J. Behav. Ther. & Exp. Psychiat. 42 (2011) 163–170

Contents lists available at ScienceDirect

Journal of Behavior Therapy and Experimental Psychiatry

journal homepage: www.elsevier.com/locate/jbtep

Coping and experiential avoidance: Unique or overlapping constructs?

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ARTICLE INFO

Article history:
Received 19 February 2010
Received in revised form
27 September 2010
Accepted 20 October 2010

Keywords:
Experiential avoidance
Coping
Emotion regulation
Perceived stress
Quality of life
Gender differences

ABSTRACT

The present study examined associations between coping as measured by the Brief COPE and experiential avoidance as measured by the AAQ-II and the role of both constructs in predicting psychological distress and well-being. Specifically, associations between experiential avoidance and other types of coping were examined, and factor analysis addressed the question of whether experiential avoidance is part of coping or a related but independent construct. Results showed that experiential avoidance loads on the same factor as other emotion-focused and avoidant types of coping. The higher people are in experiential avoidance, the more they tend to utilize these types of coping strategies. Both experiential avoidance and coping predicted psychological distress and well-being, with most variance explained by coping but some additional variance explained by experiential avoidance. ANOVAS also showed gender differences in experiential avoidance and coping approaches. Results are discussed in light of previous relevant findings and future treatment relevant implications.

The construct of coping was introduced by Lazarus (1966) and refers to the way an organism approaches and responds to stressful situations. Coping can be of critical importance to physical and psychological health and well-being (Miller, Brody, & Summerton, 1988) since it is not just the magnitude of the stressor but also the response of the organism that determine future psychological and physical outcomes.

Following the approach of Folkman and Lazarus (1980), several theorists proposed the existence of two major ways of coping: *Problem focused coping*, involves an active response, which includes solving the problem, managing or changing the situation and seeking information, seeking instrumental help, planning and direct action. *Emotion focused coping*, on the other hand, refers to attempts to manage the *emotions* created by the stressful event, through emotion oriented reactions such as minimizing, distancing, self control, seeking social support, avoidance, self-blame, venting, and positive reappraisal (Felsten, 1998; Folkman, Lazarus, Gruen, & DeLongis, 1986). Carver, Scheier, and Weintraub (1989) suggested that a third dimension, namely *Avoidance-focused coping* is also theoretically important, and includes approaches previously considered as emotion-focused (Schwartzer & Schwartzer, 1996) such as actions and cognitive changes meant to avoid a stressful situation (Endler, 1997; Endler & Parker, 1994) or to dampen the thoughts and emotions associated with it. This dimension includes approaches like venting, distraction, denial, behavioral and mental disengagement, and alcohol and drug use (Carver et al., 1989; Felsten, 1998; Gutiérrez, Peri, Torres, Caseras, & Valdés, 2007; Litman, 2006; Zuckerman & Gagne, 2003).

Carver and Sheier's (1981) self-regulation theory, led to the development of the COPE instrument and its shorter version, the Brief COPE, (Carver et al., 1993), which view coping as part of the individual's attempt to make decisions and act upon them in ways that reduce the gap between actual and desired outcomes. People use well-rehearsed or new coping strategies that they perceive to be effective for them in the situation, consistent to their interpretation of the experience. The role of interpretation in this theory is consistent with the secondary appraisal process as proposed by Lazarus (1966). The strategies vary between individuals as well as within the individual, at different stages of the experience and in different situations (Johnson, 1999). Therefore, coping is determined by a trait-like tendency (also associated with personality; Kapsou, Panayiotou, Kokkinos, & Demetriou, in press) to respond in situations in a particular style, in addition to the interpretation of the specific stressful event.

Although coping approaches vary depending on the situation, some are more adaptive than others and when a person relies longitudinally on maladaptive approaches the risks for toxic psychological and physical outcomes are increased. Adaptive coping includes strategies that can lead to goal achievement, subjective well-being, or lower emotional distress (Folkman & Moskowitz, 2004; Lazarus, 1991). There is substantial evidence that problem-focused or approach coping, and seeking social

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0005-7916/$ – see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.jbtep.2010.10.002

support are related to positive health outcomes and increased well-being (Kneebone & Martin, 2003; Wodka & Barakat, 2007), while other types of emotion-focused and avoidance coping are considered less adaptive (Penley, Tomaka, & Wiebe, 2002), and are associated with depression, smoking, and panic attacks (Haaga, Thorndike, Friedman-Wheeler, Pearlman, & Wernicke, 2004; Ottenbreit & Domson, 2004). We should note that social support seeking is sometimes found to be an adaptive strategy and sometimes maladaptive, something which may depend on whether support seeking serves problem solving functions or is a mere way of avoiding the situation.

These findings are further verified by clinical research as well. Studies coming from the area of acceptance and commitment therapy suggests that although it is at times adaptive to avoid confrontation with intense emotion or to express it, for example during the early stages of intense trauma, excessive, or needless emotion regulation and high experiential or emotional avoidance in association with inflexibility in a person's behavioural repertoire may contribute to the development of various forms of psychopathology (Amstadter, 2008; Hayes, 2004; Kashdan, Barrios, Forsyth, & Steger, 2006). Experiential avoidance is described as a tendency to engage in behaviors that alter the frequency, duration or form of unwanted private events (i.e. thoughts, feelings, physiological events, and memories and the situations that occasion them, Hayes, 1994; Hayes & Gifford, 1996; Hayes, Strosahl, & Wilson, 1999; Karekla, Forsyth, & Kelly, 2004). It is also defined as the opposite of experiential acceptance or flexibility, which "involves experiencing events fully and without defense… and involves making contact with the automatic or direct stimulus functions of events, without acting to reduce or manipulate those functions" (Hayes, 1994, p. 30). Although the process of experiential avoidance (EA) described by this literature looks remarkably like the avoidant coping strategies described by the coping literature, EA has never been described as a form of coping and has never been related to this specific literature before. The extant coping models (e.g. Carver & Scheier, 1981; Folkman & Lazarus, 1980) describe a breadth of coping strategies including avoidance, but the need for the construct of EA seems to have arisen following the acknowledgement of the importance of interoceptive (i.e. to internal sensations) exposure in the treatment of panic and anxiety disorders and the fact that exposure to only external factors was therapeutically insufficient (Barlow, 2001). Though coping models include the broader concept of avoidance and factors (e.g. mental disengagement, denial) that can be thought of as experiential avoidance, to date these factors have not been clustered together or investigated as experiential avoidance coping strategies (i.e. with an emphasis on internally focused events) as such. Therefore, it is of paramount importance to investigate whether EA is already subsumed within the more traditional coping models or whether it is a separate construct that contributes unique variance to coping models of psychopathology and health.

Moreover, researchers in the EA domain propose that the toxicity presented by experiential avoidance may be a result of the inflexibility with which it is used and the insensitivity as to the context to which it is applied and not necessarily that it is utilized by an individual (Bonanno, Papa, LaLande, Westphal, & Coifman, 2004; Kashdan et al., 2006). For example, individuals who exhibit EA may be more prone to rely on specific coping strategies (e.g. denial) in all contexts irrespective of the functionality of utilizing these strategies and what the outcome may be in regards to their well-being or whether they will live a valued life. In contrast, individuals who exhibit more acceptance of their experiential world may be more likely to utilize a variety of coping methods and self-regulatory strategies, and their choice of a strategy may be more dependent on the contextual demands at hand. In addition, according to Kashdan et al. (2006) what becomes maladaptive is the enormous allocation of resources to the process of EA itself, rather than to the specific emotional content or problem at hand. The paradoxical outcome of such systematic striving to dampen and avoid emotion is oftentimes an exaggeration and increase in frequency of distressing thoughts and feelings (Gross, 2002).

Differences in coping strategies and tendency toward experiential avoidance may also partly account for the gender differences reported for various physical and psychological symptoms, since women may be more likely than men to employ emotion-focused and avoidance coping (Eaton & Bradley, 2008; Hall, Chipperfield, Perry, Ruthig, & Goetz, 2006; Matud, 2004; Tamres, Janicki, & Helgeson, 2002). For example, when it comes to the almost double rates of depression among females, these have been attributed to a ruminative, introspective style among women who tend to analyze the problem and maximize negative affect by focusing on it, rather than look for practical, active solutions, like men would tend to do. This tendency in turn may reinforce a self-perception of helplessness and incompetence that worsens depression (Nolen-Hoeksema, Larson, & Grayson, 1999) among females. However, it would be important to document additionally the existence of any gender differences in experiential avoidance specifically since no prior published research, to our knowledge, exists in this area. It would be of interest in this domain of research to begin to examine differences between men and women and how these compare to rumination and other emotion-focused coping styles. In this context it would be of value to start by assessing the associations between EA and other coping styles that men vs. women primarily rely on and extensions of these associations to psychopathology, as we begin to do in the present paper.

Although the coping literature suggests that emotion-focused coping in general is maladaptive, the EA literature makes an attempt to break down the toxic components of EA strategies in order to identify particularly pathogenic aspects. According to Kashdan et al. (2006) experiential avoidance coping includes instances of attempts to escape the stressful event, detachment from the situation and inhibited expression of emotions as well as inflexibility and a sense of uncontrollability. These largely resemble and appear reminiscent of the coping styles that coping researchers have traditionally seen as maladaptive, especially those involving avoidance, but interestingly not the approaches that might exaggerate or express affect (e.g. venting or seeking emotional support). Somewhat controversial is the role of the latter strategy, which has been found to be related to positive health outcomes but is included among the emotion-focused strategies by coping researchers. Also, both the suppression and ventilation of anger and hostility have been associated with poor health outcomes and further exacerbation of anger (Bushman, 2002; Thomas, 1997). Bringing the two literatures together, it would be of scientific value to further investigate and clarify which aspects of emotion-focused coping are indeed maladaptive by examining their associations with EA and psychological distress.

The purpose of the present study was to examine and clarify these associations and specifically how high and low EA relate to ways of coping as measured by the Brief COPE. We expect that as individuals report higher EA will also tend to report that they utilize more emotion-focused coping strategies (i.e. ways of addressing their emotional experiences themselves rather than the problem at hand) such as distraction, denial, behavioral disengagement, and alcohol and drug use, compared to those lower in EA. The study further examines the question as to whether experiential avoidance is a construct related to but independent of coping, or if it constitutes a subgroup of known coping strategies using Exploratory Factor Analysis. Next, the study attempts to predict psychological distress and well-being from coping and experiential avoidance in

order to address the question of whether experiential avoidance as measured by widely used instruments explains additional variance in relation to coping strategies as measured by the Brief COPE. Finally, gender differences in experiential avoidance and coping and the role of these differences in explaining gender differences in psychological distress and quality of life (QofL) are addressed. Specifically it was hypothesized that a) individuals high in experiential avoidance will tend to use more avoidant and emotion-focused strategies, b) that experiential avoidance would load on similar factors with avoidant and/or emotion-focused ways of coping, c) that both emotion-focused coping and experiential avoidance would be positively related to psychological distress and negatively to quality of life. Given the absence of prior knowledge, no specific hypotheses could be stated as to whether experiential avoidance explains additional variance in these psychological outcome measures to that explained by maladaptive coping strategies alone. Although EA has not been specifically examined between genders, based on the findings of the coping and related literatures, might lead one to predict that women will score higher on the EA measure compared to men. These hypotheses in tandem will provide evidence as to the associations between emotional avoidance and other forms of coping styles.

1. Method

1.1. Participants

Participants were 197 Greek Cypriot adults, (126 female, M age = 44.29), recruited as part of an epidemiological study on anxiety disorders in Cyprus. They were selected from telephone directories, based on a stratified sampling approach, from the 5 districts under the control of the Republic of Cyprus, so that numbers would be representative of the geographic distribution of the population and genders and age groups would be about equally represented. Scores on the Perceived Stress Scale were used to evaluate whether there was a self-selection bias for participation in the study (of Anxiety and Stress) for highly stressed individuals. The distribution of scores ($M = 13.68$, $SD = 5.81$, range of scores = 0–31) suggest that for this sample of participants, mean scores are similar to a community sample of US adults ($M = 13.02$; $SD = 6.35$; Cohen & Williamson, 1988) and between scores found for a low stress group ($M = 7.20$, $SD = 2.20$; Van Eck, Berkhof, Nicolson, & Sulon, 1996) and a high stress group ($M = 18.10$, $SD = 3.40$), and also lower than those found with breast cancer patients ($M = 17.55$, $SD = 6.72$; Golden-Kreutz, Browne, Frierson, & Andersen, 2004). Therefore, the sample is a randomly selected community group, representative of the general population and not selected on the basis of clinical criteria.

1.2. Measures

The questionnaire package included among other measures the AAQ-II (Bond et al, submitted for publication) and the Brief COPE (Carver, 1997). The Brief COPE (Carver, 1997) is a 28-item measure of strategies used by individuals to cope with problems and stress. The items measure 14 coping approaches with 2 items each, answered on a four point Likert-type scale ranging from "not at all" to "very much". The 14 scales are namely, acceptance, active coping, positive reframing, planning, use of instrumental support, use of emotional support, behavioral disengagement, self-distraction, self-blame, humor, denial, religion, venting, and substance use (Carver, 1997; Muller & Spitz, 2003). The Greek version of the Brief COPE was adapted following permission by the author, using the method of front and back translation by two bilingual psychologists. Factor analytic studies have demonstrated that broader dimensions of coping also emerge from the Brief COPE (see Kapsou et al., 2010, for a review of the relevant literature), including *active/positive* coping, *seeking support* and *avoidance/disengagement* (example of an avoidance item is: I've been refusing to believe this can happen; and of a problem-focused item is: I've been trying to come up with a strategy about what to do). The Greek adaptation of the Brief COPE yields 8 factors (Kapsou et al., 2010), which include the above 3, a fourth one, termed *expression of negative feelings*, which includes venting and self-blame, and 4 one-scale dimensions, namely behavioral disengagement, substance use, religion and humor. For purposes of this study, both the 14 dimensions and the 4 broader factors were included in analyses.

The AAQ-II (Bond et al, submitted for publication) is a 10-item measure of experiential avoidance and psychological flexibility (e.g. Emotions cause problems in my life) rated on a 7 point Likert-type scale. Scores range between 10 and 70, with higher scores indicating more psychological flexibility and lower scores indicating more experiential avoidance. As hypothesized by the authors of the AAQ, psychological flexibility reflects openness to experiencing whatever internal events are there to be experienced and accordingly being able to act and engage in one's life. Whereas, experiential avoidance reflects attempts at avoiding such internal experiences, especially those considered as negative, and at the same time using avoidance inflexibly in multiple contexts perceived as negative. Based on findings across seven samples totaling 3280 participants (Bond et al., submitted for publication), the AAQ-II appears to have adequate structure, reliability (Mean alpha = .83; test-retest reliability for computer sample for 3 months = .80 and for 1 year = .78) and validity. An investigation of the psychometric properties of the translations of AAQ-II across five European countries and languages (including the Greek translation of the AAQ-II) found that they present with good internal consistency (Cronbach's alpha greater than .80 in all cases and .84 for the Greek translation) and good test-retest reliability (overall $r = .84$; Monestes et al., 2009). Additionally the AAQ-II was found to correlate negatively with measures of depression and thought suppression and positively with measures of mindfulness (see Bond et al., submitted for publication and Monestes et al., 2009). It is important to note that the AAQ was not developed as a coping measure but more as a measure of the dispositional tendency to use EA. In this way, it may be thought of as similar to the Brief Cope which assesses coping strategies in a more trait-like fashion.

The Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983) measures an individual's appraisal of how stressful situations in their life are (i.e. how unpredictable, uncontrollable, and overloading) on a five-point Likert-type scale (e.g. In the last month, how often have you felt nervous and "stressed"). Total scores on the PSS-10 range from 0 to 40, with higher scores indicating greater overall distress. The instrument demonstrated adequate psychometric properties in numerous studies. Cronbach's alpha reliability coefficients are found to range between .86 and .92 (Cole, 1999). The PSS-10 was translated into Greek using the front and back translation method by researchers fluent in both the Greek and English languages. A psychometric evaluation of this Greek version of the PSS-10 is currently underway. For the current sample, Cronbach's alpha was .82.

The World Health Organization Quality of Life Instrument, Short-Form (WHOQOL-BREF; WHOQOL Group; see Harper & Power, 1998; and Skevington, Lotfy, & O'Connell, 2004) is a 26 item measure and assesses QofL (degree of satisfaction with) across four specific domains: physical capacity (e.g. "Do you have enough energy for everyday life? "), psychological health (e.g. "To what extent do you feel your life to be meaningful?"), social relationships (e.g. "How satisfied are you with the support you get from your friends?"), and environment (e.g. "How healthy is your physical

environment?"). It also includes facets of the overall quality of life and satisfaction with general health. Each item is rated on a 5-point Likert-type scale and scores are transformed on a scale from 0 to 100 to enable comparisons to be made between domains composed of unequal numbers of items. A higher score indicates better quality of life (QofL). This measure was previously successfully translated and adopted in Greek with good alpha reliability coefficients ranging between .66 and .84 (see Garyfallos et al., 1991; Ginieri-Coccossis, Triantafillou, Antonopoulou, & Christodoulou, 2001; Skevington et al., 2004).

1.3. Procedure

Permission from the National Bioethics committee of Cyprus was obtained for all aspects of the study. Participants were contacted over the phone by trained research assistants and those who met participation criteria and consented orally to take part were sent a packet of questionnaires by mail. Written informed consent was also included in the package. After completion, questionnaires were returned also by post in a pre-stamped envelope. A 30.8% return rate was achieved.

2. Results

2.1. Associations between coping approaches, distress and quality of life

Bivariate correlations were conducted between AAQ-II and the 14 subscales of the Brief COPE, and also with PSS-10 total scores and WHOQOL-BREF subscale scores (see Table 1). Results showed that EA was related at a medium strength correlation with several but not all types of coping: Specifically it significantly and negatively correlated with Self-distraction, Denial, Seeking Emotional Support, Behavioral Disengagement, Venting and Self-Blame. These results indicate that individuals higher in EA tend to rely more on the aforementioned types of coping. In terms of outcomes, higher EA was related to more perceived stress. Low EA was positively and significantly associated with Positive Reframing and all of the QofL subscales (physical, psychological, social and environmental), so that relying less on EA was associated with better QofL in all respects. Positive reframing was the only aspect of coping that was associated with better quality of life and less distress. All emotion-focused coping approaches, as seen in the Table, were associated negatively with QofL. Unexpectedly a very small negative correlation emerged between active coping and lower QofL in the social domain.

Table 1
Correlations between Brief Cope subscales and the AAQ-II, PSS-10 and WHOQOL-BREF subscales.

	AAQ-II total score	PSS-10 total score	1	2	3	4
COPE Subscales						
Self-Distraction	−.28**	.32**	−.22**	−.23**	−.24**	−.04
Active Coping	−.08	.26**	−.08	−.12	−.15*	−.06
Denial	−.34**	.35**	−.13	−.29**	−.10	−.13
Substance Use	.00	−.06	.05	.01	−.03	−.17*
Emotional Support	−.30**	.30**	−.16*	−.28**	−.17*	−.13
Instrumental Support	−.14	.19*	−.17*	−.21**	−.21**	−.05
Behavioral Disengagement	−.38**	.26**	−.22**	−.41**	−.29**	−.25**
Venting	−.22**	.30**	−.12	−.12	−.11	−.09
Positive Reframing	.25**	−.15*	.11	.29**	.21**	.23**
Planning	.03	−.01	.08	.09	.00	.12
Humor	−.00	.05	.00	−.04	−.09	.02
Acceptance	.11	−.02	.13	.09	.00	.12
Religion	−.1	.11	−.11	−.07	−.06	−.00
Self-Blame	−.29**	.29**	−.01	−.19*	−.06	−.05
AAQ-II		−.61**	.41**	.67**	.50**	.41**
PSS-10			−.35**	−.60**	−.45**	−.44**

Note: 1 = WHOQOL-BREF Physical subscale; 2 = WHOQOL-BREF Psychological subscale; 3 = WHOQOL-BREF Social subscale; 4 = WHOQOL-BREF Environmental subscale; **$p < .01$; *$p < .05$.

2.2. Exploratory factor analysis

To further examine how EA may fit within the broader frame of coping and behavioural repertoire exhibited by individuals when faced with stress, an exploratory factor analysis using principal axis factoring and promax rotation was used to reduce all items of the Brief COPE and AAQ together. All items were first converted to z-scores to account for the fact that they were answered on different Likert-scales. KMO was .76. The scree plot which is often considered the best method of factor selection (Costello & Osborne, 2005), indicated the presence of two main factors. The first factor (eigen value = 7.28) accounted 19.14% of the variance, whereas the second factor (eigen value = 4.71) accounted for 12.40% of the variance. All but two AAQ items loaded on the first factor. The two items that failed to load on this factor, but also did not load on any other meaningful factors were 1 ("Its OK if I remember something unpleasant") and 10 ("My thoughts and feelings do not get in the way of how I want to live my life"). The 8 AAQ items were accompanied on the first factor by both items from the Brief COPE scales of Emotional Support, Denial and Venting, and 1 of the 2 items from Self-Blame (item 13) and Self-Distraction (item 1). One item from Active Coping also loaded here (item 2). Factor 2 contained mostly active/positive coping items from the Brief COPE, namely the two items of the Positive Reframing, Planning and Acceptance scales, one item from Active coping (item 7) and 1 item from the Behavioral Disengagement (item 16) and Self-Blame (item 13) scales. The latter two mis-fitting items, however, also loaded with substantial cross-loading $> .30$ on Factor 1. Thus factor 1 represented emotion-focused coping and experiential avoidance and factor two represented positive/active coping. EFA factor loadings are not presented here due to space limitations; however they are available from the authors upon request.

To further examine convergent and discriminant validity, correlations between EA as it emerged on Factor 1 (only 8 items), Emotion-focused coping (all coping items that emerged on factor 1), Active-positive coping (all items that emerged on factor 2), and QofL domains were carried out. As expected high EA was related with poorer QofL in all domains (Physical domain: $r = -.37$, $p < .001$; Psychological: $r = -.67$, $p < .001$; Social: $r = -.52$, $p < .001$; Environmental: $r = -.37$, $p < .001$). Emotion-focused coping was similarly associated with poorer QofL in the Physical ($r = -.19$, $p < .05$), Psychological ($r = -.32$, $p < .001$), and Social ($r = -.20$, $p < .05$) domains. To the contrary, the Active-positive coping factor was associated with better well-being in the Psychological ($r = .15$, $p < .05$) and Environmental ($r = .20$, $p < .05$) domains only.

2.3. Gender differences in coping approaches and emotional avoidance

One-way ANOVAS were conducted with gender as the independent variable and the 14 coping styles measured by the Brief COPE and the total AAQ-II score as the dependent measures, in order to examine gender differences in coping approaches and emotional avoidance. Also, differences between men and women in psychological distress and QofL were examined. Results showed that women scored significantly higher than men in Denial, $F_{(1, 183)} = 5.18$, $p < .05$ (Males: $M = 3.45$, $SD = 1.33$; Females: $M = 4.01$, $SD = 1.73$), Seeking Emotional Support, $F_{(1, 183)} = 11.05$, $p < .01$

(Males: $M = 3.60$, $SD = 1.63$; Females: $M = 4.54$, $SD = 1.89$), Venting, $F_{(1, 183)} = 5.74$, $p < .05$ (Males: $M = 4.30$, $SD = 1.61$; Females: $M = 4.97$, $SD = 1.86$) and EA, $F_{(1, 196)} = 4.12$, $p < .05$ (Males: $M = 51.80$, $SD = 8.24$; Females: $M = 48.99$, $SD = 9.89$) while males scored significantly higher in Substance Use, $F_{(1, 183)} = 12.62$, $p < .01$ (Males: $M = 2.33$, $SD = .94$; Females: $M = 2.03$, $SD = .16$). Women also scored higher in perceived stress, $F_{(1, 171)} = 7.40$, $p < .05$ (Males: $M = 12.03$, $SD = 4.74$; Females: $M = 14.53$, $SD = 6.30$) and lower in psychological QofL, $F_{(1, 171)} = 4.47$, $p < .05$ (Males: $M = 74.58$, $SD = 12.40$; Females: $M = 69.35$, $SD = 17.12$). There were no sex differences in any of the other QofL subscales.

Regression analyses were conducted to examine if gender differences in distress and QofL subscales are accounted for in part by EA. A dummy variable was used to represent gender. Product terms were calculated between each gender and the mean centered score for EA, and these terms, in conjunction with their component parts, were included as separate predictors in the regression equation, following the strategy of Jaccard and Turrisi (2003). The overall adjusted squared multiple correlation for perceived stress was .37 ($F_{(3,184)} = 37.84$, $p < .001$) and for the psychological domain of QofL was .45 ($F_{(3,177)} = 50.86$, $p < .001$). The product term was not statistically significant for perceived stress ($\beta = .92$, $t = 1.15$, $p > .05$), or for the psychological domain of QofL ($\beta = .30$, $t = 1.45$, $p > .05$), indicating that the gender difference in perceived stress and in the psychological domain of QofL did not vary as a function of EA.

2.4. Prediction of psychological outcomes

To examine which coping styles predict perceived stress and also whether EA predicts additional variance compared to coping styles, a hierarchical linear regression was carried out with coping styles entered in step 1 of the regression and AAQ total score entered in step 2 (see Table 2). The problem of multicollinearity among the coping styles was examined first by scanning the correlation matrix of all the predictor variables and finding no correlations higher than .8 (correlation matrix available from the authors upon request). Then the variance inflation factor (VIF) was examined where none of the values were found to be higher than 10 (Myers, 1990). Also the tolerance statistic was calculated and none of the values were found to be below .2 (Menard, 1995). Therefore multicollinearity should be no cause of concern in the present regressions.

In step 1, Active Coping, Venting, Positive Reframing, Planning and Self-Blame were identified as predictors of higher perceived stress accounting for 40% of the variance. In step 2 (i.e. when EA was entered as a predictor as well), Active Coping, Venting, Planning, and AAQ-II total score were identified as predictors of higher perceived stress, whereas Positive Reframing and Self-blame ceased to be significant predictors of perceived stress. EA was found to have an additional significant contribution of 11% to the variance explained.

The same procedure was repeated with the same predictors entered into a hierarchical linear regression in the same fashion, but this time the QofL parameters were entered as dependent variables (see Tables 3 and 4). Regarding the physical subscale of the WHOQOL-BREF, in step 1, only self-distraction predicted lower physical QofL explaining 14% of the variance; whereas in step 2 only AAQ-II total score was found to significantly predict higher physical QofL further adding 7% to the variance explained. For the psychological subscale, the significant predictors in step 1 were behavioural disengagement predicting a lower QofL and positive reframing predicting higher QofL and explaining 36% of the variance. In step 2, Behavioral disengagement and Acceptance were found to be significant predictors of a lower QofL whereas the

Table 2
Hierarchical Linear Regression with Coping styles entered in step 1 and EA total score in step 2 for Perceived Stress as Dependent Variable.

	B	SE B	β	t
Step 1				
Self-distraction	.45	.29	.14	1.58
Active coping	.65	.30	.19	2.17*
Denial	−.52	.31	.14	1.71
Substance use	−.31	.87	−.02	−.36
Emotional support	.38	.35	.12	1.08
Instrumental support	−.01	.32	−.00	−.03
Behavioral disangement	.30	.34	.06	.86
Venting	.67	.25	.21	2.63**
Positive reframing	−.98	.30	−.27	−3.27**
Planning	−.89	.34	−.23	−2.64**
Humor	−.09	.30	−.02	−.31
Acceptance	.15	.29	.04	.53
Religion	.03	.21	.01	.14
Self-Blame	1.01	.31	.25	3.21**
Step 2				
Self-distraction	.20	.26	.06	.76
Active coping	.70	.27	.21	2.59*
Denial	.27	.28	.08	.96
Substance use	−.56	.79	−.04	−.71
Emotional support	−.03	.33	−.01	−.08
Instrumental support	.14	.30	.05	.47
Behavioral disangement	−.17	.32	−.03	−.36
Venting	.51	.23	.16	2.22*
Positive reframing	−.42	.30	−.12	−1.45
Planning	−.78	.31	−.20	−2.56*
Humor	.02	.27	.01	.09
Acceptance	.18	.26	.05	.69
Religion	−.06	.19	−.02	−.29
Self-blame	.55	.30	.14	1.85
AAQ-II	−.28	.05	−.45	−5.59**

Note: $R^2 = .40$ for Step 1; $\Delta R^2 = .11$ for step 2 ($p < .001$); $^{**}p < .001$; $^{*}p < .05$.

Table 3
Regression- WHOQOL-BREF Physical subscale and Psychological subscale.

	Physical Subscale			Psychological Subscale		
	B	SE B	β	B	SE B	β
Step1						
Self-distraction	−1.93	.87	−.24*	−.93	.80	−.11
Active coping	.37	.91	.04	−1.06	.81	−.12
Denial	.29	.93	.03	−.60	.87	−.06
Substance use	.71	2.61	.02	1.27	2.35	.04
Emotional support	−.25	1.05	−.03	−1.82	.98	−.22
Instrumental support	−.86	.98	−.11	−.35	.88	−.04
Behavioral disangement	−1.14	1.08	−.10	−3.29	.96	−.27**
Venting	−.612	.77	−.08	.34	.72	.04
Positive reframing	−.30	.93	−.03	3.01	.82	.32**
Planning	1.22	1.03	.13	1.24	.91	.12
Humor	.52	.92	.05	−.27	.83	−.03
Acceptance	.60	.90	.07	−1.23	.78	−.13
Religion	−.36	.65	−.05	.33	.58	.04
Self-Blame	.12	.96	.01	−1.46	.88	−.14
Step2						
Self-distraction	−1.38	.85	−.17	−.11	.69	−.01
Active coping	.26	.87	.03	−1.20	.69	−.14
Denial	.85	.91	.09	.31	.76	.03
Substance use	1.23	2.51	.04	2.11	2.01	.06
Emotional support	.54	1.04	.07	−.41	.86	−.05
Instrumental support	−1.15	.95	−.15	−.76	.75	−.10
Behavioral disangement	−.34	1.06	−.03	−2.06	.83	−.17*
Venting	−.35	.74	−.04	.72	.61	.09
Positive reframing	−1.44	.95	−.16	1.01	.75	.11
Planning	1.08	.99	.11	.92	.78	.09
Humor	.31	.88	.03	−.77	.71	−.08
Acceptance	.53	.87	.06	−1.35	.66	−.14*
Religion	−.23	.63	−.03	.65	.50	.09
Self-Blame	1.02	.96	.10	.31	.79	.03
AAQ-II	.57	.16	.37**	.95	.13	.59**

Note: For the physical subscale: $R^2 = .14$ for Step 1; $\Delta R^2 = .07$ for step 2 ($p < .001$); For the psychological subscale: $R^2 = .36$ for Step 1; $\Delta R^2 = .18$ for step 2 ($p < .001$); $^{**}p < .001$; $^{*}p < .05$.

Table 4
Regression- WHOQOL-BREF Social subscale and Environmental subscale.

	Social subscale			Environmental Subscale		
	B	SE B	β	B	SE B	β
Step1						
Self-distraction	−2.31	1.10	−.21*	.21	.73	.03
Active coping	−2.36	1.14	−.20*	−1.42	.77	−.19
Denial	1.47	1.17	.12	.10	.78	.01
Substance use	1.79	3.30	.04	−1.40	2.23	−.05
Emotional support	.10	1.34	.01	−1.65	.90	−.24
Instrumental support	−1.57	1.23	−.15	.78	.83	.12
Behavioral disangement	−4.55	1.31	−.28**	−1.74	.88	−.17*
Venting	−.30	.97	−.03	−.77	.65	−.11
Positive reframing	3.62	1.13	.29*	.93	.77	.12
Planning	.17	1.28	.01	2.20	.86	.26*
Humor	−.44	1.15	−.03	.68	.77	.08
Acceptance	−2.04	1.08	−.16	−.53	.73	−.07
Religion	.52	.81	.05	.20	.54	.03
Self-blame	−.87	1.22	−.06	−1.00	.80	−.11
Step2						
Self-distraction	−1.22	1.00	−.11	.75	.70	.11
Active coping	−2.61	1.02	−.22*	−1.54	.72	−.21*
Denial	2.38	1.06	.19*	.64	.74	.08
Substance use	2.78	2.96	.06	−.87	2.09	−.03
Emotional support	1.60	1.23	.14	−.79	.86	−.11
Instrumental support	−2.12	1.11	−.20	.46	.78	.07
Behavioral disangement	−2.97	1.20	−.18*	−.86	.85	−.09
Venting	.41	.88	.04	−.44	.61	−.06
Positive reframing	1.39	1.08	.11	−.27	.76	−.03
Planning	−.27	1.15	−.02	1.98	.81	.23*
Humor	−.99	1.03	−.07	.42	.72	.05
Acceptance	−2.12	.97	−.17*	−.58	.69	−.07
Religion	.82	.73	.08	.38	.51	.06
Self-blame	1.12	1.14	.08	−.01	.78	−.00
AAQ-II	1.13	.19	.52**	.61	.13	.45**

Note: For the social subscale: $R^2 = .29$ for Step 1; $\Delta R^2 = .14$ for step 2 ($p < .001$); For the environmental subscale: $R^2 = .17$ for Step 1; $\Delta R^2 = .11$ for step 2 ($p < .001$); $^{**}p < .001$; $^{*}p < .05$.

AAQ-II total score was also a significant predictor of higher QofL adding an additional 18% to the variance explained by the model. For the social subscale, in step 1, Self-distraction, Active Coping and Behavioral Disengagement were significant predictors of a lower QofL whereas Positive Reframing was a significant predictor of a higher QofL and this model explained 29% of the variance. In step 2, Active Coping, Behavioral Disengagement and Acceptance predicted a lower QofL whereas Denial and the AAQ-II total score were significant predictors of a higher QofL. In this case, again EA was found to significantly explain an additional 14% of the variance. Lastly, in step 1 for the environmental subscale, Behavioral disengagement was a significant predictor of a lower QOL and Planning was a predictor of a higher QOL, with this model explaining 17% of the variance. In step 2 however, Active coping predicted a lower QOL and Planning and AAQ-II total score were significant predictors of higher environmental QOL. Once again, adding EA to the model explained an additional 11% of the variance.

3. Discussion

This paper aimed to examine coping, as measured with the Brief COPE in relation to EA in order to firstly decipher if these are separate or largely overlapping constructs. It also aimed to examine gender differences in EA for the first time to our knowledge, and how these may potentially relate to differences in psychological distress and well-being.

Results from correlations examining the association between EA and coping styles, factor analysis, and regressions converge on the conclusion that coping styles and EA are largely overlapping but not identical constructs. That is, EA can be thought of as another coping style largely related to ways of coping previously classified as emotion-focused and avoidant, but results also show that it contributes some unique variance in explaining psychological distress and quality of life. Specifically and in accordance to predictions, higher EA was associated with utilizing self-destruction, denial, emotional support, behavioural disengagement, venting, and self-blame to a greater degree. On the other hand, lower EA was associated with utilizing more positive reframing and acceptance. Unexpectedly, we also found a very small negative correlation between active coping and lower QofL in the social domain. This potentially shows that people who approach problems in an active, solution-focused way rely more on their own potentials and less on their supportive networks. It may also mean that while seeking support from others may be helpful, admitting to weakness for which help is needed may be associated with a poorer perception of ones QofL (Litman & Lunsford, 2009). Therefore as individuals demonstrate higher EA they also appear to use coping methods often associated with poorer outcomes or with various psychological conditions (e.g. depression, anxiety, smoking etc) when confronted with difficult situations or stressful events. The unique variance explained by EA may have to do with the greater emphasis within this construct on avoidance of internal experiences, something that may be important to take into consideration when trying to understand the ways people cope with negative events.

Importantly, aspects of coping that seem to describe individuals exhibiting higher EA include the avoidant coping aspects previously identified as toxic (Kashdan et al., 2006), but also aspects of emotion-focused coping that are more relevant to negative emotion expression and not typically thought of as avoidant (seeking emotional support, venting, and self-blame). Therefore, individuals higher in EA do not only suppress and dampen affect but also process and express it maladaptively, in ways that may also be detrimental to health. It would be of significance to investigate in future research whether there are qualitative differences in the ways negative affect expression takes place among high EA individuals to determine if venting and discussing their affect with others involves processes that help in habituation and desensitization to negative affective events, or if negative expression is done in a way (e.g. ruminative worry) that actually suppresses aspects of emotion, such as physiological arousal or awareness (e.g. Roemer & Borkovec, 1994). Without such further clarification it is difficult to understand if people higher in EA use substantially different coping approaches than others who tend to rely on emotion-focused coping. Thus, findings from the correlations between coping and EA show that the constructs are related.

Similarly, based on the results of the factor analysis, the AAQ questions seem to factor together with coping styles representing avoidance, expression of negative affect, and seeking emotional support, all of which broadly reflect the dimension of emotion-focused coping as described by Lazarus's conceptualization of coping and Carver and Scheier's self-regulation theory. Inhibiting the expression of emotion was not related to AAQ in this study – to the contrary, disinhibited expression of negative affect (venting, self-blame, seeking support from others) was. Therefore, once again, EA was not separated from negative affect expression strategies, showing potentially that people who use emotion avoidant approaches simultaneously tend to use maladaptive ways of expressing and processing emotion. Positive reframing and other positive active ways of coping including acceptance and planning loaded on a separate factor that did not include any items of the AAQ. Moreover, evidence of convergent and discriminant validity was provided by considering the associations between EA and Emotion-focused and Active-positive coping factors and QofL.

These correlations were conducted based on the resulting factors of the EFA. These findings further supported the association of EA and emotion-focused coping with poorer quality of life, and their disassociation with Active-positive coping, which in turn related to better well-being outcomes.

Results of the hierarchical linear regression analysis showed that in all cases (for both perceived stress and the QofL subscales) EA was able to explain an additional significant, though small portion of the variance. This suggests that EA can be considered as related but separate from other coping styles, having an additional contribution to play in our ability to predict stress and quality of life. It remains to be seen in future research how EA is different from other emotion-focused and avoidant coping and what its specific contribution is as a construct to the relationship between coping and positive or negative psychological outcomes.

Consistent with previous accounts (e.g. Kelly, Forsyth, & Karekla, 2005), sex differences were detected on perceived stress and psychological Qof L with females reporting significantly more stress and lower psychological Qof L than males. These sex differences apparently were not moderated by EA. However, this finding, needs to be further examined and especially how EA may mediate any sex differences in the prevalence of psychological disorders.

Overall, it is important to consider the correlational nature of the present examination between EA, coping, and psychological outcomes. One should note that it may also be the case that its not necessarily maladaptive coping that may lead to stress but that the reverse may be happening, where one is more likely to engage in a host of coping behaviours during higher levels of stress. Future studies should examine the directionality of these findings in experimental and longitudinal designs.

In sum, this paper highlights the association between the construct of coping, and particularly emotion-focused and avoidant strategies, and emotional avoidance. It appears that the two constructs are related but not identical. Higher EA is associated not only with avoidant coping but also with the expression of negative affect, something which may appear contradictory unless further investigated in future research. It is also possible that if the expression of negative affect is done in a ruminative fashion it may not be the same as processing the affect, but that rumination acts as another form of experiential avoidance. Further, as Kashdan et al. (2006) present, rumination and inhibition of negative events is problematic when applied inflexibly and is not dependant on contextual demands. Therefore, coping parameters and EA should also be investigated more experimentally to examine whether their toxic effects are present only when they are inflexibly applied. Similarly, it is important to note that the methodology utilized in the present study suffers from limitations inherent in self-report correlational type research. Yet, the findings fit well into the emerging picture of EA as a learned method of self-regulation and responding to what are considered negative internal experiences and subsequently to the genesis of psychopathology (Hayes et al., 1999; Karekla et al., 2004).

EA, though highly related to coping, adds small but significant variance to the prediction of psychological outcomes. Therefore, it needs to be further clarified what specifically it is the EA contributes that is different from other avoidant coping approaches and how people higher in EA process affect in ways that apparently are not conducive to habituation, desensitization and utilization of one's affective responses in ways that promote health and well-being.

Taken together, present findings add to the conceptualization of EA as a potentially toxic self-regulatory mechanism implicated in the development and maintenance of psychopathology. Combining the present findings with previous accounts of the role of EA in distress and quality of life, we can discuss the treatment implications of this work and how interventions should target more explicitly the emotion regulation and coping strategies utilized by individuals when dealing with stressful or difficult life situations.

Acknowledgments

Preparation of this report was supported, in part, by a grant from the Cyprus Research Promotion Foundation and EU structural funds to Georgia Panayiotou, Ph.D. and Maria Karekla, Ph.D.

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