Coping through Emotional Approach: The Utility of Processing and Expressing Emotions in Response to Stress

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The Oxford Handbook of Positive Psychology, 3rd Edition
Edited by C.R. Snyder, Shane J. Lopez, Lisa M. Edwards, and Susana C. Marques

Subject: Psychology, Social Psychology Online Publication Date: Oct 2017
DOI: 10.1093/oxfordhb/9780199396511.013.19

Abstract and Keywords

Emotional approach coping (EAC) is a construct encompassing the intentional use of emotional processing and expression to manage adverse circumstances. Emotional processing is defined by attempts to acknowledge, explore, and understand one's emotions, and emotional expression is defined by verbal/nonverbal efforts to communicate one's emotional experience. Research demonstrates that EAC enhances adjustment to stressors, including infertility, sexual assault, diabetes, and cancer. In particular, findings suggest that EAC is most beneficial in response to uncontrollable stressors and in the context of receptive social environments. Although emotional processing and expression are core components of many clinical approaches, measurement of EAC within intervention studies is limited. Further study of the pathways by which EAC confers benefit also is needed. An improved understanding of who benefits from EAC in which contexts and how these benefits accrue will require continued integration of findings from stress and coping research, emotion science, and clinical studies.

Keywords: emotional approach, coping, emotional expression, emotional processing, approach-oriented, stress

When people encounter important stressors, such as the diagnosis of a life-threatening disease, loss of a loved one, or a major setback at work, they employ numerous strategies to manage them. Most individuals maintain or recover psychological equilibrium even under dire circumstances (e.g., Bonanno, Westphal, & Mancini, 2011; Ozer, Best, Lipsey, & Weiss, 2003). Although maladaptive approaches to managing stress are widely studied, researchers are increasingly turning their attention to protective and restorative psychological processes. In this chapter, we evaluate the evidence for the potential benefits and costs of coping through processing and expressing emotions in response to stress (i.e., coping through emotional approach). We discuss the contrasting literatures regarding the utility of processing and expressing emotions, describe the development of a construct to reflect coping through emotional approach, examine research addressing the conditions under which, for whom, and how such coping confers benefits, and discuss relevant clinical interventions.

History of the Construct

Coping is defined as attempts to address demands perceived as taxing or exceeding one's personal resources (Lazarus & Folkman, 1984). Coping processes have been broadly classified as problem-focused coping (i.e., directly modifying the problem or stressor) and emotion-focused coping (i.e., regulating emotions associated with the stressor). More recently, coping processes have been classified based on whether they are directed towards approaching or avoiding the stressor, consistent with work on behavioral activation and inhibition systems (Fowles, 1980; Gray & McNaughton, 2003). Our interest in coping with adversity through emotional approach emerged from an attempt to reconcile several lines of theory and research on stress, coping, and emotion.

Some theorists have characterized the experience of intense emotion as dysfunctional and an impediment to rational processes (see Averill, 1990, for a review). Furthermore, in the empirical literature on stress and coping, measures that assess an individual's attempts to manage emotions surrounding stressors (i.e., emotion-focused coping; Lazarus & Folkman, 1984) historically have been linked with poor outcomes. In an illustrative early review of the literature conducted by searching the PsycInfo database between 1995 and 1998, we identified more than 100 studies in which the relationship between emotion-focused coping and adjustment was examined in adult or adolescent samples (Stanton, Parsa, & Austenfeld, 2002). When we reviewed studies that included the two subscales most relevant to processing and expressing emotions (i.e., Emotion-Oriented Coping scale, Endler & Parker, 1990, 1994; Focus on and Venting of Emotion scale, Carver, Scheier, & Weintraub, 1989), a consistent, primarily cross-sectional association emerged between those scales and poor outcomes, including symptoms of depression and anxiety, neuroticism, and life dissatisfaction. Similarly, Coyne and Racioppo (2000) concluded in a review that the relationship between emotion-focused

coping and distress is “perhaps the most consistent finding in the coping literature” (p. 657).

In contrast, functionalist theories of emotion highlight its organizing, effective elements. For example, Levenson (1994) argued that emotions “alter attention, shift certain behaviors upward in response hierarchies, and activate relevant associative networks in memory,” as well as create “a bodily milieu that is optimal for effective response” (p. 123). Experimental research on expressive disclosure (Frattaroli, 2006), clinical approaches (Greenberg, 2011), and the literature on emotion regulation (e.g., Gross, 2013) also point to the value of processing and expressing emotions for health and well-being. These bodies of work led us to question the validity of research suggesting the maladaptive nature of emotion-focused coping.

We contend that the manner in which emotion-focused coping has been previously operationalized in coping measures accounts in part for the association of emotion-focused coping with poor outcomes (Stanton, Danoff-Burg, Cameron, & Ellis, 1994; Stanton, Kirk, Cameron, & Danoff-Burg, 2000). First, emotion-focused coping is a broad construct, entailing behaviors oriented toward both approaching and avoiding a stressor. Accordingly, wide latitude is apparent in items designed to operationalize emotion-focused coping (e.g., “I let my feelings out,” “I blame myself for becoming too emotional,” “I say to myself ‘this isn’t real’”), some of which are inversely correlated (Scheier, Weintraub, & Carver, 1986). A related point is that researchers sometimes refer to “emotion-focused coping” rather than a specific facet (e.g., avoidance) within this broad construct when drawing conclusions about its utility. Second, in several instruments, a number of emotion-focused coping items contain expressions of distress (e.g., “Become very tense”) or self-deprecation (e.g., “Focus on my general inadequacies”). It is difficult to imagine that such items would not be associated with indicators of maladjustment.

The contention that coping measures are confounded with psychological outcomes is supported by the finding that clinical psychologists rate the majority of published, emotion-oriented coping items as symptomatic of psychopathology (Stanton et al., 1994, Study 1). In addition, coping items written specifically to exclude expressions of distress and self-deprecation evidence discriminant validity with measures of maladjustment, whereas confounded items overlap significantly with those measures (Stanton et al., 1994, Study 2). These problems in the operationalization of emotion-focused coping led to our attempt to create sound measures of coping through identifying, processing, and expressing emotions in response to stress.

Assessment of Coping through Emotional Approach

Although self-report instruments relevant to emotion regulation are available (e.g., Berkeley Expressivity Questionnaire, Gross & John, 1995; Emotional Expressiveness Questionnaire, King & Emmons, 1990), they are not designed to assess emotional processing and expression as stressor-related coping processes. Hence, we developed a set of emotional approach items free of content indicating distress or self-deprecation (Stanton, Kirk, et al., 2000). Emotional processing (EP) and emotional expression (EE) emerged as two distinct factors of emotional approach coping through exploratory (Study 1) and confirmatory (Study 3) factor analysis. The EP items reflect active attempts to acknowledge, explore, and understand emotions (e.g., “I acknowledge my emotions,” “I take time to figure out what I’m really feeling”). The EE items represent active verbal and/or nonverbal efforts to communicate or symbolize emotional experience (e.g., “I feel free to express my emotions,” “I take time to express my emotions”).

The emotional approach coping (EAC) scales have been tested using situational (i.e., specific stressor) and dispositional (i.e., “indicate what you generally do, feel, and think when you experience stressful situations”) instruction sets. They demonstrate high internal consistency and test–retest reliability at four weeks in both versions (see Austenfeld & Stanton, 2004, for a review of psychometric properties and descriptive statistics) and are uncorrelated with social desirability (Stanton, Kirk, et al., 2000; Segerstrom, Stanton, Alden, & Shortridge, 2003). The EP and EE subscales are moderately to highly intercorrelated, but also distinct. For example, family members are better able to estimate each other’s presumably more observable coping through EE than coping through EP, and the EE scale is more highly correlated with measures of emotional expressiveness and family expressiveness than the EP scale (Stanton, Kirk, et al., 2000).

With regard to their relations with other coping processes, EP and EE evidence moderately positive correlations with other approach-oriented strategies, including problem-focused coping (Stanton, Danoff-Burg, et al., 2000; Stanton, Kirk, et al., 2000), and are uncorrelated (Stanton, Danoff-Burg, et al., 2000; Stanton, Kirk, et al., 2000) or negatively correlated (Smith, Lumley, & Longo, 2002) with avoidant strategies such as denial. The EAC scales are positively related to measures of coping through seeking social support (Stanton, Kirk, et al., 2000) and other measures pertaining to interpersonal relationships (Pakenham, Smith, & Rattan, 2007; Rini, Dunkel Schetter, Hobel, Glynn, & Sandman, 2006), but the magnitudes of those relations are not high, suggesting that EAC is not simply a proxy for social support.

Use of EAC varies significantly by gender in some samples, with women generally reporting more EP and EE than men (Austenfeld & Stanton, 2004; Cho, Park, & Blank, 2013; Marques et al., 2009; but see Manne, Ostroff, et al., 2004; Smith et al., 2002). The magnitude of difference can be notable; one study revealed higher cancer-related EP and EE in women than in men, with an effect size of $d = .59$ for both subscales (Cho et al., 2013). The relations of EAC with dispositional variables also tend to vary by gender in young adults. In undergraduate women, EP is positively correlated with adaptive traits, such as hope and instrumentality, and negatively correlated with neuroticism and trait anxiety. In undergraduate men, EP is unrelated to the adaptive measures and positively

correlated with ruminative and distracting reactions to depressive symptoms (Stanton, Kirk et al., 2000, Study 1, Study 3). A closer examination of the relationship between EP and rumination and other forms of repetitive thought in undergraduates (Segerstrom et al., 2003, Study 1) did not reveal significant gender differences, but did support a distinction between EP and measures of depressive rumination and pervasive worry.

The EAC scales also have been evaluated in populations outside the United States. The 16-item version was evaluated in a sample of 220 Norwegian patients with rheumatic disease (Zangi et al., 2009). Principal component analysis provided evidence for EP and EE factors. The subscales had high internal consistency reliabilities (EP α = .90, EE α = .92). EP was uncorrelated with distress, which had a small, negative relationship with EE. A Turkish version has been validated in undergraduate and community samples (Durak & Senol-Durak, 2011). A two-factor confirmatory model with 12 items demonstrated excellent fit to the data in both samples. Measurement invariance was established across women and men, indicating that the same construct is being measured regardless of gender. Correlations between EE and EP were moderate (r = .38) in the students and stronger in the community sample (r = .54). The scales demonstrated good internal consistency reliabilities (α = .86–.91), and four-week test–retest reliabilities ranged from .71 to .83. Across both samples, higher EE and EP scores were associated with lower depressive symptoms, anxiety, and negative affect, and higher positive affect, self-esteem, and other approach-oriented processes (e.g., problem-solving).

Dispositional variables particularly relevant to EAC are the emotional ability and regulation constructs, such as emotional intelligence. Lumley, Gustavson, Partridge, and Labouvie-Vief (2005) found moderate, positive associations of EAC with a self-report measure of mood regulation skills, which represents a subset of emotional intelligence, but lower correlations ($r \approx .20$) with a performance-based measure of emotional intelligence. EAC scales were moderately negatively correlated with a self-report measure of alexithymia, a construct reflecting difficulties with identifying and communicating emotions. Peters (2006) also found a moderate, negative association of EAC with alexithymia in a study of African American adults.

In that EAC represents a tendency to approach stressful experiences actively, an assumption (Stanton & Franz, 1999) is that it might be subsumed under a broader, biologically mediated approach system (e.g., Allen & Kline, 2004; Sutton & Davidson, 1997). Individual differences in approach are associated with resting activation of the left prefrontal cortex, a region involved in coordinating goal-directed behavior and self-regulation (e.g., Amodio et al., 2008; Coan & Allen, 2003; Harmon-Jones & Sigelman, 2001). In young adults, dispositional EE was significantly correlated with resting left frontal electroencephalography (EEG) asymmetry (Master et al., 2009). Controlling for scores on a generalized dispositional approach orientation measure (Carver & White, 1994) did not alter this relationship. The correlation with EP was positive but not significant. In addition to providing evidence that EAC is an indicator of a broader approach system and, as such, is a self-regulatory mechanism, this finding is important because left frontal asymmetry also is related to healthier psychological and biological

profiles, including lower depression and less negative psychological reactivity to particular stressors, as well as stronger immunocompetence (see Master et al., 2009, for a brief review).

Taken together, findings provide support for the satisfactory psychometric properties of the EAC scales, as well as their convergent and discriminant validity in English, Norwegian, and Turkish versions spanning community and medical samples. Evidence also suggests that EAC can be considered a facet of a broader approach-oriented motivational system. The following section reviews both cross-sectional and longitudinal research examining the associations of coping through EP and EE with health and well-being.

Coping through Emotional Approach as a Contributor to Health

Cross-sectional Research

Cross-sectional studies demonstrate that coping through emotional approach is related to indicators of positive psychological adjustment, at least under particular conditions (addressed in the section on moderated relations). In the scale development research, young women who reported high dispositional EP (but not EE) had higher life satisfaction and lower depressive symptoms and anxiety than women low in EP (Stanton, Kirk, et al., 2000). For young men, EE was related only to greater life satisfaction. In other research, young adults with high dispositional EE reported fewer anhedonic depressive symptoms than those low in EE (Kashdan, Zvolensky, & McLeish, 2008). In another study, undergraduate women with high EAC had more positively- and less negatively-valenced repetitive thoughts, as well as higher positive affect and lower negative affect associated with repetitive thoughts (Segerstrom et al., 2012). In a sample of undergraduates who reported at least one uncued panic attack within the preceding year, those with high dispositional EAC had lower depressive symptoms, anxiety sensitivity, and panic-related disability and symptom severity than those with low EAC (Tull, Gratz, & Lacroce, 2006). When panic-related variables were controlled, high EAC and low fear of cognitive dyscontrol were unique predictors of low depressive symptoms. In other samples, EAC was negatively related to depressive symptoms, trait anxiety, and anger in a community sample of African American adults (Peters, 2006), but unrelated to depressive symptoms in pregnant women (Pakenham et al., 2007).

Cross-sectional studies have also been conducted in clinical and stressed populations. Simon and colleagues (2007) studied the relationship of dispositional EAC and other variables with a comprehensive measure of suicidal ideation and behavior in a sample of 98 patients diagnosed with bipolar disorder. EP was significantly related to lower scores

on anxiety measures (i.e., fear, worry, panic, anxiety sensitivity), but not to depressive rumination or fear of negative evaluation; relations with EE were in the same direction, but not statistically significant. In stepwise regression analyses controlling for age, gender, bipolar subtype, and bipolar recovery status, lower EE and higher depressive rumination accounted for 13% of the variance in suicidal ideation and behavior. In separate analyses for men and women, higher EP in men and higher EE in women were associated with lower suicidal ideation and behavior. In another study (Marques et al., 2009), patients who met DSM-IV criteria for anxiety disorder had significantly lower EAC than healthy controls (d = .61; EE d = .71; EP d = .36). Higher anxiety sensitivity and symptoms were associated with lower EAC, indicating a gradient within individuals with anxiety disorders such that greater disorder severity was related to lower EAC. Relations did not differ as a function of gender. In veterans recruited from mental health clinics (Hassija, Luterek, Naragon-Gainey, Moore, & Simpson, 2012), EE (but not EP) was associated with significantly lower PTSD and depressive symptoms, controlling for age, gender, and race. Finally, in a study of military couples experiencing reintegration following a deployment in the previous 18 months, coping through EE was associated with better psychological health (one item self-report measure) in service members and their significant others (Marini, Wadsworth, Christ, & Franks, 2017). Conversely, avoidance coping was associated with worse psychological health for both partners.

Seven cross-sectional studies are available in samples at risk for or diagnosed with cancer. A small study (n = 31) of women with a maternal history of breast cancer revealed a significant relationship between cancer-related EP and greater perceived cancer-related benefits (but not with post-traumatic stress symptoms; Mosher, Danoff-Burg, & Brunker, 2006). Similarly, in a sample of 118 patients recently diagnosed with lung cancer, an approach-oriented coping composite that included EAC was associated with cancer-related benefit finding, adjusting for sex, stress, cancer-related intrusions, and avoidant coping (Thornton et al., 2012). In a study examining breast cancer survivors approximately one year following completion of primary cancer treatment, approach-oriented coping (a composite variable including EAC and planning, seeking social support, acceptance, and active coping) was endorsed by survivors of all ages but was specifically associated with greater cancer-related posttraumatic growth in young, but not older, survivors (Boyle, Stanton, Ganz, & Bower, 2017). In a sample of cancer survivors, both higher EP and EE were associated with higher positive and lower negative affect in women (Cho, Park, & Blank, 2013). In men, higher EP was associated with higher positive affect, and higher EE was associated with lower negative affect and fewer intrusive thoughts.

The cancer literature also reveals mixed or negative findings. In a sample of men being treated for various cancers (Hoyt, 2009), structural equation modeling revealed that men who reported lower gender role conflict were more likely to cope through cancer-related EE, which in turn was associated with lower psychological distress. However, higher EP was associated with greater distress, especially in younger men. Similarly, in 278 women who had received an abnormal result from ovarian cancer screening, higher EP (but not EE) was associated with greater intrusive thoughts controlling for demographic, medical,

and other psychological variables (e.g., optimism, social support), and neither EP nor EE was uniquely associated with cancer-related benefit finding (Andrykowski & Pavlik, 2011). In a sample of adults who sought help with their cancer experience, neither EE nor EP were selected from a large list of psychosocial variables in forward regression analyses as correlates of happiness or depressive or anxiety symptoms (Shapiro, McCue, Heyman, Dey, & Haller, 2010). In a covariate-adjusted model, EP was uniquely associated with poorer emotional functioning and lower positive affect, whereas EE was uniquely associated with favorable emotional functioning.

EAC also appears to confer benefit in the context of chronic pain and diabetes. In a study of adults with chronic myofascial pain, pain-related EAC (total score and EP) was associated with lower negative affect (Smith et al., 2002). When negative affect, education, marital status, and passive coping were controlled, greater EAC was significantly related to lower affective pain and depressive symptoms. In men with chronic pain, EE also was associated with lower physical impairment and sensory pain. In a sample of women with fibromyalgia, controlling for age and education, higher EE was associated with a lower impact of fibromyalgia (Geenen, van Ooijen-van der Linden, Lumley, Bijlsma, & van Middendorp, 2012). EAC is also associated with salutary outcomes in diabetes. In patients (69% women) with Type 2 diabetes in primary care clinics, higher EP was associated with better medication adherence, diabetes knowledge, and self-care behaviors (e.g., diet, exercise, blood glucose testing), and EE with better self-care behaviors, controlling for demographic factors (Smalls et al., 2012). Consistent with these findings, higher EP was correlated with significantly lower glycosylated hemoglobin, a measure of metabolic control, in a sample of adolescents with Type 1 diabetes (Hughes, Berg, & Wiebe, 2012).

Longitudinal Research

Research in which EP and EE are examined as predictors of change in adjustment over time establishes temporal precedence and enables stronger causal inference. In young adults coping with self-nominated stressors, high EAC in a preliminary version of the scale predicted an increase in life satisfaction and a decline in depressive symptoms for young women, but a decline in adjustment on those indices for young men (Stanton et al., 1994, Study 2). EAC did not predict physical symptoms. In a second study of young adults coping with self-nominated stressors (Stanton, Kirk, et al., 2000, Study 3), high EP and EE predicted improved depressive symptoms and life satisfaction when used alone, but their advantage was not additive. The simultaneous endorsement of low EP and EE or high EP and EE predicted poorer adjustment over time, perhaps suggesting the utility of their sequential use.

In another study of undergraduates involving both a laboratory and an ecological momentary assessment component, higher EAC was associated with lower threatening cognitive appraisals regarding an upcoming speech task and higher perceived personal resources to cope with the task, controlling for the effects of participant sex, neuroticism,

and social support (Juth, Dickerson, Zoccola, & Lam, 2015). Adjusting for covariates, EAC also predicted improved post-stressor outcomes, including higher positive affect and perceived personal resources, as well as lower negative affect and less threatening appraisals. Higher EAC predicted significantly higher positive affect only for men and lower negative affect only for women. Over a five-day assessment period, higher EAC predicted a greater sense of control and positive affect, but was not related to perceived stress or negative affect, controlling for sex, neuroticism, and social support. Participant sex did not moderate effects.

The value of EAC is demonstrated in adults coping with an array of experiences, including sexual assault, disclosure of sexual orientation, infertility, and breast cancer. Two longitudinal studies of adults dealing with infertility suggest the benefits of EAC when confronting a cherished, blocked goal over which one has limited control. In heterosexual couples coping with infertility, EAC predicted decreased depressive symptoms in both partners following an unsuccessful insemination attempt (Berghuis & Stanton, 2002). Furthermore, high EAC in male partners was protective against depressive symptoms in female partners low in EAC. Terry and Hynes (1998) also observed a prospective, positive relationship between EAC and psychological adjustment in a sample of women coping with infertility (note that their EAC measure included items related to social support).

In a sample of sexual assault survivors, Frazier, Mortensen, and Steward (2005) demonstrated that increases in EE were associated with increases in feelings of control over the recovery process, and that such feelings of control were associated with decreases in distress following the assault. An increase in approach-oriented coping (a composite of EE and cognitive restructuring) was also associated with increases in reports of positive life change over time (Frazier, Tashiro, Berman, Steger, & Long, 2004). Furthermore, approach-oriented coping partially mediated the relationship between social support and positive life change over time.

Beals, Peplau, and Gable (2009) investigated EP during opportunities to disclose sexual orientation in a 14-day experience-sampling design with lesbians and gay men (EE was not measured). On average, participants reported three disclosure opportunities over the two weeks. Participants disclosed their sexual orientation during 64% of opportunities, and disclosure (versus concealment) was accompanied by greater well-being on those days. Mediators of the association between disclosure and higher same-day well-being were greater perceived social support and higher EP regarding sexual orientation. Greater suppression of feelings about sexual orientation mediated the relationship between concealment and lower life satisfaction. When putative mediators were tested simultaneously as predictors of daily well-being, EP was a unique predictor of higher daily positive affect and satisfaction with life, indicating that its effects were distinct from those of perceived social support. Daily EP did not predict well-being two months later.

Coping through emotional approach also has been investigated in the context of cancer. Stanton, Danoff-Burg, and colleagues (2000) examined the effects of EAC in a three-month study of women who had recently completed breast cancer treatment. After

dependent variables at study entry, age, and coping strategies other than emotional approach were controlled, high cancer-related EE at study entry predicted an increase in vigor and a decrease in distress at three months. For women who perceived their social environment as highly receptive, coping through EE also predicted improved quality of life. Manne, Ostroff, and colleagues (2004) found that coping through EE approximately four months after breast cancer diagnosis predicted an increase in post-traumatic growth over the next 18 months in women with breast cancer. This relationship was not significant for the women's partners, but patients reported higher post-traumatic growth when their partners reported greater use of EE. However, Lechner, Carver, Antoni, Weaver, and Phillips (2006, Study 2) did not find an association of EE and benefit finding in women with breast cancer at either two months or five years after surgery.

EP evidences variable relationships with adaptive outcomes. In Stanton, Danoff-Burg, and colleagues' (2000) longitudinal study of breast cancer patients, zero-order correlations suggested that EP is related to better adjustment, but EP predicted increased distress when controlling for EE. The researchers speculated that EP might facilitate diminished distress to the extent that it is channeled through EE and that the variance unique to processing might represent a ruminative component, particularly when processing continues for months after stressor onset (note that women entered the study approximately six months after diagnosis). Similarly, in a three-month longitudinal study of 103 women with metastatic disease (Stanton & Low, 2012a), greater coping through cancer-related EP at study entry predicted an increase in depressive symptoms and cancer-related intrusive thoughts. Lechner and colleagues (2006, Study 2) reported a cross-sectional association of cancer-related EP and benefit finding in the cancer experience at approximately two months after surgery, but EP two months after surgery did not predict benefit finding at a five-year follow-up. Manne, Ostroff, and colleagues (2004) found that higher EP by partners (but not breast cancer patients) at approximately four months after diagnosis predicted maintenance of their own post-traumatic growth over time, whereas lower EP predicted declining post-traumatic growth. One possible explanation for this pattern of results is that the effects of EP and EE may be time-dependent, such that EP attempts are more likely to be adaptive when they occur relatively early in the stressor trajectory, facilitating efficient EE and goal pursuit (see also Stanton, Kirk, et al., 2000, Study 3). The temporal trajectory of EP and EE in relation to adjustment requires further study.

Longitudinal evidence suggests that the benefits of coping through EE can extend to the domain of physical health. High EE breast cancer patients in Stanton, Danoff-Burg, and colleagues' (2000) study had fewer medical appointments for cancer-related morbidities during the study period, as well as improved perceived physical health. A longitudinal epidemiologic study also revealed that a different measure of coping through EE during the first month following diagnosis of breast cancer predicted longer survival at an eight-year follow-up for African American and European American women, particularly those who also reported available emotional support (Reynolds et al., 2000).

In research examining EAC in men treated for prostate cancer in the prior two years, cancer-related masculine threat predicted a decrease in EP (but not EE) from study entry to two-month follow-up, and decreased EP in turn predicted a decline from study entry to four months in sexual, urinary, and bowel functioning (Hoyt, Stanton, Irwin, & Thomas, 2013). In a subsample of men, higher EP at study entry was associated with significantly lower levels of C-reactive protein (CRP), a measure of inflammation (Hoyt et al., 2013). No other correlation reached statistical significance, although both EP and EE were similarly negatively associated with interleukin-6 (IL-6), CRP, and the soluble tumor necrosis factor receptor type-II (sTNF-RII) at $r = –.04$ to –.20. When age, ethnicity, body mass index, and time since treatment completion were controlled and EP and EE were considered simultaneously, higher EP predicted lower follow-up IL-6 and sTNF-RII; the direction was the same but marginally significant for CRP. Higher EE uniquely predicted higher sTNF-RII, and the direction was the same but marginally significant for IL-6 and CRP. When EAC was included in a broader approach-oriented coping composite, it did not predict the diurnal slope of salivary cortisol (Hoyt et al., 2014).

Summary of Cross-sectional and Longitudinal Research

Across a range of samples including healthy young adults, adults with psychological disorders, and adults facing medical stressors, high EAC is generally associated with better psychological adjustment, and a small literature suggests its potential association with markers of physical health. Nevertheless, a number of null results, and occasionally contradictory findings (e.g., the association of EP with greater distress), suggest that EAC is not uniformly beneficial. Accordingly, we consider factors that moderate the relationship between EAC and outcomes in the following section.

Moderators of the Relationship between Emotional Approach Coping and Outcomes

Consistent with Lazarus and Folkman’s (1984) contention that coping mechanisms are inherently neither maladaptive nor adaptive, the benefits of coping through emotional approach vary as a function of one’s contextual and personal attributes. As shown in Figure 1, Stanton and Low (2012b) posit several factors that moderate the effects of EAC.

Stressor characteristics can moderate the use and effects of EAC. For example, young adults use more EAC in response to stressors they appraise as relatively uncontrollable (Park, Armeli, & Tennen, 2004a), and the utility of EAC varies as a function of both the perceived controllability and nature (e.g., interpersonal versus achievement-oriented) of the stressor (Stanton et al., 1994, 2000). With regard to timing of EAC across the trajectory of the stressor, expression appears more helpful for recent than distant stressors in written expressive disclosure studies (Frattaroli, 2006). However, social expression in the immediate aftermath of a collective trauma can predict poor adjustment (Seery, Silver, Holman, Ence, & Chu, 2008). The larger context also can influence the

utility of EAC. Greater use of EP, EE, and seeking social support (composite index) in response to breast cancer predicted more favorable adjustment 6 and 12 months later in women when their contextual life stress was low, but not in the midst of experiencing other major life stressors (Low, Stanton, Thompson, Kwan, & Ganz, 2006).

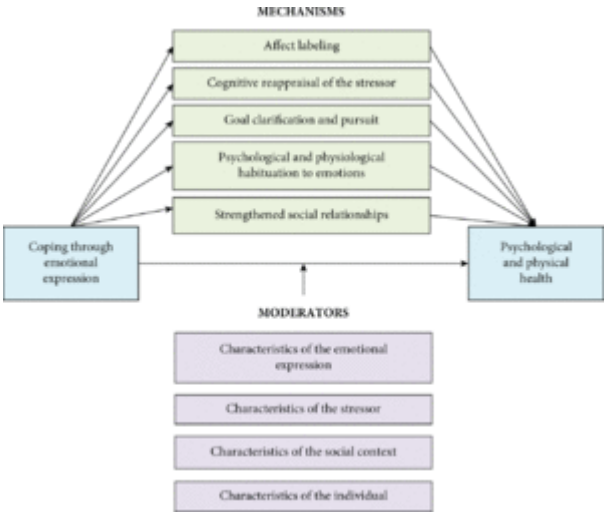

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Figure 1 Putative mechanisms through which coping with stressful experiences through emotional processing and expression (i.e., coping through emotional approach) influences psychological and physical health, as well as hypothesized factors that condition its effects.

Figure from Stanton & Low (2012b, p. 126).

The receptiveness of the interpersonal milieu also influences the benefit derived from EAC (Lepore, Silver, Wortman, & Wayment, 1996; Stanton, Danoff-Burg, et al., 2000). For example, more cancer-related EE was related to lower distress in men who reported low social constraint in communicating with close others about their cancer, but higher distress in men in highly socially constrained environments (Hoyt., 2009). Similarly, in a study of 121 married or partnered patients with colorectal cancer, relationship intimacy moderated the association between EP and depressive symptoms such that EP was associated with lower depressive symptoms only in patients in highly intimate relationships (Reese, Lepore, Handorf, & Haythornthwaite, 2017). Given that EAC is related to positive adjustment even when social support is statistically controlled (e.g., Juth et al., 2015; Stanton et al., 1994; Stanton, Danoff-Burg, et al., 2000; Stanton, Kirk et al., 2000), a supportive environment appears to be a facilitative, but not a necessary, condition for EAC to confer benefit.

Individual attributes also condition the utility of EAC. Some longitudinal work suggests that the utility of EP and EE varies by gender. As mentioned previously, Stanton et al. (1994) found that EAC predicted improved adjustment over time in young women but poorer adjustment in young men. However, research in couples coping with infertility demonstrates that EAC can be beneficial for both women and men (Berghuis & Stanton, 2002).

The utility of EAC varies as a function of dispositional factors that are central to emotion regulation. In a cross-sectional study of 403 women with fibromyalgia (Geenen et al., 2012), EE was associated with lower negative impact of fibromyalgia and also buffered the relationship between affect intensity and negative impact, such that high EE weakened the relationship between affect intensity and higher negative impact. Affect

intensity also interacted with EP on pain and fatigue in the sample, such that women with high affect intensity but low EP reported high fatigue and pain relative to women high on both affect intensity and EP (van Middendorp et al., 2008). The authors suggested that intensely experiencing emotions is not maladaptive unless the emotions are not adequately processed or expressed.

As in the studies of fibromyalgia patients, congruence between dispositional and stressor-specific variables generally was adaptive in a three-month study of women with metastatic breast cancer (Stanton & Low, 2012a). Specifically, an increase in EE predicted improvements in depressive symptoms and life satisfaction in the context of high dispositional expressivity (i.e., a composite score of dispositional affect intensity and negative and positive expressivity). An increase in EP over the study also predicted improved depressive symptoms in the context of high dispositional expressivity. However, cancer-related EP at study entry predicted an increase in depressive symptoms and intrusive thoughts, as well as a decline in life satisfaction in dispositionally expressive women only. Given that increases in EE and EP were related to a more arduous cancer experience (i.e., initiation of a new cancer treatment, receipt of chemotherapy, or more recent cancer diagnosis), these findings suggest that women were adaptively increasing coping efforts to challenging, adverse experiences within the context of a chronic, unremitting stressor. Nevertheless, given that only 16% of this sample had been diagnosed with metastatic disease for fewer than 6 months and 86% had a previous breast cancer diagnosis, sustained EP in this context at study entry might tax psychological resources, involve a ruminative component, or indicate lack of resolution of emotional challenges despite persistent attempts to cope.

Some evidence suggests that EAC buffers the relationship of negative dispositional attributes with poor outcomes. In analyses adjusting for disease-related variables (e.g., diagnosis duration, self-efficacy for disease management), adolescents with Type 1 diabetes who reported low self-control of behaviors and emotions in combination with low EP had the lowest metabolic control (i.e., higher glycosylated hemoglobin), and high use of EP buffered the relationship of lower self-control with poorer metabolic control (Hughes, Berg, & Wiebe, 2012). In another study (Thompson et al., 2010), high EP (in a composite with coping through positive reappraisal) buffered the relationship between rumination and depressive symptoms in non-depressed women, and was directly related to lower depressive symptoms in women currently experiencing a major depressive episode. In a daily process study of firefighters (Steffen & Smith, 2013), coping through EE predicted higher subsequent positive affect during high-stress days for individuals low in dispositional hope and lower next-day negative affect regardless of level of hope.

Buffering relations of EAC are not completely consistent, however. For example, Stanton, Danoff-Burg, et al. (2000) found that coping with breast cancer through EE was associated with lower distress and fewer medical appointments for cancer-related morbidities for women high in hope, but was unrelated to outcomes for women low in hope. Kashdan and colleagues (2008) found that high EE was related to lower agoraphobic cognitions in young adults low in anxiety sensitivity, but high EE was related

to higher agoraphobic cognitions when anxiety sensitivity was high. In a daily process study (Park, Armeli, & Tennen, 2004b), EAC was associated with greater alcohol use in undergraduates high in social enhancement motives and low in sensation-seeking who also had a family history of alcohol abuse.

Mechanisms of the Effects of Emotional Approach Coping

Figure 1 (Stanton & Low, 2012b) displays several hypothesized mechanisms for the utility of coping through emotional approach. Affect labeling, or the process of putting feelings into words, can lessen perceived intensity of emotions. In fMRI studies, affect labeling increases activation in the prefrontal cortex and reduces amygdala activation, potentially signaling adaptive emotion regulation (e.g., Burklund, Creswell, Irwin, & Lieberman, 2014). Futhermore, EAC may promote adaptive cognitive reappraisals of stressors (e.g., Creswell et al., 2007; Pakenham et al., 2007; Pennebaker, Mayne, & Francis, 1997). Interestingly, research suggests that affect labeling and reappraisal share common neural mechanisms (Burklund et al., 2014).

Given its mediating role between dispositional hope and improved outcomes (Stanton, Danoff-Burg, et al., 2000), coping through emotional approach may serve as a vehicle for goal clarification and pursuit (Stanton, Parsa, & Austenfeld, 2002). In a sample of men diagnosed with testicular cancer, EAC (and sense of meaning) mediated the relationship between higher goal navigation skills and lower depressive symptoms and better physical functioning (Hoyt, Nelson, Darabos, Marín-Chollom, & Stanton, 2017). Thus, EP and EE may facilitate the direction of attention toward goals that are centrally important to an individual, the identification of barriers to achieving those goals, and the generation of new pathways to reaching them (Stanton et al., 2002). Such an interpretation is consistent with findings linking EE with problem-focused coping (Pakenham et al., 2007; Stanton, Kirk, et al., 2000).

The use of EAC may also help individuals appropriately select and maximally draw upon their social environments (e.g., Carstensen, 1998; Manne, Ostroff, et al., 2004). Social sharing of emotions can prompt a cascade of consequences, such as reappraisal and creation of meaning, that facilitate stressor recovery (Rimé, Paez, Kanyangara, & Yzerbyt, 2011). Willingness to express emotions can also strengthen relationships. For example, prior willingness to express negative emotions predicts the quantity and quality of relationships undergraduates subsequently develop upon arriving at their university, as well as predicts more support received from their roommates during the first semester (Graham et al., 2008, Study 4). In a small sample of patients diagnosed with or at risk for malignant melanoma and their partners, patients' greater use of EAC was associated with higher correspondence between patients' received and partners' provided support, suggesting that patients high in EAC more effectively communicated their needs for support (Lichtenthal, Cruess, Schuchter, & Ming, 2003). Similarly, Rini, Dunkel Schetter, Hobel, Glynn, and Sandman (2006) demonstrated that a latent construct reflecting interpersonal orientation, including EE, predicted a reduction in anxiety over the course

of pregnancy through its association with stronger marital quality and greater effectiveness of social support (also see Huizink, de Medina, Mulder, & Visser, 2002). A cross-sectional study of pregnant women (Pakenham et al., 2007) revealed that greater coping with pregnancy through EAC was related to stronger perceived availability of social support from both partner and nonfamilial close others. Thus, the salutary outcomes of EAC may arise through both intrapersonal and interpersonal pathways.

If EAC proves salutary for physical health, it will be important to identify relevant physiological pathways that may mediate these effects. Effects of EAC may stem from sustained exposure to the associated stressor, which promotes physiological habituation (e.g., Low, Stanton, & Danoff-Burg, 2006; Stanton, Kirk, et al., 2000, Study 4). In addition to providing evidence that EAC (and particularly EE) is related to left frontal EEG asymmetry, which itself is associated with positive health indicators, Master and colleagues (2009) examined the relationship between EAC and proinflammatory cytokine (i.e., sTNFα-RII, IL-6) and salivary cortisol responses to an acute laboratory stressor (Trier Social Stress Test; Kirschbaum et al., 1993). Young adults who reported coping with stressors through EP and EE evidenced lower sTNFα-RII responses 25 minutes after stressor onset than those lower on EAC. Specifically, partial correlations controlling for baseline cytokine levels between EAC and sTNFα-RII were –.50, $p < .05$, for the total EAC score; –.48, $p < .05$, for EP; and –.41, $p < .06$, for EE. Controlling for measures of depressive symptoms and dispositional approach motivation did not alter these relationships; controlling for health behaviors attenuated the correlations slightly. Findings were similar, although not statistically significant, at 55 minutes after stressor onset. EAC was not significantly related to changes in cortisol or IL-6. These findings suggest that EAC modulates physiological responses to stress (see also Seeley, Yanez, Stanton, & Hoyt, 2017, on the link between EP and higher heart rate variability after stressor exposure). Over repeated stressful occasions, EE and EP might protect against chronic inflammatory processes, which are linked to numerous adverse outcomes such as depression, diabetes, cardiovascular disease, and cancer.

Summary of Moderators and Mechanisms of Emotional Approach Coping

Research suggests that the effects of EAC depend on both individual attributes and the conditions under which EAC is employed. Specifically, evidence suggests that EAC is most beneficial: (1) in response to stressors that are relatively uncontrollable; (2) when the social environment is receptive to emotional expression; and (3) when there is congruence between dispositional emotional tendencies and EAC. Although less research addresses mechanisms through which EAC confers benefit, evidence suggests that pathways include: (1) enhancing emotion regulation through affect labeling and associated stressor reappraisals; (2) clarifying goals, potentially resulting in a greater alignment between valued goals and resource deployment; (3) strengthening

relationships and improving relationship quality; and (4) enhancing habituation to the stressor through repeated exposure.

Emotional Processing and Expression in Clinical Interventions

Contemporary emotion science increasingly informs research in psychopathology and psychotherapy. A disturbance in core affective processing now is recognized as a shared characteristic across major psychological disorders (e.g., Barrett, Mesquita, Ochsner, & Gross, 2007). Moreover, emotion regulation has emerged as a unifying construct in therapeutic approaches (e.g., Moses & Barlow, 2006) and is acknowledged as vital to effecting positive change across a number of psychotherapeutic traditions (see Whelton, 2004, for a review).

An example of an approach in which EP and EE are central is the emotion-focused therapy (EFT) of Greenberg and colleagues (e.g., Greenberg, 2011). In accordance with the postulation that awareness and tolerance of negative emotions, as well as active enjoyment of positive emotions, are essential to psychological wellbeing, EFT uses a number of techniques designed to promote EP. A meta-analysis of four randomized, controlled studies of EFT in married couples demonstrated a reduction of marital distress (Johnson, Hunsley, Greenberg, & Schindler, 1999). In studies of the related process-experiential therapy for the treatment of depression, depth of EP predicts positive outcomes (Pos, Greenberg, Goldman, & Korman, 2003; Watson & Bedard, 2006). Acceptance and commitment therapy (ACT; e.g., Hayes, Luoma, Bond, Masuda, & Lillis, 2006) and dialectical behavior therapy (DBT; e.g., Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006) are other approaches in which attention to and regulation of emotion are central intervention components.

Therapies that encourage EP and EE also produce favorable outcomes in medical populations (Giese-Davis et al., 2002; Spiegel, Bloom, Kraemer, & Gottheil, 1989). In a randomized, controlled trial, women with metastatic breast cancer who participated in supportive-expressive group therapy (a key component of which is EE) evidenced improvement in facets of emotion regulation relative to controls, including less suppression of negative affect and more restraint of aggressive, impulsive, inconsiderate, and irresponsible behavior (Giese-Davis et al., 2002).

Although not designed to be a psychotherapy, experimental trials of expressive disclosure, in which participants are randomly assigned to either express their deepest feelings and thoughts regarding a stressor over several sessions or to a non-expressive control condition (Pennebaker & Beall, 1986; Pennebaker & Chung, 2011), provide evidence for the utility of EP and EE. For example, in a meta-analysis of 146 experiments,

Frattaroli (2006) reported that expressive disclosure produced significant benefits on both psychological outcomes (e.g., depressive symptoms, anxiety, positive functioning) and physical health (e.g., illness behaviors such as medical visits, specific disease outcomes).

Research also suggests that active acceptance of emotional experiences can promote well-being. Experimental studies demonstrate that inducing emotional acceptance promotes greater recovery from negative affect in anxiety-provoking situations, relative to emotional suppression (Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Levitt, Brown, Orsillo, & Barlow, 2004). In another experimental study (Low, Stanton, & Bower, 2008), writing about stressor-related emotions in an accepting way led to more efficient heart rate habituation and recovery than did evaluating the appropriateness of stressor-related emotions.

Also relevant to the utility of EAC are comparisons of interventions targeting emotion-focused versus problem-focused coping skills, in which the emotion-focused interventions typically include emotional approach strategies. A controlled comparison of problem-focused and emotion-focused counseling for bereavement (Schut, Stroebe, van den Bout, & de Keijser, 1997) revealed significant gender differences in outcomes at seven months post-intervention, such that problem-focused counseling was more beneficial for women while emotion-focused counseling was more beneficial for men. In a controlled trial comparing problem-focused and emotion-focused group treatments for women coping with infertility (McQueeney, Stanton, & Sigmon, 1997), both treatment groups evidenced decreased distress at treatment completion relative to the control group; only the emotion-focused group also evidenced decreased distress at the one-month follow-up. The problem-focused group was more likely to have attained parenthood at an18-month follow-up than the other two groups, suggesting that individuals in the problem-focused group may have been more persistent in their efforts to become parents.

Studies by Baker and Berenbaum (2007, 2008, 2011) comparing the effectiveness of emotional approach and problem-focused coping interventions suggest that the benefit of inducing EAC varies as a function of individual attributes. In a study of the transition to college, first-year undergraduates who were less dispositionally attentive to and communicative of their emotions evidenced a greater decrease in negative affect at a two week follow-up if they were assigned to a two-hour group intervention aimed at inducing EAC relative to a problem-solving group intervention (Baker & Berenbaum, 2008). In contrast, individuals who were more emotionally attentive and communicative had a greater decrease in negative affect in the problem-solving intervention relative to the EAC intervention. Similarly, young adults coping with academic and interpersonal stressors who reported low levels of clarity and communication regarding their emotional experience demonstrated greater increases in positive affect at a two week follow-up if they were assigned to a 15-minute EAC writing intervention versus a problem-focused coping intervention (Baker & Berenbaum, 2007). In contrast, individuals who reported

high emotional clarity and communication demonstrated greater increases in positive affect following the problem-focused coping intervention relative to the EAC intervention.

The benefit of inducing EAC (versus problem-focused coping) also varies as a function of the interpersonal context. Baker and Berenbaum (2011) conducted a study of young adults coping with academic and interpersonal stressors who were assigned to a 90-minute dyadic intervention with a close friend aimed at inducing either EAC or problem-focused coping. Individuals who reported unsupportive behavior by their friends (e.g., minimizing, blaming) benefited less from the EAC intervention relative to the problem-focused coping intervention, demonstrating smaller increases in positive affect and decreases in negative affect. Just as social constraints limit the benefits of naturally-elected EAC, unsupportive interpersonal contexts appear to also limit the effectiveness of interventions aimed at promoting EAC.

Another controlled comparison of problem-focused to emotion-focused group interventions examined these strategies in the context of worksite stress (Bond & Bunce, 2000). The emotion-focused intervention, based on Acceptance and Commitment Therapy (ACT; Hayes et al., 2006), facilitated EAC and emotional acceptance, whereas the problem-focused intervention trained participants to identify and alleviate workplace stressors. Both treatments improved psychological adjustment and propensity to innovate at work, but through different mechanisms; ACT enhanced acceptance of negative emotions and thoughts, whereas the problem-focused intervention increased direct attempts to modify work stressors. Thus, although their mechanisms may differ, these findings suggest that both emotion- and problem-focused coping strategies can be useful when coping with stress. Importantly, one intervention that integrates, rather than compares, emotion-focused and problem-focused strategies is Folkman and colleagues' Coping Effectiveness Training (CET; Folkman et al., 1991), in which participants learn to select particular coping strategies in response to specific facets of stressful situations. In HIV-positive men, CET mitigated perceived stress, burnout, and anxiety (but not depressive symptoms) relative to the control condition, and coping self-efficacy mediated intervention effects on both perceived stress and burnout (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003).

Emotional Approach Coping as a Mediator of Intervention Effects

Research demonstrates that psychological interventions can modify EP and EE. For example, a vitality training program that focused on facilitating awareness of coping resources for rheumatic disease, including emotional awareness, EP, and EE, produced significant increases in EE and EP (Zangi, Garratt, Hagen, Stanton, Mowinckel, & Finset, 2009). Consistent with the authors' reasoning, EP and EE did not change in a self-management intervention for rheumatic disease that did not target these emotional parameters (Zangi et al., 2009). Another randomized trial comparing the effects of relaxation training versus anger awareness and expression training in young adults with chronic headaches found that both interventions reduced headache frequency, duration,

and pain severity, as well as symptoms of anxiety and depression, at four weeks post-intervention versus a wait-list control (Slavin-Spenny, Lumley, Thakur, Nevedal, & Hijazi, 2013). Only anger awareness and expression training significantly increased EP, while relaxation training and the wait-list control did not. EE did not change over time.

To the extent that EP and EE are targeted in intervention approaches, increases in EE and EP may act as mechanisms of intervention efficacy. In a trial of a 10-week cognitive-behavioral stress management (CBSM) group intervention, which promotes EP and EE, Antoni and colleagues (2001) found that CBSM reduced the prevalence of moderate depressive symptoms and increased benefit-finding and optimism for women with early-stage breast cancer relative to a control group, effects that were maintained at three months. Although EAC increased in CBSM relative to the control condition and was correlated with increased benefit-finding during and after CBSM, EAC was not a significant mediator of the relationship between CBSM and benefit-finding. In another trial, Antoni and colleagues (Antoni, Lechner, et al., 2006; Antoni, Wimberly, et al., 2006) tested the effects of CBSM against a control condition (one-day educational seminar) in 199 women recently diagnosed with non-metastatic breast cancer. Relative to the control condition, CBSM had positive effects on a variety of outcomes (i.e., cancer-related intrusive thoughts, negative affect, anxiety, social disruption, emotional well-being, positive states of mind, cancer-related benefit-finding, positive affect) for up to 12 months. Confidence in one's ability to relax mediated the intervention's effects (Antoni, Lechner, et al., 2006; Antoni, Wimberly, et al., 2006). CBSM also increased participants' coping with cancer through EE, which in turn mediated the effect of the intervention on a decline in negative affect and increase in both benefit-finding and positive states of mind (Antoni, Carver, & Lechner, 2009). In a recent uncontrolled test of a psychological attribution and emotional awareness and expression therapy for adults with chronic musculoskeletal pain, EAC increased alongside substantial improvements in pain, depressive symptoms, and distress over the course of six months (Burger et al., 2016). Moreover, the increase in EAC was significantly associated with improvements in depressive symptoms and distress (note that EAC could not be tested as a mediator in this design).

Other trials have not revealed EP and EE to be significant mediators. In a small sample of women with breast cancer ($N = 39$), a creative arts intervention, which was intended to increase EE, reduced negative affect relative to a control group, but did not increase EE (Puig, Lee, Goodwin, & Sherrard, 2006). A psychoeducational group intervention for wives of men with prostate cancer did not demonstrate significant differences between the treatment and control groups on distress or EAC (although the treatment group evidenced a nonsignificant trend toward greater EAC; Manne, Babb, Pinover, Horwitz, & Ebbert, 2004). Given that distress declined in the control group, the researchers noted that the study had limited statistical power to detect group differences. Manne and colleagues (2008) also tested mediators of an intervention designed to enhance communication and coping skills versus a supportive counseling intervention in 353 gynecological cancer patients. Both interventions produced a significant decline in depressive symptoms at six and nine months relative to a usual-care control. Both

interventions also increased EP and EE, and EP specifically mediated the effect of the communication intervention on depressive symptoms such that the intervention effect was no longer significant when controlling for the effect of EP. However, other mediators (e.g., reappraisal) were more reliably associated with intervention effects.

At present, modest evidence supports EAC as a mechanism for psychosocial intervention effects. Perhaps active attempts to process and express emotions surrounding a stressor subside once these coping processes successfully resolve stressor-related emotions. Thus, efforts to cope through emotional approach may increase during psychosocial interventions but subsequently diminish after effective resolution. Another possibility is that increases in EE prompted by a therapeutic intervention could be met with unsupportive responses in the individual's natural environment, thus dampening its potential utility (Manne et al., 2008). The benefits of EAC in the intervention context may also vary as function of other contextual and personal attributes. Similar to the observational research previously reviewed, EAC may be most adaptive for subsets of intervention samples (e.g., individuals in highly supportive or receptive environments, individuals with more personal resources); therefore, the benefits of EAC may be more reliably identified through analyses of its interaction with individual differences or contextual variables. Indeed, emerging evidence suggests that EAC may moderate the effects of interventions on outcomes.

Emotional Approach Coping as a Moderator of Intervention Effects

Evidence is accumulating that naturally-elected EAC can moderate the effects of experimentally-induced expressive disclosure. Stanton, Kirk, and colleagues (2000, Study 4) randomly assigned undergraduates coping with a parent's psychological or physical health problem to discuss their emotions or the facts regarding their parent's health problem over two sessions. At the second session, naturally-elected coping significantly moderated the condition effect such that participants who reported high baseline EE with regard to their parent's health problem displayed lower physiological arousal (heart rate) and negative affect when assigned to discuss their emotions, relative to participants with low baseline EE.

Five experimental studies suggest that naturally-elected EP and EE can also moderate responses to experimentally-induced written expressive disclosure. In an experiment with medical students writing about their clinical clerkships (Austenfeld, Paolo, & Stanton, 2006), participants with high baseline EE or EP related to stressful medical school experiences evidenced fewer depressive symptoms three months later if they were randomized to three sessions of writing about their deepest thoughts and feelings regarding clerkship experiences (i.e., expressive disclosure condition), whereas those low in EE or EP had lower depressive symptoms if they wrote about the future as if all their goals had been realized (i.e., best-possible-self condition). Control participants, who wrote objectively about clerkship activities of the past 24 hours, evidenced relatively high depressive symptoms that did not vary as a function of EAC. In addition, individuals low

in EP assigned to the best-possible-self condition had fewer healthcare visits at three months compared to low EP participants in both other conditions. In a similar study of undergraduates, Austenfeld and Stanton (2008) found that participants high in EP evidenced a decline in hostility (but not depressive symptoms or medical visits) at a one-month follow-up in the expressive disclosure condition, whereas low EP participants benefitted more in the best-possible-self condition on hostility and medical visits.

In another trial, Kraft, Lumley, D'Souza, and Dooley (2008) compared written expressive disclosure to both audiotaped relaxation training and a control condition in individuals with migraine headaches. Assessed at baseline and three months, dependent variables were headache frequency, pain severity, functional and emotional disability from headache, and negative and positive affect. Greater dispositional EAC (combined EE and EP) predicted improvement on all measures following expressive disclosure (versus the relaxation or control conditions). EAC significantly moderated condition effects such that participants high in EAC in the expressive disclosure condition demonstrated improved headache frequency and disability and marginally lower pain severity and negative affect versus those in the control condition. Participants high in EAC in the expressive disclosure condition also demonstrated improved headache frequency and greater positive affect versus those in the relaxation condition. Moderated patterns were similar for EE and EP. The researchers suggested that "People with limited motivation or ability to process and express emotions may find WED [written expressive disclosure] unappealing, or struggle to identify stressors, disclose feelings, and generate cognitive or affective changes" (p. 70). Another experimental study similarly suggests that expressive disclosure is most beneficial for individuals who are more emotionally expressive by disposition (Niles, Haltom, Mulvenna, Lieberman, & Stanton, 2014). Young adults who were high in dispositional emotional expressiveness and assigned to an expressive disclosure condition evidenced a decrease in anxiety at three months, whereas anxiety increased for young adults who were low in emotional expressiveness. Dispositional expressivity did not predict change in anxiety for individuals in the control condition.

Cohen, Sander, Slavin, and Lumley (2008) examined the effects of one session of written expressive disclosure compared with one session of interpersonal disclosure to a nondirective, empathic listener and a control condition in young adults coping with a stressful or traumatic experience. EP and EE significantly moderated condition effects. High EP predicted both a greater decline in negative affect immediately after the session as well as a greater decline in stressor-specific intrusive thoughts and avoidance at six weeks for participants in the written expressive disclosure condition versus the interpersonal disclosure condition. Similarly, EE predicted both a marginally greater decline in negative affect immediately after the session as well as a marginally greater decline in stressor-specific intrusive thoughts at six weeks for participants in the written expressive disclosure condition versus the interpersonal disclosure condition.

There is some evidence that individuals who endorse high EAC also garner greater benefit from more intensive therapeutic interventions than provided by self-directed written expressive disclosure. Manne, Ostroff, and Winkel (2007) conducted a trial

comparing a couple-focused group intervention to usual care in a sample of 238 women within six months of diagnosis with early-stage breast cancer and their partners. Conducted in six 90-minute sessions, the intervention focused on understanding of the impact of cancer on their relationship and enhancing communication and support. Assessed at pre-intervention and one week and six months after the intervention, dependent variables were depressive symptoms, anxiety, well-being, loss of behavioral/emotional control, and cancer-specific distress. Intent-to-treat analyses revealed that women who had high cancer-related EP or EE at baseline demonstrated a greater decline in depressive symptoms in the intervention versus the control group (Manne et al., 2007). Analyses also were conducted to examine differences among those randomly assigned to the intervention who did not attend any sessions (n = 42) with those who attended at least one intervention session (n = 78) and the usual care group (n = 118). Cancer-related EP and EE moderated intervention effects, such that women high on EE or EP who attended at least one intervention session benefited from the intervention on depressive symptoms and anxiety (and well-being for women high on EP) relative to both women who were offered but did not attend the intervention and women in the control group. EAC was a stronger and more consistent moderator of effects than was use of protective buffering toward the partner or coping with cancer through active acceptance. (Note that Manne et al. [2005] also reported that the intervention was more beneficial for women who had unsupportive partners.)

Results from a pilot study assessing the effects of a 16-week DBT-based skills training group versus a wait-list control in 24 individuals with treatment-resistant major depressive disorder (MDD) also suggest that individuals who engage in EP garner more benefit from the intervention (Feldman, Harley, Kerrigan, Jacobo, & Fava, 2009). EP moderated the intervention effect such that increases in EP over a one-week period were associated with decreased depressive symptoms for individuals in DBT, but with increased depressive symptoms for control participants. Because DBT focuses on the awareness, expression, regulation, and acceptance of emotions, the authors posited that the skills gained from DBT allowed participants to approach emotional experience non-judgmentally in a skillful and productive manner. In comparison, participants in the wait-list control who reported increased EP may have felt overwhelmed or stuck by greater contact with their emotions in the absence of DBT skills, resulting in increased depressive symptoms.

Finally, an observational study of online peer-led support groups among women with breast cancer also suggests that EAC interacts with level of participation to modulate therapeutic benefit (Batenburg & Das, 2014). Women who participated frequently in online peer-led support groups and had high levels of EAC reported the greatest emotional well-being at both study entry and six months. Among frequent participants, low levels of EAC predicted an increase in emotional well-being over six months. When online participation was infrequent, EAC had a compensatory effect, such that high EAC

predicted an increase in emotional well-being, and low EAC was not associated with change in well-being.

Summary of Intervention Findings

Several psychosocial interventions and experimental inductions that promote EAC have yielded positive effects on a range of outcomes. Findings from both brief experimental inductions and more intensive therapeutic interventions that involved emotional disclosure reveal that congruence between the naturally-elected or dispositional EAC and induced emotional disclosure may yield benefits (Austenfeld, Paolo, & Stanton, 2006; Austenfeld & Stanton, 2008; Cohen, Sander, Slavin, & Lumley, 2008; Kraft, Lumley, D'Souza, & Dooley, 2008; Stanton et al., 2000), although contradictory findings exist (Baker & Berenbaum, 2007, 2008). Similar to moderated effects in observational studies, these findings highlight the importance of the interplay of personal attributes and environmental contingencies when evaluating the utility of EAC and other strategies to regulate emotion under stressful conditions. Although a different indicator of emotional processing (Klein, Mathieu-Coughlan, & Kiesler, 1986) has been demonstrated to mediate the efficacy of interventions to promote EAC (Pos et al., 2003; Watson & Bedard, 2006), minimal evidence has emerged for emotional approach coping as assessed by the EAC scales as a mechanism for effects (Antoni, Carver, et al., 2009).

Remaining Questions and Directions for Research

In stimulating research on the construct of EAC, we hoped to make three contributions to the stress and coping literature. Our central goal was to challenge the previously accepted notion of emotion-focused coping as maladaptive by providing a fair test of whether coping aimed at approaching emotions through EP and EE can promote well-being and health. To that end, our second goal was to provide a measure of EAC that is not confounded with distress and self-deprecatory content. Finally, we hoped to contribute to the understanding of the conditions under which EAC could generate benefit (or harm) and of the mechanisms underlying these effects. In our view, we and other researchers have made progress toward these goals.

With regard to our first goal, evidence accumulated over the past two decades convincingly demonstrates that coping through EP and EE can promote psychological and physical health. The cross-sectional, longitudinal, and experimental research on EAC, together with experimental research on expressive disclosure and controlled trials of relevant therapeutic approaches, support this conclusion. Of course, this conclusion does not imply that EAC is invariably adaptive: some of the work described in this chapter suggests that such coping can be maladaptive or inconsequential, as do examples in the

broader literature (e.g., Bonanno et al., 2011; Seery, Silver, Holman, Ence, & Chu, 2008). The ability to respond flexibly to contextual exigencies with regard to approaching one's emotions might yield the most favorable outcomes (e.g., Bonanno, Papa, Lalande, Westphal, & Coifman, 2004).

In future research, it will be important to investigate the consequences of processing and expressing specific negative emotions such as sadness, anger, and fear (e.g., Lieberman & Goldstein, 2006; Trierweiler, Eid, & Lischetzke, 2002) and the role of the experience and expression of positive emotions in the coping process (e.g., Folkman & Moskowitz, 2004; Fredrickson, 2001). Specification of the unique characteristics of adaptive EP in contrast to rumination also warrants continued study (e.g., Kross, Ayduk, & Mischel, 2005). The influence of EAC on a broader range of biological stress responses, behavioral outcomes, and markers of physical health also requires more research.

With regard to our second goal of offering a self-report measure of EAC, the resulting scales (Stanton, Kirk, et al., 2000) are seeing use in our and others' research. When should the EAC scales be used? If the researcher is seeking a measure of the intentional tendency to process and express emotions during stressful experiences in general or during specific stressors, that is brief, psychometrically sound, and has evidence of predictive utility, the EAC scales are a good choice. In that they do not contain content that indicates distress or self-deprecation, the EAC scales represent an advancement over several published scales of emotion-focused coping. They easily can be added to other self-report coping measures (e.g., Carver et al., 1989) if the goal is to assess a broader range of coping processes. Moreover, research demonstrates that the EAC scales are useful indicators of stress-related EP and EE in investigations of determinants of psychological and physical health outcomes across a range of naturalistic stressors, and of who stands to benefit from psychosocial interventions that promote emotion regulation. However, the EAC scales cannot fully capture the intricacies of EP and EE. For example, several qualities distinguish EP or EE that facilitates effective goal pursuit and resolution of stressors from that which devolves into unproductive rumination or counterproductive emotional discharge (see Kennedy-Moore & Watson, 2001; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Watkins, 2008, for illustrative reviews). More fine-grained assessment and experimental research are necessary to refine the conclusions stemming from research with the EAC scales.

With regard to our third goal, progress is evident in delineating the conditions under which coping through EAC confers benefit and the pathways for its effects. Thus far, research suggests that the utility of EAC is moderated by characteristics of the stressor and concomitant cognitive appraisals (e.g., controllability), the interpersonal context, and dispositional characteristics that affect emotion regulation (e.g., gender-related attributes, affect intensity). Basic and applied research provides evidence for the adaptive utility of congruence between naturally-elected emotional approach strategies and skills promoted in therapeutic interventions, as well as between dispositional emotion regulation tendencies and situation-specific EAC. Mechanisms through which EAC carries its effects likely include affect labeling, cognitive reappraisal, goal clarification and

pursuit, physiological habituation and other biological stress-moderating responses, and interpersonal processes that promote stressor resolution. The body of research on moderators and mediators of the effects of EAC is small, however, and continued longitudinal and experimental research is needed. Because high levels of coping may represent a response to high distress, observational studies should include longitudinal assessments, and potential confounds, such as baseline distress, should be adjusted in order to disentangle the effects of coping strategies from the effects of stressor severity. Future research on the adaptive implications of engaging in EP and EE in concert or in sequence also could be useful. Increasingly precise understanding of for whom, under what circumstances, and how coping through EP and EE in stressful contexts is effective will be important next steps in this line of research and can inform clinical interventions to enhance skills in emotion regulation.

Conclusions

In contrast to earlier conclusions in the stress and coping literature that emotion-focused coping is maladaptive, research now demonstrates that coping through active attempts to acknowledge, understand, and express emotions can have salutary consequences. Attributes of the interpersonal context, the stressful experience, and the individual are important moderators of the utility of EAC. The integration of stress and coping research, emotion science, and controlled tests of related clinical interventions holds promise in illuminating the roles of coping through processing and expressing emotions in influencing health and well-being.

Future Questions

1. How does stressor-related emotional processing and expression unfold over time, and how do these trajectories affect outcomes?
2. How does the processing and expression of specific emotions, both negative and positive, influence stressor-related adjustment?
3. For whom and under what conditions does coping through emotional processing and expression facilitate or hinder adaptive functioning?
4. What are the biopsychosocial mechanisms through which emotional approach coping affects psychological and physical health?
5. How can research on emotional approach coping best be translated into effective interventions to promote health and well-being?

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Coping through Emotional Approach: The Utility of Processing and Expressing Emotions in Response to Stress

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