

Constantinos Togas, Foteini Mavrogiorgi, George Alexias

Examining the relationship between coping strategies,
perceived social support and mental health
in psychosocial and environmental problems

Research

Examining the relationship between coping strategies, perceived social support and mental health in psychosocial and environmental problems

Constantinos Togas¹, Foteini Mavrogiorgi², George Alexias³¹Social Worker-Phychologist, M.Sc., M.Sc., Ph.D.(c)²Psychologist³Professor of Sociology of Health and Body, Department of Psychology Panteion University of Social and Political Sciences

Abstract

Introduction: Coping strategies are used in stressful situations and have been examined in many studies. However, very few studies have examined the association between coping strategies, perceived social support and mental health in psychosocial and environmental problems in the general population.

Methods: A cross-sectional study was conducted with a sample of 482 individuals (n=482) from Greece's general population. A composite questionnaire was used, including demographic information, the Coping Strategy Indicator (CSI), the Multidimensional Scale of Perceived Social Support (MSPSS) and the General Health Questionnaire-28. The program SPSS 21.0 was used for data analysis.

Results: Mean age of the participants=38.67 years (M = 38.67, SD = 13.20, Min = 18, Max = 71, Range=53), men=36.9%, women=63.1. Mean score of the CSI scales: Problem Solving=23.60, Seeking Social Support=23.33, Avoidance-Distraction=9.82, Avoidance-Withdrawal=8.45. Mean score of MSPSS=67.79 and of the GHQ-28=23.71. Younger participants had higher score in Seeking Social Support ($F_{4,462}=3.112, p=0.015$) and lower score in Avoidance-withdrawal ($F_{4,467}=3.265, p=0.012$) scales. There were no significant differences between the type of stressors in the CSI scales score. Concerning the GHQ-28, women had higher score than men in Somatic symptoms ($t=-2.875, df=476, p=0.004$) and in Anxiety/Insomnia ($t=-2.667, df=474, p=0.007$) subscales. Illiterate-graduates of primary school had higher score in GHQ-28 ($F_{3,464}=3.382, p=0.018$) and in Anxiety/Insomnia subscale ($F_{3,470}=5.277, p=0.001$). The type of stressor was found to be significant in severe depression subscale ($F_{9,472}=2.603, p=0.006$). Age correlated significantly only with Seeking Social Support ($r=-.129, p<0.05$), while a positive correlation was found between Avoidance-Withdrawal and GHQ-28 ($r=.117, p<0.05$) and a negative one between MSPSS and GHQ-28 ($r=-.283, p<0.01$).

Discussion: Avoidance-withdrawal coping strategy and low perceived social support predict mental health problems (anxiety/insomnia, social dysfunction, somatic symptoms, depression) in general population. Differences in coping strategies are associated with age, age group, gender and in mental health problems with age group, gender, educational level and type of stressor. Future research is suggested, so that further clarification of the study's results to be possible.

Key-words: Stress, coping strategies, social support, mental health, psychosocial problems.

Introduction

Considerable amount of research has been made in the area of strategies for coping with stress during the past few decades. Lazarus and Folkman define coping as “the person’s constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person’s resources” [1]. According to them, coping is “process oriented, influenced by the personal situation and a person’s efforts to manage demand without a prior assumption about what constitutes good or bad coping” [2].

Researchers divide coping as active versus passive strategies or problem-focused versus emotion-focused strategies, especially when considering the impact of coping on the mental health [1,3,4]. For example, active coping was associated with reports of less depression and passive coping with reports of greater depression in a sample of rheumatoid arthritis patients [5]. Other researchers divide coping strategies into three categories: active behavioral coping, active cognitive coping the avoidance coping [6]. In a later distinction, Folkman groups coping styles into problem-focused, emotion-focused and problem assessment-focused [7].

Researchers have also found that the emotion-focused coping is positively correlated with poor mental health and a reliance on emotion-focused coping to the exclusion of problem-focused coping is associated with greater psychological maladjustment [8-10].

Another distinction is between avoidance-oriented coping (ignoring or withdrawing from the stressor or associated feelings) and approach-oriented coping (directed towards dealing with either the problem or related emotions) [11,12]. Avoidant-coping styles are associated with personality characteristics and outcomes that are negative, whereas approach-oriented styles are linked to positive traits and results [13,14]. For example, Herman-Stabl, Stemmler & Petersen found that adolescents that used approach coping reported the fewest symptoms of depression, while avoidant copers reported the most [15]. A study conducted by Stewart et al. showed that people who used avoidant coping strategies had higher rates of depression and anxiety, while those who used active coping strategies and positive reanalysing had lower depression and

anxiety [16]. Furthermore, it has been suggested that problem solving does play role in adaptive responses to stress and self-appraised ineffective problem-solving ability may play a causal role in predicting future depressive symptoms and results in psychological maladjustment [17-20].

Whether a particular type of coping strategy is more or less effective may depend on the controllability of the stress factor [21-23]. Forsythe and Compas state that when it comes to controllable stressors, active coping or problem-focused coping may be useful, while active coping may be less helpful when an uncontrollable stress factor occurs [22]. Even though most stress factors can evoke both coping styles, the problem-focused coping strategy can appear when people think that something helpful can be done, while the emotion-focused coping strategy can appear when people think that the stress factor is something to endure [8].

Gender differences have been found in coping strategies: Men use more frequently the problem-focused strategies and women the emotion-focused strategies [8,24]. Concerning the level of education, it seems that it does not affect the coping strategies [24-26].

As far as the age concerns, controversies exist concerning its influence on the stress and coping process [27]. Folkman & Lazarus agree that there are not significant differences in coping strategies associated on age [8,28]. Most studies have shown that older adults differ little from younger adults in their approaches to coping with stress [29]. Aldwin, Sutton, Chiara & Spiro examined middle-aged, young-old, and old-old men and found that nearly a quarter of the old-old reported having had no problems and they expended less coping effort even when they did have problems [27]. The types of problems reported varied systematically with age. Middle-aged men were more likely to appraise their problems both as challenges and as annoyances than the older men. However, there were no age differences in perceived stressfulness of the problem or coping efficacy [27]. Similarly, Whitty found no differences between age groups in the effectiveness of coping strategies people employ [30]. In another relevant study (Aldwin, 1991) there was found a negative relationship between age and the reported use of escapist coping strategies [29].

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Previous research has consistently identified factors that differentiate between coping with or without the aid of social support. These findings suggest it may be more meaningful to distinguish between “socially supported” and “self-sufficient” coping styles rather than whether the corresponding strategies are directed towards managing either problems or emotions [31].

The concept of social support originates from clinical and therapeutic practice and is defined as the objectively available network of connections that provides a sense of intrapersonal relationships, approval and safeness, and the possibility of acquiring different types of assistance in a difficult situation [32]. Albrecht and Adelman define social support as the verbal and non-verbal communication that decreases the uncertainty about the state of the person or relationship and aims at improving the perception of personal control in life [33]. The main characteristics of social support are communication, reduction of uncertainty and improved control. Social support that an individual receives from others is recognized as a prognostic factor for health and well-being [34].

It can be described by analyzing two of the most important dimensions of it (structural and functional support) [35]. Structural support refers to five characteristics: social network size, coherence and homogeneity, density, frequency of interaction and availability of contacts. The size of social network can be understood as the objectively available number of individuals that can provide support and a sense of bonding. Coherence and homogeneity of support can be seen in the demographic and social similarity but in the common experiences of people, as well. Density of relationships is the level of mutual reliance between partners who interact. Frequency of contacts is described by the ratio of the number of contacts per unit time. Support availability is the number and ease of creating relationships [35]. Functional support is the kind of interaction or its consequences that has to do with the exchange of psychological or instrumental benefits. It can be categorized into emotional support, practical support and social inclusion [36].

Social support, along with other factors (e.g. socioeconomic status, mental health, stress and personality), has an important impact on health [34]. Schaefer, Coyne and Lazarus referred

to five types of social support: emotional, esteem, network, information and tangible support [37]. Similarly, Cohen et al. referred to three main types of social support: emotional, informational and tangible-instrumental support [34].

Wills and Shinar dichotomized social support as perceived and received social support as such that is considered to be available in relation to what is actually available [38]. Perceived social support refers to people's beliefs about the level and quality of support available to them. It is considered that the perception of social support is very important because it shows how a person thinks of the support he has at his disposal and whether it can be requested when necessary [39].

The perception that emotional support is available seems to have a much stronger impact on mental health than actual social support. Cohen and Wills found that perceived social support is more important than actual social support, as far as health behaviors are concerned. If the support resources are not perceived by an individual, the person cannot make practical use of them [40]. These conclusions are supported by studies that found perceived social support to have a greater impact than actual social support on health and well-being [41,42].

Many studies have showed that adequate social support is associated with the reported severity of the psychological and physical symptoms of a person and plays a preventive role between symptoms and stressors [43-45].

According to World Health Organization (WHO) mental health is a constituent part of health and is directly linked to physical health and behavior. Moreover, mental health is more than the absence of mental illness. WHO has recently defined it as “a state of well-being in which the individual realizes his / her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his / her community” [46].

Several demographic data have been found to affect mental health and predict mental problems. In general, women are more likely to experience anxiety disorders and depression than men. Furthermore, women with no social support, who are exposed to life events, are more vulnerable than men with-

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out support [47]. The level of education seems to effect mental health, i.e. in North America, anxiety and depressive disorders are about twice as common in low-education groups relative to high-education groups [48]. With regard to age, there are conflicting results about the relationship between age and depression [49]. Some investigators reported a negative linear relationship between age and depressive symptoms [50]. However, other investigators concluded that depressive symptoms increase with age [51]. It has also been suggested that the relationship between age and depression is U-shaped, that is depressive symptoms decline from young adulthood to midlife and then begin to rise again with increasing age [52].

Although coping strategies have been examined in many studies, the investigation of the association between coping strategies, perceived social support and mental health in psychosocial and environmental problems is a relatively neglected area of research. This study linked these three variables together by testing their intercorrelations, taking into account the reported psychosocial problem. According to the authors' knowledge, this is one of the few studies that investigates this topic. The aim of this study was to examine the association between coping strategies, perceived social support and mental health in psychosocial and environmental problems. Based on the theoretical principles of coping theory, it was hypothesized that: 1) the Problem Solving strategy is positively associated with mental health (as it is evaluated with the GHQ-28) (Hypothesis 1), 2) perceived social support is positively associated with the Seeking Social Support coping strategy (Hypothesis 2), 3) the Avoidance coping strategy are positively associated with the mental health symptoms (Hypothesis 3), 4) perceived social support is negatively associated with mental health symptoms (Hypothesis 4).

Methods

A cross-sectional study was conducted with a sample of 482 individuals ($n=482$) of Greece's general population from all over the country. The procedure of the distribution of the questionnaires lasted four months (November 2017– February 2018). According to the selection criteria the sample included men and women aged 18 - 75 years old with a sufficient mental level that they could perceive the questions of the psychometric tools. Individuals with diagnosed mental health problems were

excluded from the sample. The basic variables were the coping strategies, the perceived social support and the mental health.

A brief description of the purpose of the study was given to all participants along with instructions for the questionnaire. They had the chance to ask for further clarifications concerning the questions. All participants took part on a voluntary basis and were not remunerated for their participation. Once participants provided consent, they received the questionnaires, which they completed anonymously and individually. They were also informed that they could stop completing the questionnaire at any time if they wished and that their decision to withdraw would not imply any negative consequence for them.

A composite questionnaire was used, including demographic information, the Coping Strategy Indicator, the Multidimensional Scale of Perceived Social Support (MSPSS) and the General Health Questionnaire-28 [53-55]. All these three questionnaires have been translated and culturally adapted for the Greek population by several scholars.

Participants

The mean age of the participants was 38.67 years ($M_{age} = 38.67$, $SD = 13.20$, $Min = 18$, $Max = 71$, $Range=53$) and the mean number of their family members was 3.65 ($M = 3.65$, $SD = 1.20$, $Min = 1$, $Max = 8$, $Range=7$). The rest demographic characteristics of the sample and type of stressor are presented in Table 1.

Table 1. Demographic characteristics of the sample and type of stressor

	Frequency	Percentage(%)
Gender		
Men	178	36,9 %
Women	304	63,1 %
Age group		
≤25 years	110	23.0 %
26-35 years	101	21.1 %
36-45 years	97	20.3 %

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46-55 years	126	26.3 %
>55 years	45	9.4 %
Household income		
<15.000 €	193	40.6
15.000-24.999 €	143	30.1 %
25.000-34.999 €		20.4 %
35.000-44.999 €	25	5.3 %
45.000-60.000 €	11	2.3 %
>60.000 €	6	1.3 %
Level of education		
Illiterate –Primary school	21	4.4 %
Secondary school	18	3.8 %
Lyceum	132	27.5 %
Higher education (students or graduates)	308	64,2 %
Occupation		
Student	66	13.8 %
Unemployed	39	8.1 %
Private employee	114	23.8 %
Civil Servant	146	30.4 %
Businessman-Farmer	69	14.4 %
Pensioner	22	4.6 %
Housewife	17	3.5 %
Type of stressor		
Problems with primary support group	137	28.4 %
Problems related to the social environment	71	14.7 %
Educational problems	14	2.9 %
Occupational problems	97	20.1 %

Housing problems	3	0.6 %
Economic problems	59	12.2 %
Problems with access to healthcare	0	0 %
Problems related to interaction with the legal system/crime	3	0.6 %
Health problem of the respondent	74	15.4 %
Mental health problem of the respondent	22	4.6 %
Other psychosocial and environmental problems	2	0.4 %

Measures

Coping Strategy Indicator (CSI)

CSI is the only coping questionnaire that was wholly empirically derived. It first requests demographic information and then asks the participants to describe a recent (within the previous six months) stressful event. It consists of 33 items divided in three scales: 1) Problem Solving (i.e. "Rearranged things around you so that your problem had the best chance of being resolved"), 2) Seeking Social Support (i.e. "Let your feelings out to a friend") and 3) Avoidance (i.e. "Tried to distract yourself from the problem"). Responses are indicated by means of a three point scale: a lot (3), a little (2), or not at all (1). There is a total score for each scale and the higher score indicates greater use of the corresponding coping strategy [53].

The questionnaire has been translated into many languages (Spanish, French, Chinese, Korean, Czech etc) and some studies support a clear three-dimensional structure similar to the original validation [56-58]. However, another study by Ager and MacLachlan proposed a four-factor model involving the bipartition of the Avoidance factor (Avoidance-Withdrawal, Avoidance-Distraction) [59]. This division was also evident in the original validation but was rejected [53].

The CSI is psychometrically superior to other coping questionnaires and its psychometric properties are satisfactory [60]. The Greek version of the instrument consists of 31 items di-

vided in four scales (Problem Solving, Seeking Social Support, Avoidance-Distraction, Avoidance-Withdrawal) and has satisfactory psychometric properties [61]. Avoidance-Withdrawal scale consists of items referring to isolation, wishful thinking or daydreaming. In this study this version was used and Cronbach's α ranged from .632 to .948 for all four CSI scales (Problem Solving=.948, Seeking Social Support=.902, Avoidance-Distraction=.723, Avoidance-Withdrawal=.632).

In the original validation the reported problems were grouped in four categories (work/school related, interpersonal, personal change, fate events) but in the Greek adaptation they were grouped according to DSM-IV-TR classification (AXIS IV "Psychosocial and Environmental Problems") [62]. In this study two more categories (health problem of the respondent-mental health problem of the respondent) were added in this classification in order to represent more accurately the reported problems.

Multidimensional Scale of Perceived Social Support (MSPSS)

It consists of 12 items and measures perceptions of support from 3 sources: Family, i.e. "My family really tries to help me", Friends, i.e. "My friends really try to help me" and Significant Other, i.e. "There is a special person who is around when I am in need" [54]. A seven-point Likert scale is used for the rating and the total score is the sum of all items divided by 12. The higher score indicates greater level of perceived social support. There is also a mean score for each subscale.

The questionnaire has been translated into many languages and has been shown to have good to excellent psychometric properties [54,63]. In this study, the Greek translation of MSPSS was used and Cronbach's α was equal to .915 [65].

General Health Questionnaire-28 (GHQ-28)

It is used to detect possible psychological disorder [55]. It is not designed to detect chronic mental health conditions. It consists of 28 questions divided in four subscales: Somatic symptoms (i.e. "Have you recently been feeling perfectly well and in good health?"), Anxiety/insomnia (i.e. "Have you recently lost much sleep over worry?"), Social dysfunction (i.e. "Have you recently been managing to

keep yourself busy and occupied?"), Severe depression (i.e. "Have you recently felt that life is entirely hopeless?"). The total score ranges from 0 to 84 and higher scores indicate a greater possibility of psychological distress (Goldberg & Hillier, 1979). There is also a score for every subscale. The GHQ-28 has high test-retest reliability and construct validity [66]. In the present study the Greek version of the questionnaire was used and Cronbach's α was equal to .911 [67].

Data analysis

The statistical program SPSS 21.0 was used for the analysis of data. The analysis included at first the descriptive statistics. Statistically significant differences between two variables were checked by t-test for independent samples, while statistically significant differences between more groups were checked by ANOVA. Pearson's correlation coefficient (r) was used for the investigation of linear correlation among quantitative variables. The statistical significance (p -value) was set to 5%.

Results

At first, two of the authors of this study worked independently and grouped the reported problems in these categories. Finally, the degree of their agreement was examined by Kappa coefficient. Its value was equal to 0.911 ($p < 0.001$) indicating high agreement.

Men reported more frequently problems with primary support group (25.8 %), occupational problems (20.8 %), economic problems (17.4 %), health problems (15.2 %) and problems related to the social environment (11.2 %) etc. On the other hand, women reported more frequently problems with primary support group (29.9 %), occupational problems (19.7 %), problems related to the social environment (16.8 %), health problems (15.5 %) and economic problems (9.2 %).

Descriptive Statistics for the CSI, MSPSS and GHQ-28 are presented in table 2.

Table 2. Descriptive Statistics for the Coping Strategy Indicator, Multidimensional Scale of Perceived Social Support

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(MSPSS) and General Health Questionnaire-28 (GHQ-28)

	Mean	SD	Minimum	Maximum	Range
Coping Strategy Indicator					
Problem Solving scale	23.60	7.37	11	33	22
Seeking Social Support scale	23.33	6.15	11	33	22
Avoidance Distraction scale	9.82	2.81	5	15	10
Avoidance Withdrawal scale	8.45	2.23	4	12	8
Multidimensional Scale of Perceived Social Support (MSPSS)					
Total score	67.79	11.61	18	84	66
"Family" subscale	5.69	1.23	1	7	6
"Friends" subscale	5.34	1.24	1	7	6
"Significant Other" subscale	5.91	1.09	1.25	7	5.75
General Health Questionnaire-28 (GHQ-28)					
Total score	23.71	12.71	0	80	80
"Somatic symptoms" subscale	6.51	4.28	0	21	21
"Anxiety/insomnia" subscale	7.68	4.64	0	21	21
"Social dysfunction" subscale	6.86	3.19	0	20	20
"Severe depression" subscale	2.79	3.76	0	21	21

Table 3 and 4 present the scores of CSI and GHQ-28 questionnaires in relation to gender, age group, level of education and type of stressor.

Table 3. Scoring of CSI scales in relation to gender, age group, level of education and type of stressor.

	n	Problem Solving	Seeking Social Support	Avoidance-Distraction	t
Gender					
Men	178	23.91	22.88	9.62	8.43
Women	304	23.42	23.59	9.94	8.47
p		NS	NS	NS	NS
Age group					
≤25 years	110	23.24	24.27	9.89	7.97
26-35 years	101	25.38	24.55	9.54	8.89
36-45 years	97	23.23	22.89	10	8.86
46-55 years	126	23.19	22.04	10.02	8.30

>55 years	45	23.16	23.00	9.24	8.36
p		NS	0.015	NS	0.012
Level of education					
Illiterate –Primary school	21	25.16	22.50	8.48	8.40
Secondary school	18	25.19	20.89	8.72	8.76
Lyceum	132	23.45	23.38	9.76	8.39
Higher education (students or graduates)	308	23.48	23.51	10.04	8.47
p		NS	NS	NS	NS
Type of stressor					
Problems with primary support group	137	23.57	23.23	9.86	8.65
Problems related to the social environment	71	24.22	24.26	9.96	8.22
Educational problems	14	18.79	21.71	11.46	8.14
Occupational problems	97	22.95	22.78	9.93	8.27
Housing problems	3	17.50	25.00	15.00	10.00
Economic problems	59	23.87	23.51	9.69	8.43
Problems with access to health care	0	0	0	0	0
Problems related to interaction with the legal system/crime	3	19.33	22.00	10.33	7.0
Health problem of the Respondent	74	24.97	23.46	9.15	8.59
Mental health problem of the Respondent	22	24.67	24.19	9.64	8.91
Other psychosocial and environmental problems	2	14.50	16.50	13.00	6.00
p		NS	NS	NS	NS

Note: NS=No significant

As for the CSI scales, the results were:

The effect of *age group* was found to be statistically significant in Seeking Social Support ($F_{4, 462}=3.112, p=0.015$) and in Avoidance-Withdrawal ($F_{4, 467}=3.265, p=0.012$) scales. Participants who were 26-35 years old had significantly higher score than participants who were 46-55 years old in Seeking Social Support. Moreover participants who were ≤25 years old had significantly lower score than participants who were 26-35 years old and 36-45 years old in Avoidance-withdrawal scale.

Table 4. Scoring of GHQ-28 in relation to gender, age group, level of education and type of stressor.

	n	Totalscore	Somaticsymptoms	Anxiety/insomnia	Social dysfunction	Severedepression
Gender						
Men	178	22.47	5.78	6.95	6.98	2.85
Women	304	24.46	6.94	8.12	6.80	2.75
p		NS	0.004	0.008	NS	NS
Age group						
≤25 years	110	27.08	7.03	8.96	7.05	3.96
26-35 years	101	21.71	6.17	6.94	6.51	2.04
36-45 years	97	22.95	6.64	7.65	6.86	2.30
46-55 years	126	23.39	6.48	7.42	6.79	2.79
>55 years	45	22.05	5.76	7.09	7.30	2.36
p		0.021	NS	0.016	NS	0.001
Level of education						
Illiterate –Primary school	21	30.35	8.43	10.10	7.29	4.48
Secondary school	18	23.53	5.18	7.11	6.61	4.33
Lyceum	132	25.37	7.18	8.64	6.54	3.09
Higher education (students Or graduates)	308	22.59	6.15	7.14	6.99	2.46
p		0.018	NS	0.001	NS	NS
Type of stressor						
Problems with primary support group	137	24.04	6.62	7.53	6.96	2.95
Problems related to the social environment	71	21.49	6.11	7.03	6.66	2.00
Educational problems	14	24.92	4.86	8.31	7.79	4.14
Occupational problems	97	23.43	6.74	7.40	6.85	2.57
Housing problems	3	19.67	5.67	7.33	5.67	1.00
Economic problems	59	21.46	5.58	7.98	6.10	2.37
Problems with access to health care	0	0	0	0	0	0
Problemsrelatedtointeractionwiththelagalsystem/crime	3	24.67	7.33	7.67	8.00	1.67
Health problem of the Respondent	74	24.47	6.84	7.72	7.15	2.77
Mental health problem of the Respondent	22	33.05	8.59	10.59	7.91	5.95
Other psychosocial and environmental problems	2	20.50	5.50	9.50	2.50	3.00
p		NS	NS	NS	NS	0.006

Note: NS=No significant

There were not found significant differences between the type of stressors in the CSI scales score. It seems that type of stressor does not affect the selection and use of a certain coping strategy and people use a certain coping strategy regardless of the problem that they have to cope with.

Concerning the GHQ-28, the following significant results were found:

The effect of *gender* was found to be statistically significant in Somatic symptoms ($t=-2.875$, $df=476$, $p=0.004$) and in Anxiety/Insomnia ($t=-2.667$, $df=474$, $p=0.007$) subscales. Women had significantly higher score than men in these subscales.

The effect of *age group* was found to be statistically significant in total score or GHQ-28 ($F_{4,462}=2.907, p=0.021$) and in Severe Depression ($F_{4,474}=4.512, p=0.001$) and Anxiety/Insomnia ($F_{4,468}=3.092, p=0.016$) subscales. Participants who were ≤ 25 years old had significantly higher score in GHQ-28 and in Anxiety/Insomnia subscale than participants who were 26-35 years old. Moreover participants who were ≤ 25 years old had significantly higher score in Severe Depression subscale than participants who were 26-35 and 36-45 years old.

The effect of *level of education* was found to be statistically significant in total score of GHQ-28 ($F_{3,464}=3.382, p=0.018$) and in Anxiety/Insomnia subscale ($F_{3,470}=5.277, p=0.001$). Participants who were illiterate or graduates of primary school had significantly higher score in GHQ-28 and in Anxiety/Insomnia subscale than participants who were students or graduates of higher education.

The effect of *type of stressor* was found to be statistically significant in severe depression subscale score ($F_{9,472}=2.603, p=0.006$). Participants who reported mental health problems had significantly higher score in this subscale than participants who reported problems with primary support group, problems related to the social environment, occupational problems, economic problems and health problems.

Age correlated significantly only with one of the CSI scales (Seeking Social Support, $r=-.129, p<0.05$) and with anxiety ($r=-.091, p<0.05$) and depression ($r=-.094, p<0.05$) subscales of the GHQ-28. Positive significant correlations were observed between Avoidance-Withdrawal scale and GHQ-28 (and somatic symptoms, anxiety/insomnia and social dysfunction subscales). There was also a positive significant correlation between Seeking Social Support Scale and Friends and Significant Other subscales of the MSPSS. In Table 5 are presented the correlations between the CSI scales and MSPSS and GHQ-28. MSPSS total score was negatively correlated with GHQ-28 score. There were also significant negative correlations between all MSPSS subscales with all GHQ-28 subscales. These correlations are presented in table 6.

Table 5. Correlations between the CSI scales and MSPSS and GHQ-28.

	CSI			
	Problem Solving	Seeking Social Support	Avoidance Distraction	Avoidance Withdrawal
Multidimensional Scale of Perceived Social Support (MSPSS)				
Total score	-.031	.042	.027	-.013
"Friends" subscale	-.030	.092*	-.018	-.020
"Family" subscale	-.076	-.075	.052	-.049
"SignificantOther" subscale	.035	.095*	.013	.029
General Health Questionnaire-28 (GHQ-28)				
Total score	.015	.032	-.026	.117*
"Somatic symptoms" subscale	.019	.008	-.065	.102*
"Anxiety/insomnia" subscale	.031	.027	-.022	.108*
"Social dysfunction" subscale	.000	.053	.015	.097*
"Severe depression" subscale	-.020	.009	.030	.055

Note: * $p<0.05$, ** <0.01

Table 6. Correlations between MSPSS and GHQ-28.

	GHQ-28				
	Totalscore	Somatic symptoms	Anxiety/insomnia	Social dysfunction	Severe depression
Multidimensional Scale of Perceived Social Support (MSPSS)					
Total score	-.283**	-.181**	-.195**	-.173**	-.339**
"Friends"	-.236**	-.159**	-.186**	-.138**	-.280**
"Family"	-.230**	-.148**	-.152**	-.142**	-.269**
"SignificantOther"	-.245**	-.142**	-.161**	-.134**	-.311**

Note: ** <0.01

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Discussion

This study was conducted in order to evaluate the relationship between coping strategies, perceived social support and mental health in psychosocial and environmental problems. The basic result was that Avoidance-Withdrawal coping strategy (i.e. isolation, wishful thinking, daydreaming) is positively correlated to mental health problems in general population. The results reveal that individuals who use this coping strategy in order to cope with stressors present poor mental health and have mental health problems (especially anxiety/insomnia and somatic symptoms) and social dysfunction. But no significant correlation was found between the Avoidance-Distraction and mental health problems. Furthermore, no significant correlation was found between avoidance-distraction and avoidance-withdrawal strategies and depression, contrary to the results of another study, in which avoidant copers reported the most symptoms of depression [15]. These findings are consistent with the results of other studies, in which was found that avoidant-coping styles are associated with outcomes that are negative and partially confirm the hypothesis 3 that Avoidance coping strategy is negatively associated with mental health [13,14].

Perceived social support was negatively correlated with mental health problems. This result confirms Hypotheses 4 and is consistent with previous relative studies, which have demonstrated that low social support is one of the predictors of psychological problems and is associated with depression, anxiety, social problems and somatic complaints and adequate social support plays a preventive role between symptoms and stressors [43-45].

Although problem solving has been found to play role in adaptive responses to stress and is negatively associated with depression, in this study the Problem Solving strategy was not significantly correlated with mental health and Hypothesis 1 was not confirmed [17, 18]. A similar result was found by Togas & Alexias [61].

There were not found significant differences between the type of stressors in all CSI scales score. It seems that the type of stressor does not affect the selection and use of a certain coping strategy. That is, people use a certain coping strategy regardless of the

problem that they have to cope with. Similar results were found by Togas & Alexias [61]. In the original validation of the CSI, the type of stressor was examined as a dependent variable and only sex influenced the reporting stressor, men mentioning more work-related and women more interpersonal problems [53].

Contrary to previous research data, there were not found significant differences between men and women in coping strategies in this study [8,24]. Age correlated significantly only with Seeking Social Support coping strategy. In contrast to these findings, a positive correlation between age and Problem Solving scale and a negative one between age and Avoidance-Distraction scale was found by Togas & Alexias [61]. A significant negative correlation between age and Seeking Social Support was found in other studies, too [59,61]. On the other side, age had no effect in other studies or a very limited effect in a Flemish sample [8,28,30,53,58]. Moreover, in this study there was not significant correlation between age and avoidance coping strategies, as it was found by Aldwin [29].

Although most studies have shown that older adults differ little from younger adults in their approaches to coping with stress, in this study the effect of age group was found to be statistically significant in Seeking Social Support and Avoidance-withdrawal coping strategies [29]. Younger participants used more frequently seeking social support and less frequently Avoidance-withdrawal strategy than older adult participants. Similarly, younger participants presented more mental health problems (Severe Depression, Anxiety/Insomnia etc.) than older adult participants (26-35 and 36-45 years old). However, different results are reported by Aldwin, Sutton, Chiara & Spiro, who found that there are no age differences in perceived stressfulness of the problem or coping efficacy [27]. There were not significant differences in coping strategies associated with the level of education of the respondents and this finding coincides with previous research data [24].

There was also a positive correlation between Seeking Social Support and Friends and Significant Other subscales of the MSPSS. That is, perceived social support from friends and significant other persons is associated with seeking social support as a way of coping with different stressors. Consequently, Hypothesis 2 was partially confirmed. A similar correlation is reported by Togas

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& Alexias, too [61]. Similar results were found by Zabalegui, Cabrera, Navarro & Cebria, who found a significant positive correlation between perceived social support and seeking and using social support in advanced cancer patients [68].

In this study men reported more frequently problems with primary support group and occupational and economic problems and women problems with primary support group and occupational problems and problems related to the social environment. In the same way, men reported more work-related and women more interpersonal problems in the original validation of the Coping Strategy Indicator [53].

Concerning the GHQ-28, the effect of type of stressor was found to be statistically significant in severe depression and participants who reported mental health problems had significantly higher score than participants who reported problems with primary support group, problems related to the social environment, occupational problems, economic problems and health problems.

Women had significantly higher score than men in the somatic symptoms and in Anxiety/Insomnia (but not in depression and social dysfunction). This finding is partially consistent with the data presented by other scholars (i.e. Afifi) who report that women are more likely to experience anxiety disorders and depression than men [47]. The effect of level of education was found to be statistically significant in total score of GHQ-28 and in Anxiety/Insomnia subscale and participants who were illiterate or graduates of primary school had significantly higher score than participants who were students or graduates of higher education. Consistently with the findings of other studies, participants who were illiterate or graduates of primary school had significantly higher score in GHQ-28 and in Anxiety/Insomnia subscale than participants who were students or graduates of higher education. But no differences were found in depression [48].

There was a significant negative correlation between age and anxiety and depression subscales of the GHQ-28. In addition, younger participants (≤ 25 years old) had significantly higher score in these subscales than older adult participants. Similar findings were found by Lawton, Kleban & Dean, who reported a negative linear relationship between age and depressive symptoms [50].

In conclusion, the present study showed that avoidance-withdrawal coping strategy and low perceived social support are predictors of psychological problems and are associated with anxiety/insomnia, social dysfunction, somatic symptoms and depression in general population. Furthermore, there are differences in coping strategies associated with age, age group, gender and in mental health problems associated with age group, gender, educational level and type of stressor.

The advantages of this study include the examination of an original topic, that is, coping strategies in relationship to different psychosocial problems. In addition, the study had an adequate sample and participants completed standardized questionnaires with satisfactory psychometric properties. As for the limitations, it must be highlighted that this is a cross-sectional study, in which it is not possible to support causal relations and therefore the generalization of the derived conclusions requires special consideration. Another limitation is the great percentage of higher education participants (students or graduates) in the sample.

Regarding the extension of the research results in clinical application, the reduction of using avoidance-withdrawal coping strategy and the development of perceived social support from the family, the friends and the significant others can contribute to recession of mental health symptoms and to promote mental health and improve an individual's wellbeing. Therefore, it is easier for mental health professionals to identify the most vulnerable people and to implement various interventions, in order to promote one's mental health.

Future research is suggested, so that further investigation and clarification of the study's results is possible. Similar research can be conducted with different research designs (i.e. prospective studies) and with larger sample both from general and clinical populations.

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