "fearful personality type" ($M = 9.82$, $SD = 2.30$).

DISCUSSION

The first aim of this research was to verify the relationship between selected personality characteristics and preferred coping strategies (H1). As predicted, the results support a positive association between the "enthusiastic personality type" and the use of active coping strategies (H1a). The more intense the "enthusiastic personality" traits were (i.e. the higher extraversion, openness to experience, agreeableness, conscientiousness, pathways thinking, agency thinking, beliefs in word's positiveness, meaning and order, optimism, and the more internal locus of control, and lower the neuroticism, and trait-anxiety were), the more frequently the strategies of active coping, planning, positive reinterpretation of the stressful event, and suppression of competing activities were employed. Our results are in line with other studies that found a positive a significant association between the various personality characteristics and relevant coping strategies. Previous research have demonstrated a positive relations between high levels of extraversion, openness to experience, agreeableness, conscientiousness, ability to create and attain goals, strong will, basic hope, optimism, internal locus of control and active coping strategies [2,6,9,25,50,64,65], planning [16,23,54,56,67], positive reinterpretation [14,23,41,46,67] and suppression of competing activities [23,67].

Another hypothesis (H1b) assuming an association of the "fearful personality type" with avoidance coping was confirmed as well. The stronger the traits of the "fearful personality type" were (i.e. the higher neuroticism and trait-anxiety were, and the lower extraversion, openness to experience, agreeableness, conscientiousness, pathways thinking, agency thinking, basic hope, optimism, and the more external locus of control were) the more frequently the strategy of denial, mental and behavioral disengagement as well as substance use were employed. These results are also in line with the former research that found a positive association between high neuroticism and trait-anxiety as well as a low ability to create and attain goals, strong will, low basic hope, low optimism, an external locus of control with a preferential use of denial [1,4,20,56,63], mental disengagement [54], behavioral disengagement [10,12,13,36,64,65], and substance use [1,38].

It is worth noting that we have not found any relationship between "personality type" and such coping strategies as support seeking (emotional and instrumental), restraint, focusing and venting of emotions, religious coping, and humor. Literature on this subject does not describe any clear associations between personality traits and the above-described coping strategies. Some authors report weak as-

sociations, whereas others deny their existence [14,32,36,46,47,49]. The current study described refers to a specific stressful situation, which was characterized by the emotion of hope. Lack of a relationship between personality types and the selected coping strategies could be potentially explained by the fact that not all personality characteristics are important in selecting particular coping strategies, nor are all coping strategies employed in stressful situations characterized by the emotion of hope. This observation comes from our other study [39].

The second aim of this research was to look at the differences in the preferred coping strategies in relation to personality characteristics (H2). Our results confirm the existence of the assumed differences, although not in every detail. The "enthusiastic personality type" participants used active and problem-focused strategies significantly more frequently than the "fearful personality type". They planned their activities, viewed their challenges in a more positive and meaningful way, and eliminated competing activities. Moreover, they confronted their problems (H2a). In contrast, the "fearful personality type" participants denied a difficult situation, refrained from taking action, and engaged in unnecessary activities significantly more frequently compared to the "enthusiastic personality type". Moreover, they were more likely to mentally disengage from the problem or deal with it through substance use (H2b). Interestingly, our results indicate a lack of relationship between personality type and seeking instrumental and emotional support, religious coping, acceptance, focusing on and venting of emotions, and humor as a coping strategy. Our results, pointing to a positive relationships between "enthusiastic" personality traits and the use of active coping, are in line with previous research [10,11,14,20,23,27,41,45,46,49,53,54,56,63,67]. The results indicating a positive association of the "fearful" personality traits with a preferential use of avoidant coping strategies are in agreement with previous research [1,7,14,22,24,27,29,31,49,57]. Lack of differences between the preferred coping strategies depending on personality type could result from the particular design of this study. In a stressful situation characterized by the emotion of hope, participants used only selected coping strategies, which resulted in a lack of differences in the remaining strategies [39].

In conclusion, it can be said that the "personality type" is significantly associated with the coping strategies in a stressful situation. The traits, dispositions and beliefs related to enthusiastic personality type are associated with the active coping. In contrast, fearful characteristics are associated

with avoiding the confrontation or even denying the difficulties. The differences between the two "personality types" in coping strategies are notable.

CONCLUSIONS:

Based on the current results as well as previous research, the correlations between the following variables were established:

- 1) "Enthusiastic personality type" vs. a preferential use of active coping strategies, planning, positive reinterpretation and growth, and suppression of competing activities
- 2) "Fearful personality type" vs. a preferential use of denial, mental and behavioral disengagement as well as substance use.

Moreover, statistically significant differences between the "enthusiastic" and "fearful" personality types in preferred coping strategies were found.

AUTHORS' DECLARATION:

Study Design: Monika M. Małkiewicz; **Data Collection:** Monika M. Małkiewicz; **Statistical Analysis:** Monika M. Małkiewicz; **Manuscript Preparation:** Monika M. Małkiewicz; **Funds Collection:** Monika M. Małkiewicz. The Author declares that there is no conflict of interest.

REFERENCES

1. Aldwin CM. Stress, coping, and development: An integrative perspective. Second edition. New York-London: The Guilford Press, 2007.
2. Anderson CR. Locus of control, coping behaviors, and performance in a stress setting: a longitudinal study. *Journal of Applied Psychology* 1977; 62(4):446-451.
3. Bolger N. Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology* 1990; 59(3):525-537.
4. Bryant FB, Cvenegros JA. Distinguishing hope and optimism: Two sides of a coin, or two separate coins? *Journal of Social and Clinical Psychology* 2004; 23:273-302.
5. Brzeziński J. Metodologia badań psychologicznych. Warszawa: Państwowe Wydawnictwo Naukowe; 2002.
6. Burger JM, Caldwell DF. Personality, social activities, job-search behavior and interview success: distinguishing between PANAS Trait Positive Affect and NEO Extraversion. *Motivation and Emotion* 2000; 24(1):51-62.
7. Butler G, Mathews A. Anticipatory anxiety and risk perception. *Cognitive Therapy and Research* 1987; 11(5): 551-65.
8. Calinski T, Harabasz J. A Dendrite Method for Cluster Analysis. *Communications in Statistics – Theory and Methods*, 1974; 3(1):1-27.
9. Carver CS, Scheier MF, Segerstrom SC. Optimism. *Clinical Psychology Review* 2010; 30(7):879-889.
10. Chang EC. Hope, problem-solving ability, and coping in a college student population: Some implications for theory and practice. *Journal of Clinical Psychology* 1998a; 54:953-962.
11. Chang EC, DeSimone SL. The influence of hope on appraisals, coping, and dysphoria: a test of hope theory. *Journal of Social and Clinical Psychology* 2001; 20(2):117-129.
12. Connor-Smith JK, Flachsbart C. (2007). Relations between personality and coping: a meta-analysis. *Journal of Personality and Social Psychology* 2007; 93(6):1080-107.
13. Costa PT, Sommerfield MR, McCrea RR. Personality and coping: A reconceptualization. In: Zeidner M, Endler NS, ed. *Handbook of Coping. Theory, research, applications*. New York: Wiley; 1996.
14. David JP, Suls J. Coping efforts in daily life: Role of Big Five traits and problems appraisal. *Journal of Personality* 1999; 67:265-294.
15. Declerck CH, De Brabander B, Boone C, Gerits P. Locus of control, marital status, and early relapse in primary breast cancer patients. *Psychology and Health* 2002; 17:63-76.
16. Dorn L, Matthews G. Two further studies of personality correlates of driver stress. *Personality and Individual Differences* 1992; 13:949-951.
17. Drwał RŁ. Teoria i techniki pomiaru poczucia kontroli wzmocnień. In: Brzozowski P, Oleś P, ed. *Adaptacja kwestionariuszy osobowości. Wybrane zagadnienia i techniki*. Warszawa: Państwowe Wydawnictwo Naukowe; 1995:197-255.

18. Erikson E. The life cycle completed: Extended version. New York: Norton; 1997.
19. Field A. Discovering statistics using IBM SPSS STATISTICS. Fourth Edition edition. SAGE Publications Ltd; 2013.
20. Fontaine KR, Manstead ASR, Wagner H. Optimism, perceived control over stress, and coping. *European Journal of Personality* 1993; 7:267-281.
21. Glass K, Flory K, Hankin BL, Kloos B, Turecki G. Are coping strategies, social support, and hope associated with psychological distress among hurricane Katrina survivors? *Journal of Social and Clinical Psychology* 2009; 28(6):779-795.
22. Greenberg MS, Alloy LB. Depression versus anxiety: processing of self-and other-referent information. *Cognition and Emotion* 1989; 3:207-23.
23. Hooker KL, Frazier ID, Monahan DJ. Personality and coping among caregivers of spouses with dementia. *The Gerontologist* 1994; 34(3):386-392.
24. Jiang Y, Sun YF, Yang YB, Tang JJ, Wu SJ, Miao DM, Zhu X. Gender differences in coping styles of Chinese military officers undergoing intensive training. *Military Psychology* 2013; 25(2):124-135.
25. Juczyński W. Dynamika emocji i radzenia sobie w stresie psychologicznym. Badanie pacjentów chirurgicznych. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego; 1994.
26. Juczyński Z, Ogińska-Bulik N. Narzędzia pomiaru stresu i radzenia sobie ze stresem. Warszawa: Pracownia Testów Psychologicznych; 2009.
27. Kaiseler M, Polman RCJ, Nicholls AR. Effects of Big Five personality dimensions on appraisal coping, and coping effectiveness in sport. *European Journal of Sport Science* 2011; 1-11.
28. Karyłowski J. Skala I-E Rottera. Niepublikowany maszynopis, bez daty i miejsca wydania.
29. Kausar R, Yusuf S. State anxiety and coping strategies used by patients with hepatitis C in relation to interferon therapy. *Pakistan Journal of Social and Clinical Psychology* 2011; 9:57-61.
30. Kennedy P, Evans M, Sandhu N. Psychological adjustment to spinal cord injury: the contribution of coping, hope and cognitive appraisals. *Psychology, Health and Medicine* 2009; 14(1):17-33.
31. King FJ, Heinrich DL, Stephenson RS, Spielberger CD. (1975). An investigation of the causal influence of trait and state anxiety on academic achievement. *Journal of Educational Psychology* 1975; 68(3):330-334.
32. Kokkonen M, Pulkkinen L. Examination of the paths between personality, current mood, its evaluation, and emotion regulation. *European Journal of Personality*, 2001; 15:83-104.
33. Łaguna M, Trzebiński J, Zięba M. Kwestionariusz Nadziei na Sukces KNS. Podręcznik. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2005.
34. Lazarus RS. Emotion and adaptation. New York: Oxford University Press; 1991.
35. Lazarus RS. Stress and emotions: a new synthesis. New York: Springer Publishing Company; 1999.
36. Lee-Baggeley D, Preece M, DeLongis A. Coping with stress: Role of the Big Five Traits. *Journal of Personality* 2005; 73(5):1141-1180.
37. Łosiak W. Dynamika emocji i radzenia sobie w stresie psychologicznym. Badanie pacjentów chirurgicznych. Kraków: Wyd.UJ; 1994.
38. Matthews G, Dear IJ, Whiteman MC. Personality traits. New York: Cambridge University Press; 2009.
39. Małkiewicz MM. Wybrane osobowościowe i sytuacyjne antecedeny a treściowe komponenty emocji nadziei w wyborze strategii radzenia sobie ze stresem.[Selected personality and situational antecedents, cognitive components of hope as an emotion and strategies of coping with stress]. Unpublished doctoral dissertation; 2014.
40. McCrae RR, Sutin AR. Openness to Experience. In: Leary MR, Hoyle RH, ed. *Handbook of Individual Differences in Social Behavior*. New York: Guilford; 2009:257-273.
41. McCrae RR, Costa PT. Personality, coping and coping effectiveness in an adult sample. *Journal of Personality* 1986; 54:385-405.
42. McCrae RR, Costa PT. Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology* 1987; 52:81-90.
43. McCrae RR, Costa PT. The five-factor theory of personality. In: Oliver OP, Robins RW, Pervin LA ed. *Handbook of personality. Theory and research*. New York: Guilford Press; 2008:159-181.
44. Mooi E, Sartedt M. A concise guide to market research. Rozdz.9: Cluster Analysis. Verlag:Berlin-Heidelberg: Springer; 2011:237-284.
45. Nes LS, Segerstrom SC. Dispositional optimism and coping: a meta-analytic review. *Personality and Social Psychology Review*, 2006; 10(3):235-251.
46. O'Brien TB, DeLongis A. The interactional context of problem-, emotion-, and relationship-focused coping: The role of the Big Five personality factors. *Journal of Personality* 1996; 64:775-813.

47. Ogińska-Bulik N, Izydorczyk K. Style radzenia sobie ze stresem a poczucie własnej wartości i umiejscowienie kontroli zdrowia u dzieci chorych na białaczkę. *Psychoonkologia* 2000; 7:29-37.
48. Opton E, Lazarus RS. Personality determinants of psychophysiological response to stress: a theoretical analysis and an experiment. *Journal of Personality and Social Psychology* 1967; 6(3):291-303.
49. Penley JA, Tomaka J. Associations among the Big Five, emotional responses, and coping with acute stress. *Personality and Individual Differences* 2002; 32(7):1215-1228.
50. Petrosky MJ, Birkimer JC. The relationship among locus of control, coping styles, and psychological symptom reporting. *Journal of Clinical Psychology* 1991; 47(3):336-345.
51. Popława R, Juczyński Z. Polska adaptacja testu LOT R. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2001.
52. Poznaniak W. Teorie uczenia się społecznego jako model normalnego i zaburzonego funkcjonowania jednostki oraz grupy. In: Sęk H, ed. *Spółeczna psychologia kliniczna*. Warszawa: Państwowe Wydawnictwo Naukowe; 1998:70-98.
53. Rim Y. Ways of coping, personality, age, sex and family structural variables. *Personality and Individual Differences*, 1986; 7:113-116.
54. Roesch SC, Duangado KM, Vaughn AA, Aldridge AA, Villodas F. Dispositional hope and the propensity to cope: A daily diary assessment of minority adolescents. *Cultural Diversity and Ethnic Minority Psychology* 2010; 16(2):191-198.
55. Rotter JB. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied* 1966; 80(1):1-28.
56. Scheier MF, Carver CS. Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology* 1985; 4:219-249.
57. Scheier MF, Weintraub JK, Carver CS. Coping with stress: divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology* 1986; 51:1257-1264.
58. Smith RE, Sarason IG. Social anxiety and the evaluation of negative interpersonal feedback. *Journal of Consulting and Clinical Psychology* 1975; 43(3):429-430.
59. Snyder CR. *The psychology of hope. You can get there from here*. New York: The Free Press; 1994.
60. Snyder CR. *Handbook of hope: theory, measures and applications*. San Diego: Academic Press; 2000.
61. Spielberger CD. Theory and research on anxiety. In: Spielberger CD, ed. *Anxiety and behavior*. New York: Academic Press; 1966.
62. Spielberger CD. Anxiety state-trait-process. In: Spielberger CD, Sarason IG, ed. *Stress and anxiety*. T.1. Washington: Hemisphere Wiley; 1975.
63. Szmigielska B. Społeczno-uczeniowa teoria osobowości Juliana B. Rottera. In: Gałdowa A, ed. *Klasyczne i współczesne koncepcje osobowości*. Tom 1. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego; 1999:209-223.
64. Taylor SE, Kemeny ME, Aspinwall LG, Schneider SG, Rodriguez R, Hebert M. Optimism, coping, psychological distress, and high-risk sexual behavior among men at risk for AIDS. *Journal of Personality and Social Psychology* 1992; 63:460-473.
65. Trzebiński J, Zięba M. *Kwestionariusz Nadziei Podstawowej - BHI-12*. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2003.
66. Trzebiński J, Zięba M. Basic hope as a world-view. *Polish Psychological Bulletin* 2004; 35(3):173-182.
67. Vollrath M, Torgersen S. Personality types and coping. *Personality and Individual Differences* 2000; 29(2):367-378.
68. Watson D, Hubbard B. Adaptation style and dispositional structure: Coping in the context of the five-factor model. *Journal of Personality* 1996; 64:737-774.
69. Witt LA. The interactive effects of extraversion and conscientiousness on performance. *Journal of Management* 2002; 28(6):835-851.
70. Wrześniewski K, Sosnowski T, Jaworowska A, Fecenec D. *Inwentarz Stanu i Cechy Lęku STAI*. Polska adaptacja STAI. Podręcznik. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2006.
71. Zawadzki B, Strelau J, Szczepaniak P, Śliwińska M. *Inwentarz osobowości NEO-FFI Paula T. Costy Jr i Roberta R. McCrae*. Adaptacja polska. Podręcznik. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego; 2010.

Cite this article as: Malkiewicz MM. Selected Personality Characteristics and Coping with Stress Strategies. *Pol J Aviat Med Psychol* 2014; 20(2): 25-36. DOI: