

Coping Through Emotional Approach: Scale Construction and Validation

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Four studies demonstrate the psychometric adequacy and validity of scales designed to assess coping through emotional approach. In separate undergraduate samples, exploratory and confirmatory factor analyses of dispositional (Study 1) and situational (Study 3) coping item sets yielded 2 distinct emotional approach coping factors: emotional processing (i.e., active attempts to acknowledge and understand emotions) and emotional expression. The 2 scales yielded high internal consistency and test-retest reliability, as well as convergent and discriminant validity. A study (Study 2) of young adults and their parents established the scales' interjudge reliabilities. Longitudinal (Study 3) and experimental (Study 4) research supported the predictive validity of the emotional approach coping scales with regard to adjustment to stressful encounters. Findings highlight the utility of functionalist theories of emotion as applied to coping theory.

An often-cited distinction in the coping literature is that between problem- and emotion-focused coping (Endler & Parker, 1990b; Lazarus & Folkman, 1984). Both aimed at managing situations perceived as taxing the individual's resources, problem-focused coping involves attempts to alter the source of the stressful encounter, whereas emotion-focused coping consists of efforts to palliate negative emotions surrounding the situation. As assessed by published coping scales, emotion-oriented coping, and specifically coping through emotional expression, often are found to be associated with distress and dysfunction (Stanton, Danoff-Burg, Cameron, & Ellis, 1994). Such findings mirror traditional conceptualizations in the general literature on emotion that emphasize its disorganizing and maladaptive qualities (Averill, 1990; Thompson, 1991). By contrast, newer functionalist approaches attend to the fundamentally adaptive nature of emotion and its expression (e.g., Campos, Mumme, Kermoian, & Campos, 1994; Clore, 1994; Ekman, 1994; Thompson, 1994). The goal of the present four studies is to describe the development of two scales designed to measure coping through emotional processing and emotional expression and to provide preliminary tests of their potentially adaptive functions.

In the array of conceptualizations of emotion, Levenson's (1994) represents a functionalist perspective:

Emotions are short-lived psychological-physiological phenomena that represent efficient modes of adaptation to changing environmen-

tal demands. Psychologically, emotions alter attention, shift certain behaviors upward in response hierarchies, and activate relevant associative networks in memory. Physiologically, emotions rapidly organize the responses of different biological systems . . . to produce a bodily milieu that is optimal for effective response. Emotions serve to establish our position vis-à-vis our environment, pulling us toward certain people, objects, actions, and ideas, and pushing us away from others. (p. 123)

Functionalist views of emotion are present in several areas of psychology, including developmental concepts such as emotional competence (Saarni, 1990), personality constructs such as emotional intelligence (Salovey, Bedell, Detweiler, & Mayer, 1999; Salovey & Mayer, 1990), and clinical approaches, including Mahoney's developmental constructivist approach (1991) and process-experiential therapy (e.g., Greenberg & Safran, 1987). These theorists agree that an ability to approach one's own and others' emotions is crucial to healthy intra- and interpersonal functioning.

The adaptive functions of emotional processing and expression also have received empirical support. For more than a decade, Pennebaker and others have examined the benefits of expressive writing regarding stressful experiences (for reviews, see Pennebaker, 1989, 1993; Pennebaker, Mayne, & Francis, 1997; Smyth & Pennebaker, 1999). The typical method involves random assignment of participants to write about traumatic versus mundane topics over multiple, brief sessions. Individuals writing about traumatic experiences are encouraged to express their deepest thoughts and feelings. In a recent meta-analysis of 13 studies of written emotional expression, Smyth (1998) obtained an overall effect size of $d = .47$, representing an improvement of 23% in experimental groups compared with controls. Significant positive effects of emotionally expressive writing emerged on self-reported health, psychological well-being, physiological functioning (e.g., immune function), and general functioning (e.g., reemployment after layoff, grade point average).

An indirect source of evidence for the adaptiveness of emotional expression exists in the work on the maladaptive consequences of

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suppression of emotions. For example, Gross and Levenson (1997; Gross, 1998) found that, compared with a control condition, experimentally induced suppression of negative emotions produces no relief from the subjective emotional experience and an increase in sympathetic nervous-system activation versus a control condition. The research of Wegner and others compares experimentally induced emotional and cognitive expression to suppression. Compared with an expression condition, suppression of emotion-laden or unwanted thoughts results in greater subsequent intrusion of the thought (e.g., Wegner, Schneider, Knutson, & McMahon, 1991) and greater anxiety (e.g., Roemer & Borkovec, 1994).

Finally, experimental trials of clinical interventions demonstrate the benefits of emotional expression. For example, Spiegel's supportive-expressive therapy produced enhanced psychological adjustment and some evidence of prolonged survival in a randomized, controlled study of women with advanced breast cancer (Spiegel, Bloom, Kraemer, & Gottheil, 1989; Spiegel, Bloom, & Yalom, 1981). Important facets of this treatment were active processing and expression of the full range of emotions surrounding breast cancer and mortality.

Given both theoretical and empirical evidence that emotional processing and expression can confer benefit, conclusions in the stress and coping literature that (a) "a consistent body of research points to reliance on avoidance coping processes (primarily emotional discharge) as an important risk factor that predicts distress among both adults and their children" (Moos & Schaefer, 1993, p. 249) and (b) "emotion-focused coping, by contrast, has consistently proven to be associated with negative adaptation" (Kohn, 1996, p. 186) are surprising. These conclusions are based on findings that emotion-focused coping is associated with such indicators of maladjustment as pessimism (Scheier, Weintraub, & Carver, 1986), physical symptoms (Billings & Moos, 1984), and negative affect and depression (Endler & Parker, 1990b; Felton, Revenson, & Hinrichsen, 1984; Moos, Brennan, Fondacaro, & Moos, 1990). Such findings result in part from at least three problems in conceptualization and measurement of emotion-focused coping (Stanton et al., 1994). First, diverse coping methods, such as denial and seeking social support, are aggregated under the rubric of emotion-focused coping. Although they may have a common goal of emotion regulation, some of these strategies facilitate approach toward the stressor, whereas others involve avoidance. Indeed, some forms of emotion-focused coping are correlated inversely (Scheier et al., 1986). When these conceptually distinct qualities of emotion-focused coping are aggregated within single scales, obtained relations between coping and adaptive outcomes are interpretationally ambiguous. Second, published scales designed to measure emotional approach are contaminated with distress-laden and self-deprecatory content. For example, coping items include (a) "become very tense" (Endler & Parker, 1990a), (b) "focus on my general inadequacies" (Endler & Parker, 1990a) and (c) "take it out on other people when I feel angry or depressed" (Moos, 1988). Redundancy in measurement may account in part for the empirical association of emotion-focused coping with psychopathology or negative emotion. Third, unconfounded scales to assess emotional approach as a coping strategy (i.e., coping through actively processing and expressing emotion) do not exist. For example, the frequently used Ways of Coping questionnaire (Lazarus & Folkman, 1984) contains only two items reflecting unconfounded emotional expression.

These problems led us to believe that the putative influence of emotional approach coping on adjustment in stressful encounters had not undergone a fair test. In research designed to provide a preliminary examination of this question (Stanton et al., 1994, Study 1), clinical psychologists rated published (Carver, Scheier, & Weintraub, 1989; Endler & Parker, 1990a; Moos, 1988; Tobin, Holroyd, & Reynolds, 1984) and author-constructed emotion-focused coping items on the extent to which each reflected negative psychological symptomatology. Author-constructed items assessed coping through identifying, understanding, and expressing emotions and included no mention of distress. A majority of published items, but none of the author-constructed items, were rated as indicative of psychopathology. In Study 2, we explored the relation of unconfounded emotional approach coping to adjustment in stressful circumstances. Undergraduates completed measures of adjustment and strategies for coping with a self-nominated stressful situation at two points separated by 1 month. Measures of coping were those used in Study 1. Factor analysis revealed two coherent emotion-focused coping factors, one including con-founded items and the other including unconfounded items. Unconfounded emotional approach coping interacted significantly with participant sex in prospectively predicting adjustment. Young women who used emotional approach coping became less distressed over time, whereas young men who coped through emotional approach became more distressed.

From these two studies, we concluded that (a) a number of items on emotion-focused coping measures are confounded with measures of distress and psychopathology, (b) inclusion of these items on coping scales may inflate the relations obtained between emotion-oriented coping and maladjustment, and, (c) specific emotion-focused strategies are adaptive in confronting stressful circumstances under particular conditions. However, we made no attempt in these studies to distinguish different facets of coping through emotional approach and to determine their unique convergent, discriminant, and predictive validities. These were the goals of the series of studies reported here. Consistent with Lazarus and Folkman's (1984) conceptualization of coping processes, emotional approach coping is assumed to represent effortful attempts to approach one's emotions in response to situations appraised as taxing or exceeding one's resources. The literatures in personality and developmental psychology on functional emotion-directed personality processes led us to postulate that emotional approach coping involves at least three distinct strategies: (a) emotion identification, that is, maintaining self-awareness and active acknowledgment of one's emotional states (Saarni, 1990; Salovey et al., 1999); (b) emotional processing, which involves actively attempting to explore meanings and come to an understanding of one's emotions (e.g., Averill & Thomas-Knowles, 1991); and (c) emotional expression, which may assume both interpersonal and intrapersonal (e.g., journal writing, artistic production) forms (Averill & Thomas-Knowles, 1991; Salovey & Mayer, 1990). Although individuals may develop characteristic ways of managing emotions in stressful encounters, prompting our development of a dispositional version of the coping scales in Studies 1 and 2, coping processes also are assumed responsive to changing contextual factors (Lazarus & Folkman, 1984), guiding the construction of situation-specific versions of the scales in Studies 3 and 4.

In Study 1, we examined the discriminant and convergent validity of scales assessing emotional approach coping, as well as

test-retest and internal consistency reliabilities and relations with socially desirable responding. We expected emotional approach to be related to other approach-oriented coping strategies (e.g., problem-focused coping). Because we construed emotional approach coping as responsive to personality processes, broad contextual factors (e.g., cultural and familial influences), and situational attributes, we expected a dispositional version of emotional approach coping scales, and particularly coping through emotional expression, to be moderately positively correlated with personality measures of individual and familial expressivity and moderately negatively correlated with ambivalence over emotional expression. In line with previous findings (Stanton et al., 1994) and functional theories suggesting that emotional processing and expression aid in successful goal pursuit, we anticipated negative relations between emotional approach coping and indicators of poor adjustment and its correlates (e.g., rumination), at least for women, and positive relations with measures of instrumentality and goal directedness.

Finally, we explored gender differences in emotional approach coping and its relations with other variables. Evolutionary, cultural, and developmental processes may prompt somewhat different goals for women and men, with men's goals directed more toward autonomy and minimization of vulnerability (Brody & Hall, 1993; Cross & Madson, 1997; Timmers, Fischer, & Manstead, 1998). If a sense of autonomy is bolstered by having a private inner life (Wegner & Erber, 1993) and thus perceived vulnerability accompanies emotional approach, then it may be used less frequently and with less success by men. Some supportive data exist in studies of early socialization. Relative to girls, boys expect peers and parents to be less receptive to negative emotional displays, especially sadness (Fuchs & Thelen, 1988; Zeman & Garber, 1996; Zeman & Shipman, 1997), and boys are more likely to endorse display rules favoring emotional containment (Werrbach, Grotevant, & Cooper, 1990; Zeman & Garber, 1996; Zeman & Shipman, 1997). Further, parents discuss emotion more and display a wider range of emotions with daughters (see Brody & Hall, 1993). Thus, women may become more skilled in processing and expressing emotions and may meet with greater social approval for doing so, although these differences may vary as a function of contextual factors (Brody, 1997; Robinson, Johnson, & Shields, 1998). Accordingly, we expected emotional approach coping to be correlated more strongly with indicators of positive adjustment and a sense of successful goal directedness for women than for men.

Study 1

Method

Participants and Procedure

Four hundred undergraduate students (196 men; 204 women; M age = 19.06 years; SD = 2.21) participated in exchange for credit in their introductory psychology courses. Groups of no more than 30 participants completed packets of questionnaires (Time 1). All participants completed the dispositional coping items and the Emotional Expressiveness Questionnaire (EEQ; King & Emmons, 1990). The remaining scales were completed by approximately half the participants (consequently, n s differ from scale to scale). Those participants who could be contacted and who had not completed their credit requirement (n = 141; 49 men; 92 women) returned 4 weeks later (Time 2) for a second administration of the coping items.

Measures

Measures of coping processes. The intent in scale construction was to generate items in three domains regarding coping through emotional approach: identification of emotions, emotional processing, and emotional expression. Published (Carver et al., 1989; Tobin et al., 1984) and author-constructed items found by Stanton et al. (1994, Study 2) to reflect emotional approach coping were used. This 16-item set was augmented by having five members of Annette L. Stanton's research team (one psychologist, two psychology graduate students, two psychology majors) write items that reflected each of the three domains. The resulting set of 54 items was rated by four team members for whether they reflected primarily identification, processing, or expression of emotion. Items on which all raters agreed (acknowledgment, 10 items; processing, 13 items; expression, 10 items) were included on a dispositional coping scale. Instructions were adapted from Dunkel-Schetter, Folkman, and Lazarus (1987) and from Carver et al. (1989) to read as follows:

We are interested in how people respond when they confront stressful experiences. By "stressful" we mean situations that are difficult or troubling to you, either because they upset you or because it takes considerable effort to deal with them. There are many ways to deal with stress. This questionnaire asks you to indicate what *you* generally do, feel, and think when *you* experience stressful situations. Obviously, different experiences may bring out different responses, but think about what you *usually* do when you are under a lot of stress.

Four-point response options (1 = *I usually don't do this at all*; 4 = *I usually do this a lot*) were taken from Carver et al. (1989). Also included were items from the COPE (Carver et al., 1989), a multidimensional coping-strategies inventory of demonstrated reliability and validity. Forty-eight items were administered, comprising 13 subscales. The Suppression of Competing Activities and Restraint Coping subscales were not included, because two other problem-focused scales were thought to be sufficient to indicate that domain. The Focus on and Vent Emotions items also were not included, because some were found by Stanton et al. (1994) to be contaminated with distress.

Finally, 13 items from other published emotion-focused coping scales (Carver et al., 1989; Endler & Parker, 1990a; Moos, 1988; Tobin et al., 1984) found by Stanton et al. (1994) to be contaminated with distress or self-deprecatory content (e.g., "I get angry and really blow up") were included. These were included in order to demonstrate that they were distinct from the author-constructed emotional approach scales. The final coping measure included 94 items.

Measure of social desirability. A short form of the Marlow-Crowne Social Desirability Scale (Strahan & Gerbasi, 1972) contains 10 items in a true-false format. The short form correlates highly with the original scale, and the internal consistency is adequate (Strahan & Gerbasi, 1972).

Measures of dispositional emotional experience. Four scales relevant to emotional experience and expressiveness were administered. The EEQ (King & Emmons, 1990) assesses the tendency to express negative, positive, and intimacy-related emotions. The 16 items (e.g., "I often tell people that I love them") are rated on 7-point scales. Internal consistency was .78, and the scale predicted both well-being and daily negative mood (King & Emmons, 1990). The Affect Intensity Measure (AIM; Larsen, Diener, & Emmons, 1986) contains 40 items (e.g., "When I feel happy it is a strong type of exuberance") that tap the strength of affective reactions to typical positive and negative life situations. It has high reliability and correlates with intensity of daily moods assessed over several months (Larsen & Diener, 1987). The Ambivalence over Emotional Expressiveness Questionnaire (AEQ; King & Emmons, 1990) assesses ambivalence about expressing both negative and positive emotions and contains 28 items (e.g., "Often I'd like to show others how I feel, but something seems to be holding me back") rated on 5-point scales. The scale's authors reported sound internal consistency and test-retest reliability. They demonstrated that the AEQ

predicts psychological distress over time. The Family Expressiveness Questionnaire (FEQ; Halberstadt, 1986) has four 10-item subscales that measure the affect and power dimensions in family socialization, including positive and negative dominant and nondominant family-interaction patterns. Respondents rate how often these affect patterns occurred while they were growing up in their families (e.g., "Expressing anger at someone else's carelessness"). The author demonstrated (a) high internal consistency and test-retest reliability and (b) that family expressiveness is associated with style of and skill in nonverbal communication.

Measures of other relevant personality dispositions. The Hope Scale (Snyder et al., 1991) assesses a sense of successful goal-directed determination (i.e., agency) and of ability to generate plans to achieve goals (i.e., pathways). The scale contains eight items (plus four fillers) rated on 4-point scales. Convergent and discriminant validity are documented (Snyder et al., 1991).

A short form of the Personal Attributes Questionnaire (Spence, Helmreich, & Stapp, 1974) assesses male-valued (primarily instrumental; 8 items) and female-valued (primarily expressive; 8 items) characteristics. Respondents rate themselves on 4-point scales. Correlations of the short version with the full scales were .90 (Spence et al., 1974).

Measures of adjustment. Standardized psychological adjustment measures included the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979); the State-Trait Anxiety Inventory—Trait form (STAI; Spielberger, Gorsuch, & Lushene, 1970); the 12-item Neuroticism scale from the NEO Five-Factor Inventory (Costa & McCrae, 1989); the 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985); and the 10-item Rosenberg Self-Esteem scale (Rosenberg, 1979).

Measures of correlates of depression. Two scales assessing correlates of depression were administered. The internally consistent Silencing the Self Scale (Jack & Dill, 1992) assesses cognitive schemas regarding intimate relationships and is associated longitudinally with depression in women. The 31 items tap mechanisms by which individuals may silence their own feelings, thoughts, and actions (e.g., "Caring means putting the other person's needs in front of my own"). The Ruminative Responses (21 items) and the Distracting Responses (11 items) scales of the Response Style Questionnaire (Nolen-Hoeksema & Morrow, 1991) contain 4-point scales assessing what individuals think or do when they feel depressed. The Ruminative Responses scale includes items (e.g., "Think about how alone you feel") tapping the tendency to focus on self, symptoms, or causes and consequences of depressed mood. The Distracting Responses scale includes items (e.g., "go to a favorite place to get your mind off your feelings") assessing nondangerous, active, and distracting responses. Higher rumination and lower distraction predicted increased depression after a natural disaster (Nolen-Hoeksema & Morrow, 1991).

Results

Factor Analysis on Coping Items

The 94 coping items were submitted to a maximum likelihood factor analysis with promax rotation to allow the factors to be correlated (Mulaik, 1972). Because the factor solutions for men and women were virtually identical, data were combined across sexes. A 9-factor solution, accounting for 50% of the variance, best characterized the data, as indicated by eigenvalues greater than 3.0, relatively high factor loadings of items on their respective factors ($>.50$), and relatively low loadings on all other factors ($<.30$).¹ Most (21/23) items intended to reflect emotion acknowledgment and processing loaded on the first factor, and all 10 items reflecting emotional expression loaded on the second factor. Because the original COPE (Carver et al., 1989) subscales include 4 items, 4 items from each factor were selected to indicate Emotional Processing and Emotional Expression based on high factor loadings

and lack of redundancy, as presented in Table 1.² A third factor, deemed Distress-Contaminated Coping, included 10 of 13 items from other emotion-focused coping scales that were found by Stanton et al. (1994) to include distress or self-deprecatory content. As shown in Table 1, the other 6 factors represented composites of the Carver et al. (1989) coping scales. The remaining 17 items that did not meet factor inclusion criteria included 2 emotion-acknowledgment items (e.g., "I notice how I am feeling"), 3 distress-contaminated items (e.g., "I yell or shout to let off steam"), and all items on Carver et al. (1989) mental disengagement, acceptance, and positive reframing subscales.

Reliabilities, Descriptive Statistics, and Gender Differences

Cronbach's coefficient alpha, an internal consistency estimate of reliability, and test-retest reliabilities for the coping scales derived from the factor analysis are presented in Table 1, as are descriptive statistics for the scales. Reliabilities were high and were nearly identical for men and women, but they differed significantly on coping scores, multivariate $F(9, 390) = 16.56, p < .0001$. Significant univariate analyses revealed that women reported coping more through Emotional Processing $F(1, 398) = 14.65, p < .0005$, $R^2 = .04$, Emotional Expression $F(1, 398) = 22.62, p < .0001$, $R^2 = .05$, Distress-Contaminated Coping, $F(1, 398) = 21.75, p < .0001$, $R^2 = .05$, and Seeking Social Support, $F(1, 398) = 93.38, p < .0001$, $R^2 = .19$, whereas men coped more through Alcohol and Drug Disengagement, $F(1, 398) = 25.30, p < .0001$, $R^2 = .06$. No significant sex differences emerged for the remaining four coping scales.

Correlations of Emotional Approach Scales With Other Coping Scales

The correlation between the Emotional Processing and Emotional Expression scales was .52 at Time 1 and .65 at Time 2 ($p < .0001$). Time 1 correlations of the emotional approach scales with the other coping scales generally were less than .10. The exceptions for the Emotional Processing scale were Seeking Social Support ($r = .44, p < .0001$) and Problem-Focused Coping ($r = .47, p < .0001$). The exceptions for the Emotional Expression scale were Distress-Contaminated Coping ($r = .12, p < .02$), Seeking Social Support ($r = .56, p < .0001$), and Problem-Focused Coping ($r = .24, p < .0001$). Correlations among coping scales were nearly identical for men and women, and they assumed the same pattern at Time 2.

Correlations of Emotional Approach Coping Scales With Other Scales

Correlations of emotional approach coping scales with other measures administered are displayed in Table 2. Tests for sex differences in correlations also were conducted, and significant

¹ Although additional factors had eigenvalues greater than 1.0, the scree plot indicated that eigenvalues leveled off after nine factors, with no subsequent coherent factors.

² Expanded item sets for the Emotional Processing and Emotional Expression subscales are available from Annette L. Stanton.

Table 1

Emotional Approach Coping Items and Factor Loadings, Internal Consistencies, Test-Retest Reliabilities, and Descriptive Statistics for Dispositional Coping Scales

Item	Factor ^a		α	r	Men		Women	
	I	II			M	SD	M	SD
Emotional Processing			.72	.73	2.61	0.62	2.85	0.63****
I take time to figure out what I'm really feeling.	.77	.06						
I delve into my feelings to get a thorough understanding of them.	.77	-.01						
I realize that my feelings are valid and important.	.80	.01						
I acknowledge my emotions.	.65	.13						
Emotional Expression			.82	.72	2.45	0.71	2.79	0.73****
I let my feelings come out freely.	-.11	.76						
I take time to express my emotions.	.10	.63						
I allow myself to express my emotions.	.03	.80						
I feel free to express my emotions.	.12	.71						
Sample items on other factors ^b								
Distress-Contaminated Coping			.86	.75	2.48	0.58	2.76	0.63****
I become very tense.	-.04	-.04						
Seeking Social Support			.90	.75	2.48	0.68	3.11	0.61
I talk to someone about how I feel.	.11	.15						
Problem-Focused Coping			.86	.74	2.85	0.62	2.95	0.59
I make a plan of action.	-.03	-.01						
Alcohol-Drug Disengagement			.94	.82	1.56	0.78	1.23	0.47****
I use alcohol or drugs to make myself feel better.	-.03	.06						
Avoidance			.78	.63	1.59	0.48	1.59	0.49
I give up the attempt to get what I want.	.07	.03						
Humor			.88	.70	2.41	0.75	2.32	0.82
I make jokes about it.	-.02	.08						
Turning to Religion			.92	.89	2.10	0.96	2.07	0.95
I seek God's help.	-.01	-.03						

Note. All scales are 4 items, except 10-item Distress-Contaminated Coping and 8-item composites of Carver et al. (1989) subscales: Seeking Social Support (Instrumental and Emotional), Problem-Focused Coping (Active Coping and Planning), and Avoidance (Denial and Behavioral Disengagement). All n s = 400 (196 men; 204 women), except for test-retest (n = 141; 49 men, 92 women).

^a Factor loadings (standardized coefficients) from Promax rotated factor pattern. Factor I = Emotional Processing. Factor II = Emotional Expression.

^b COPE subscale sample items selected were those with the highest factor loadings on their respective factors.

**** $p < .001$.

differences (one-tailed) are reported in the text. The two coping scales were uncorrelated with social desirability. Coping through emotional expression was related more consistently to scales measuring dispositional emotional expression than was coping through emotional processing. Emotionally expressive copers reported greater dispositional emotional expressiveness and affect intensity. Expressive coping also was related positively to three family expressiveness scales but was uncorrelated with negative-dominant family expressiveness (e.g., "Showing contempt for another's actions"). Those who coped through emotional processing were significantly more emotionally expressive, were more affectively intense (men only), were less ambivalent over expression (women only), and reported more positive-nondominant family expressiveness (men only). Women who coped more through emotional processing, $z = -2.59$, $p < .005$, and emotional expression, $z = -3.21$, $p < .001$, reported less ambivalence over emotional expression, whereas the scales were uncorrelated for men. Men who coped through emotional processing reported greater dispositional affect intensity, whereas the scales were uncorrelated for women, $z = 1.85$, $p < .05$.

Regarding other personality variables, women who coped more through emotional processing and emotional expression also reported higher levels of hope and instrumentality (i.e., masculinity) than did women low on these coping scales. The relation of

emotional processing and hope was stronger for women than men, $z = -1.69$, $p < .05$. The only significant relation for men was the positive association between femininity and emotional expression.

Regarding the adjustment variables, women who coped more through emotional processing had higher self-esteem and life satisfaction and lower trait anxiety, neuroticism, and depressive symptoms. These correlations were not significant for men, and relations of emotional processing with anxiety, $z = -2.31$, $p < .05$, neuroticism, $z = 1.74$, $p < .05$, and depression, $z = -1.71$, $p < .05$, revealed significant sex differences. Greater coping through emotional expression was associated with significantly higher life satisfaction in men but with no other adjustment scale for either sex.

With regard to correlates of depression, women who used more emotional processing and expression were less likely to silence their feelings and thoughts in intimate relationships than women with low coping scale scores. This relation was stronger for women than men, $z = -3.09$, $p < .005$ for emotional processing, $z = -2.48$, $p < .01$ for expression. Men who used more emotional processing were more likely to ruminate and distract themselves when feeling depressed, and men who used more emotional expression were more likely to use distraction. The relation between rumination and emotional processing was stronger for men than women, $z = 3.31$, $p < .0005$.

Table 2

Correlations Between Dispositional (Study 1) and Situational (Study 3) Emotional Approach Coping Scales and Other Measures

Measure	Emotional processing		Emotional expression	
	Men	Women	Men	Women
Social Desirability				
Study 1	.01	.08	.06	-.02
Study 3	-.14	.07	-.08	-.05
Emotional Expression Scales				
EEQ				
Study 1	.22***	.21***	.32***	.45***
Study 3	.23*	.17	.52***	.57***
Affect Intensity Measure	.27*	.00	.27*	.20*
AEQ				
Study 1	.10	-.28***	.01	-.44***
Study 3	.16	.00	-.05	-.25*
FEQ				
Positive-Dominant	.12	.15	.30***	.37***
Positive-Nondominant	.20*	.15	.32***	.36***
Negative-Dominant	-.06	-.05	.01	-.02
Negative-Nondominant	.18	-.04	.37***	.26*
Personality variables				
Hope				
Study 1	.12	.38***	.03	.23*
Study 3	.12	.43***	.17	.32***
PAQ				
Instrumentality	.15	.25*	.17	.23*
Expressiveness	.06	.16	.26*	.18
Adjustment variables				
Rosenberg Self-Esteem Scale	-.02	-.21*	-.19	-.13
SWLS				
Study 1	.19	.31***	.28*	.13
Study 3	.11	.15	.26*	.26*
State-Trait Anxiety Inventory	.07	-.25*	.06	-.06
Neuroticism				
Study 1	-.01	-.25*	-.02	-.08
Study 3	.14	-.33***	.01	-.18
BDI				
Study 1	-.01	-.26*	-.14	.01
Study 3	.10	-.17	.02	-.15
Correlates of depression				
Silencing the Self Scale	.05	-.40***	.04	-.32***
RSQ—Ruminative				
Study 1	.49***	.04	.19	.10
Study 3	.50***	.33***	.14	.16
RSQ—Distracting				
Study 1	.26*	.19	.31***	.13
Study 3	.25*	.41***	.10	.27*

Note. EEQ = Emotional Expressiveness Questionnaire; AEQ = Ambivalence over Emotional Expressiveness Questionnaire; FEQ = Family Expressiveness Questionnaire; PAQ = Personal Attributes Questionnaire; SWLS = Satisfaction With Life Scale; BDI = Beck Depression Inventory; RSQ = Response Style Questionnaire. For Study 1, sample sizes for men ranged from 92 to 104 and for women from 98 to 105, except for the EEQ, for which male $n = 196$ and female $n = 204$. For Study 3, $n = 112$ men and 101 women.

* $p < .05$. *** $p < .005$.

Discussion

Factor analytic results revealed two distinct forms of emotional approach coping, reflecting coping through emotional expression and through emotional processing, which involves active attempts to acknowledge and understand one's emotions. Rather than forming separate factors, the emotional identification and processing items loaded on a single factor. This makes conceptual sense, in that labeling and coming to understand one's emotions likely

reciprocally influence each other, and both involve attention and cognitive appraisal. Given in dispositional form, the resulting scales were internally consistent, had high test-retest reliability over a 4-week period, and were not contaminated with social desirability. They were distinct from other forms of coping, and they evidenced moderate correlations with seeking social support and problem-focused coping. These latter relations were hypothesized, given that all are strategies directed toward active engage-

ment with stressors. Engagement- versus disengagement-oriented coping approaches were found by Tobin, Holroyd, Reynolds, and Wigal (1989) to comprise higher order coping factors, which subsumed problem-focused and emotion-focused coping.

Evidence of convergent and discriminant validity also were provided in the relations of the emotional approach coping scales with other measures. As hypothesized, the emotional expression scale was correlated moderately with measures of dispositional and familial expressiveness (except negative-dominant family expressiveness), with which the emotional processing scale was related less consistently. Hypothesized significant correlations with hope and instrumentality held for women but not for men. The hope construct reflects a sense of goal-directed agency and pathways to meet goals. Perhaps one function of emotional approach coping for women is as a vehicle for determining and pursuing goals, contributing to the differential adaptability of emotional approach for men and women in some stressful situations, as found by Stanton et al. (1994).

As hypothesized, emotional approach coping, and particularly emotional processing, was associated with better adjustment, at least for women. None of the correlations exceeded .31, suggesting that emotional approach coping is distinct from distress and well-being. Further, women who used emotional approach reported being less likely to silence their own thoughts and feelings in service of intimate relationships. This finding suggests that emotional approach coping may be involved in identity maintenance and may protect women from depression (see also Jack & Dill, 1992; Stanton et al., 1994). The stronger relation of emotional processing and rumination in men than women may indicate that men engage in less effective forms of emotional processing.

In sum, this study provided preliminary evidence for the reliability, as well as the convergent and discriminant validity, of scales designed to measure coping through emotional approach. These data relied on individuals' own perceptions of their coping mechanisms and, thus, are subject to self-report biases (Coyne & Gottlieb, 1996). Study 2 was designed to address this issue.

Study 2

Because we had relied on self-report in Study 1, we were interested in how family members assessed each other's coping, in order to provide further evidence of the convergent and discriminant validity of the emotional approach scales. Significant associations between family members' self-reported coping and other members' estimates of their coping would allow some confidence in self-reports of coping strategies. Further, the ability of family members to distinguish between observations of each others' approach- versus avoidance-oriented coping would indicate the scales' discriminant validity. Because we wanted to ensure that family members' assessment of another's coping was not merely a reflection of their own coping, we requested participants' assessment of both their own and the relevant other's coping. We expected that family members might be better able to assess others' emotional expression (and other socially observable coping strategies) than emotional processing (and other more private strategies).

Method

A new sample of undergraduate students ($n = 149$; 75 men and 74 women; M age = 19.21 years, $SD = 2.06$) completed a dispositional COPE (Carver et al., 1989) with the emotional approach coping items embedded. COPE scales included those that emerged in the factor analysis from Study 1. The Acceptance, Positive Reframing, and Mental Disengagement subscales also were included to provide a more complete array of coping strategies. Students completed the COPE to refer to themselves and to each of their parents. Students signed letters to their parents asking that they each separately complete a COPE for their child and for themselves. Mothers ($n = 101$; 68% response rate) and fathers ($n = 83$; 56% response rate) returned their questionnaires in separate postage-paid envelopes. The sample contained two stepmothers and 15 stepfathers, with the remainder being biological or adoptive parents.

Results and Discussion

Internal consistencies for self-reported coping through emotional processing ($\alpha = .88$ for students, .90 for mothers, .80 for fathers) and expression ($\alpha = .92$ for students, .91 for mothers, .90 for fathers) were high, as were those for other coping scales. Female students reported using more emotional processing, $M = 2.75$, $SD = 0.71$ for women; $M = 2.45$, $SD = 0.84$ for men, $t(147) = -2.30$, $p < .05$, but not more expression than did men, $M = 2.55$, $SD = 0.81$ for women; $M = 2.36$, $SD = 0.82$ for men, $t(147) = -1.45$, $p > .10$.

In order to evaluate convergent and discriminant validity of the emotional approach coping scales, we first produced a 36×36 (12 coping scales \times 3 sources: undergraduate self-ratings, mothers' ratings of child, fathers' rating of child) multitrait-multisource correlation matrix.³ We examined monotrait-heterosource (convergent), heterotrait-monosource (discriminant), and heterotrait-heterosource (discriminant) correlations relevant to the emotional approach coping scales. Calculated with the Fisher r to z transformation, the mean convergent correlation was .27 for emotional processing and .38 for emotional expression. These correlations were slightly lower than those obtained for personality dispositions. For example, Watson and Clark (1992) reported a mean convergent coefficient of .40 for self-peer ratings of trait negative affects.

Examination of the matrix indicated that the correlation blocks relevant to discriminant validity produced different results if the emotional approach scales were juxtaposed with avoidance-oriented scales versus other approach-oriented scales. Table 3 illustrates this point with a truncated version of the full matrix. Calculated from correlations below the diagonal, the average heterotrait-monosource correlation of two approach-oriented scales (i.e., seeking social support, problem-focused coping) closely aligned with emotional processing was .45 and with emotional expression was .55, indicating a substantial nonspecific component. These relations can be interpreted as indicating both the convergence of similar strategies directed toward stressor engagement and the likelihood that parents learn about their child's approach to emotion in stressful encounters through witnessing their social support-seeking and problem-focused behaviors. The average heterotrait-monosource correlations (above the diagonal) for the two avoidance scales (i.e., avoidance, mental disengage-

³ The full correlation matrix is available from the authors.

Table 3

Multitrait–Multisource Matrix for Self- and Parent-Ratings of Students' Dispositional Emotional Processing, Emotional Expression, and Selected Coping Scales

Rating	Self-rating				Rating by mother				Rating by father			
	EP	EE	3	4	EP	EE	3	4	EP	EE	3	4
Self												
EP	—	.46***	-.12	-.11	.30***	.19	-.08	-.04	.08	.26*	.06	-.03
EE	.46***	—	-.08	-.06	.26*	.34***	-.21*	-.17	-.02	.24*	.03	.01
3	.23*	.64***	—	.58***	-.08	-.19	.10	.21*	-.03	-.19	.13	.15
4	.54***	.41***	.24***	—	.12	-.10	.02	.15	.04	-.10	.13	.20
Mother												
EP	.30***	.26*	.14	.13	—	.64***	-.42***	-.18	.40***	.39***	-.06	.01
EE	.19	.34***	.27*	.19	.64***	—	-.25*	-.28*	.27*	.53***	-.10	-.13
3	.09	.42***	.46***	.24*	.48***	.65***	—	.39***	-.35***	-.14	.02	.15
4	.34***	.43***	.28*	.30***	.54***	.55***	.54***	—	-.20	-.11	.19	.37***
Father												
EP	.08	-.02	.08	-.13	.40***	.27*	.28*	.36***	—	.35***	-.18	.02
EE	.26*	.24*	.19	.13	.39***	.53***	.56***	.35***	.35***	—	-.10	.04
3	.15	.22*	.29*	.27*	.30*	.32*	.46***	.17	.32***	.60***	—	.58***
4	.20	.23*	.15	.07	.35***	.36***	.37***	.48***	.55***	.40***	.33***	—

Note. EP = coping through emotional processing; EE = coping through emotional expression. Above diagonal, 3 = avoidance, 4 = mental disengagement. Below diagonal, 3 = seeking social support, 4 = problem-focused coping. Student $n = 149$. Mother $n = 101$. Father $n = 83$. Convergent (monotrait–heterosource) correlations are shown in boldface.

* $p < .05$. *** $p < .005$.

ment) with emotional processing was $-.18$ and with emotional expression was $-.12$, indicating that both the students and parent judges clearly distinguished the students' emotional approach from their avoidance-directed coping.

Compared with the convergent coefficients, the heterotrait–heterosource blocks yielded lower mean correlations for both the comparison approach-oriented (emotional processing mean $r = .24$; emotional expression mean $r = .33$) and avoidance-oriented coping scales (emotional processing mean $r = -.02$; emotional expression mean $r = -.10$). Again, the emotional approach scales possessed modest evidence of discriminant validity with regard to other approach-oriented scales and strong evidence with regard to avoidance-oriented scales.

To examine whether family members were able to estimate each other's coping strategies when their self-rated coping was controlled, we performed hierarchical multiple regressions. To predict each self-rated coping strategy of students and parents, we entered each judge's self-rated coping on the first step (e.g., father's and mother's coping, in that order, when students' coping was the dependent variable), followed by the judge's estimate of the target person's coping. Displayed in Table 4, findings allow three conclusions. First, good interjudge reliability was demonstrated for several coping strategies. Controlling for judges' self-rated coping, family members' judgments of each other's coping accounted significantly for 5 to 40% unique variance in self-rated coping in 17 of 36 tests performed. Second, specific strategies that yielded good interjudge reliability were those that were more behaviorally observable. As hypothesized, participants were better at estimating family members' emotional expression than emotional processing. That is, judges' ratings accounted for significant variance in both students' and mothers' self-rated emotional expression. By contrast, although mothers significantly predicted students' self-rated emotional processing, the overall equation was not significant.

Similarly, judges' ratings of other coping strategies that have observable behavioral referents, such as seeking social support and religious coping, evidenced good correspondence with self-ratings, whereas more private, cognitive strategies, such as mental disengagement and acceptance, did not.

A third, unanticipated observation is that "mother knows (and is known) best." For most significant analyses, mothers' judgments accounted for unique variance in their child's scores and fathers' did not, even though fathers' scores were entered first in the equations. The exceptions were turning to religion, for which both parents' estimates were associated uniquely with their child's scores, and disengagement through drug use, for which only fathers' ratings were associated uniquely with their child's coping. Although participants had lived with their mothers ($M = 18.08$ years, $SD = 1.67$) significantly longer than with their fathers ($M = 16.78$, $SD = 3.68$), $F(1, 144) = 12.42$, $p < .001$, this variable did not account for the differential relations for mothers and fathers when controlled in the analyses. In addition, students' judgments uniquely predicted mothers' self-ratings for 7 of 12 strategies (5 to 40% unique variance) and significantly predicted fathers' self-ratings for only 4 strategies (6 to 28% unique variance). These findings make sense in light of evidence that mothers may be more responsible for emotional socialization (Eisenberg, Fabes, & Murphy, 1996), are more likely than fathers to serve as confidantes to their children (Belle, 1987), and thus may observe their children's coping processes in stressful circumstances. Through such interactions, children also likely gain exposure to their mothers' ways of coping.

Findings from this study support the interjudge reliability of self-reported coping strategies that are more public and that involve more active, approach-oriented behaviors (e.g., emotional expression, seeking social support) versus more private processes. Further, emotional processing and expression are perceived as

Table 4

Regressions of Self-Rated Coping on Family Judges' Self-Rated Coping and Judges' Ratings of Target's Coping

Judges' ratings	Dependent variable								
	Students' coping			Mother's coping			Father's coping		
	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β
Emotional Processing									
Judge rating of self	.03	.03	.04/.16	.04*	.04*	.20*	.00	.00	.01
Judge rating of target	.12	.09*	-.07/.38*	.05	.01	.10	.00	.00	.04
Emotional Expression									
Judge rating of self	.10*	.10*	.20/.21	.05*	.05*	.21*	.06*	.06*	.26*
Judge rating of target	.18*	.08*	.04/.20	.14***	.09***	.32***	.08*	.02	.15
Distress-Contaminated Coping									
Judge rating of self	.02	.02	.09/-.13	.00	.00	-.03	.03	.03	.17
Judge rating of target	.16*	.14***	.08/.39*	.07*	.07*	.32*	.12*	.09*	.34*
Seeking Social Support									
Judge rating of self	.05	.05	.16/.13	.05*	.05*	.23*	.04	.04	.20
Judge rating of target	.28***	.23***	-.05/.54***	.19***	.14***	.41***	.04	.00	-.01
Problem-Focused Coping									
Judge rating of self	.13*	.13*	-.13/.36***	.08***	.08***	.29***	.00	.00	.00
Judge rating of target	.17*	.04	-.07/.21	.13***	.05*	.25*	.09*	.09*	.31*
Alcohol-Drug Disengagement									
Judge rating of self	.04	.04	.19/-.12	.00	.00	-.05	.01	.01	.10
Judge rating of target	.40***	.36***	.53***/.21	.26***	.26***	.50***	.07	.06*	.24*
Avoidance									
Judge rating of self	.01	.01	.04/-.08	.02	.02	-.15	.00	.00	.02
Judge rating of target	.05	.04	.14/.16	.02	.00	.00	.00	.00	.01
Mental Disengagement									
Judge rating of self	.02	.02	.06/-.14	.03	.03	-.17	.00	.00	.03
Judge rating of target	.08	.06	.16/.21	.04	.01	-.11	.01	.01	.07
Humor									
Judge rating of self	.14*	.14*	.03/.36***	.11***	.11***	.33***	.01	.01	.11
Judge rating of target	.14*	.00	-.02/-.03	.16***	.05*	.23*	.02	.01	.05
Turning to Religion									
Judge rating of self	.12*	.12*	.09/.31*	.08***	.08***	.28***	.03	.03	.17
Judge rating of target	.46***	.34***	.29*/.46***	.48***	.40***	.72***	.31***	.28***	.58***
Positive Reframing									
Judge rating of self	.00	.00	.03/.05	.01	.01	.10	.00	.00	.04
Judge rating of target	.08	.08	.11/.26	.03	.02	.13	.01	.01	.10
Acceptance									
Judge rating of self	.08	.08	-.09/.28*	.10***	.10***	.31***	.00	.00	.01
Judge rating of target	.12	.04	.24/.05	.11***	.01	.13	.03	.03	.20

Note. Mother $n = 101$. Father $n = 83$. Student $n = 149$. Both mother and father rated student $n = 69$. β displayed are those for the entry of the predictors at that step. With student self-rated coping as the dependent variable, the β displayed are for father-mother as judges. With parents' self-rated coping as dependent variables, the β displayed are for students as judges.

* $p < .05$. *** $p < .005$.

closely aligned with other engagement-directed strategies and as sharply distinguished from avoidance-oriented mechanisms. Confidence in self-report coping inventories would be strengthened further by additional research on behavioral indicators of coping mechanisms. In addition, in light of the emphasis by stress and coping theorists (e.g., Lazarus & Folkman, 1984) on the situational specificity of coping strategies, it is important to assess the psychometric adequacy and predictive utility of situational measures of coping through emotional approach. These were the goals of Studies 3 and 4.

Study 3

In Study 3, we developed a situation-specific version of the emotional approach scales, conducted confirmatory factor analyses

(CFAs) of dispositional and situational versions of the emotional approach and other coping items, and examined indicators of psychometric adequacy and convergent and discriminant validity. We also investigated the predictive utility of the situational emotional approach coping scales in a young adult sample. A partial replication of Stanton et al. (1994, Study 2) was conducted, in which undergraduates coping with a self-nominated stressor were followed to assess the ability of the emotional approach indicators to predict change in adjustment over time. We expected emotional approach coping to predict enhanced adjustment over a 1-month period, at least for women (Stanton et al., 1994; Terry & Hynes, 1998). We also performed a preliminary test of the interaction between emotional processing and expression in predicting adaptive outcomes, postulating that individuals low on both initial

emotional processing and expression would evidence a decline in adjustment over time relative to those higher on emotional approach coping. Because the relations of coping strategies and adaptive outcomes are expected to vary as a function of personal and contextual characteristics (Folkman & Lazarus, 1985) and because emotional approach coping might be more effective in interpersonal versus achievement-oriented situations (Stanton et al., 1994), we also tested higher order interactions involving emotional processing, emotional expression, sex, and situation content.

Method

Participants were 112 male and 101 female undergraduates (M age = 18.84 years; SD = 1.29) who attended three sessions in exchange for credit in an introductory psychology course. The first (Time 1) was a large questionnaire session (n = 360 men; n = 292 women), in which the dispositional coping items from Study 2 were administered. Approximately equal numbers of men and women were telephoned to recruit participation in the 1-month longitudinal study. The second session was attended by 141 men and 122 women, and the third by 112 men and 101 women. Except for CFAs, which were conducted on data from all participants, only data from the 213 who attended all three sessions were included in analyses.

At the second session (Time 2), participants designated an ongoing stressful situation, the instructions for which were adapted from Dunkel-Schetter et al. (1987) as follows:

Take a few moments to think about a current situation that is the most stressful for you. By "stressful" we mean a situation that is difficult or troubling to you, either because it upsets you or because it takes considerable effort to deal with it. It may be a problem with someone close to you, a problem at school, a medical problem, a separation from someone you care about, etc. With this situation in mind, please answer the following questions.

They then completed questions regarding this situation and strategies for coping with it (i.e., Study 2 coping items). Two independent raters (100% agreement) rated participants' descriptions of the stressors as falling into seven categories, which were collapsed further into two categories for analysis: interpersonal (n = 113) and achievement-related (n = 76; 24 participants reported stressors falling into other categories). Participants also reported perceived control over the situation's outcome (1 = *no control at all*; 7 = *total control*), perceived stressfulness (1 = *not at all stressful*; 7 = *extremely stressful*), and stressor duration.

Participants also completed a subset of the Study 1 measures, in order to provide evidence of discriminant and convergent validity for the situational emotional approach coping scales. These were the Social Desirability scale (Strahan & Gerbasi, 1972), the EEQ (King & Emmons, 1990), the AEQ (King & Emmons, 1990), the Hope Scale (Snyder et al., 1991), the Neuroticism scale (Costa & McCrae, 1989), and the Ruminative and Distracting Responses scales from the Response Style Questionnaire (Nolen-Hoeksema & Morrow, 1991). The BDI (Beck et al., 1979) and the Satisfaction with Life Scale (Diener et al., 1985) served as dependent variables. One month later (Time 3), participants returned to complete coping and adjustment indexes.

Results

CFA on Coping Items

CFAs were conducted on the dispositional (Time 1) and situational (Time 2) versions of the coping item sets. Factors postulated were identical to Study 2 scales. We conducted the CFA using the Satorra-Bentler corrected maximum likelihood method (ML, Satorra & Bentler, 1990).⁴ Four fit indexes were computed: χ^2 , CFI

(comparative fit index), RMSEA (root mean squared error of approximation), and SRMR (standardized root mean squared residual). The χ^2 statistic is not by itself useful in assessing fit in that it is strongly influenced by sample size and is likely to yield rejection of good-fitting models when N is moderate to large. Hu and Bentler (1999) recommended the following cutoffs for the other three indexes: CFI of .95 or greater, RMSEA of less than .06, and SRMR of less than .08. The conventional cutoff for the CFI prior to their 1999 article was .90 (Hu & Bentler, 1999).

Both the postulated dispositional and situational scales demonstrated reasonably good fit to the data. For the dispositional version, the Satorra-Bentler corrected $\chi^2(2,013, n = 653) = 3,822.04$, $p < .001$; CFI = .90, RMSEA = .037, and SRMR = .054. For the situational version, the Satorra-Bentler corrected $\chi^2(2,013, n = 263) = 2,964.03$, $p < .001$; CFI = .90, RMSEA = .042, SRMR = .066. Although the CFIs were somewhat low, the other indexes met criteria for relatively good-fitting models (Hu & Bentler, 1999). Further, for the Emotional Processing scale, the items' factor correlations were high (.54 to .83 for dispositional and .75 to .89 for situational versions), as were those for Emotional Expression (.70 to .88 for dispositional and .71 to .92 for situational versions).

Reliabilities, Descriptive Statistics, and Gender Differences

Cronbach's coefficient alpha, test-retest reliabilities, and descriptive statistics for the situational coping scales (Time 2) are displayed in Table 5. Internal consistency reliabilities were high and nearly identical for women and men. Significant sex differences emerged on the coping scales, multivariate $F(12, 200) = 3.58$, $p < .0001$. Women reported coping more through Emotional Expression, $F(1, 211) = 16.61$, $p < .0001$, $R^2 = .07$, Emotional Processing, $F(1, 211) = 5.91$, $p < .05$, $R^2 = .03$, Seeking Social Support, $F(1, 211) = 25.98$, $p < .0001$, $R^2 = .11$, and Distress-Contaminated Coping, $F(1, 211) = 5.03$, $p < .05$, $R^2 = .02$. The remaining eight coping scales did not yield significant gender differences.

Correlations Among Emotional Approach Scales and Other Coping Scales

The correlation between Emotional Processing and Expression scales was .45 at Time 1, .57 at Time 2, and .53 at Time 3 ($p <$

⁴ Two assumptions underlying maximum likelihood CFA are that the variables are multivariately normally distributed and that the variables are linearly related to the factors (see Green, Akey, Flemming, Hershberger, & Marquis, 1997; West, Finch, & Curran, 1995). These assumptions are violated when Likert data are analyzed. The primary approach to analyzing Likert data is to compute polychoric correlations and use weighted least squares estimation. However, this approach can be used only if analyses are conducted on a small-to-moderate number of items (i.e., 20 or fewer). An alternative approach that has some use with Likert data is the Satorra-Bentler corrected maximum likelihood method (ML, Satorra & Bentler, 1990), which corrects the standard ML chi-square value for the degree of nonnormality of the data. Although this method does yield improved results, the fit indexes may still be inflated. Accordingly, with Satorra-Bentler ML, the fit indexes suggest that a model fits more poorly than it actually does.

Table 5
*Internal Consistencies, Test-Retest Reliabilities, and Descriptive Statistics
 for Situational Coping Scales*

Coping scale	α	r	Men		Women	
			M	SD	M	SD
Emotional Processing	.91	.78	2.39	0.83	2.68	0.90*
Emotional Expression	.91	.74	2.35	0.83	2.81	0.81*
Distress-Contaminated Coping	.83	.72	2.36	0.71	2.58	0.70*
Seeking Social Support	.90	.80	2.34	0.77	2.88	0.74*
Problem-Focused Coping	.87	.65	2.73	0.66	2.72	0.65
Alcohol and Drug Disengagement	.98	.83	1.38	0.72	1.31	0.69
Avoidance	.83	.65	1.32	0.40	1.43	0.51
Mental Disengagement	.67	.56	2.17	0.62	2.31	0.64
Humor	.94	.70	1.82	0.83	1.81	0.81
Turning to Religion	.96	.91	1.78	0.95	1.94	1.04
Positive Reframing	.75	.66	2.80	0.71	2.90	0.73
Acceptance	.78	.61	2.78	0.76	2.84	0.75

Note. $n = 213$ (112 men; 101 women).

* $p < .05$.

.0001). Correlations between dispositional and situational versions of Emotional Processing and Expression (with their own scales) ranged from .60 to .69 ($p < .0001$). Time 2 correlations of situational emotional approach scales with other coping scales generally were less than .10. The exceptions for Emotional Processing were Seeking Social Support ($r = .43$, $p < .0001$), Problem-Focused Coping ($r = .51$, $p < .0001$), Positive Reframing ($r = .51$, $p < .0001$), Turning to Religion, ($r = .17$, $p < .05$), and Acceptance ($r = .18$, $p < .01$). The exceptions for Emotional Expression were Seeking Social Support ($r = .60$, $p < .0001$), Problem-Focused Coping ($r = .32$, $p < .0001$), Positive Reframing ($r = .26$, $p < .0001$), and Distress-Contaminated Coping ($r = .27$, $p < .0001$). Women and men had similar patterns of correlations, except that the relation of Emotional Expression and Distress-Contaminated Coping was significantly stronger for men ($r = .43$, $p < .0001$) than women ($r = .03$, $p > .10$), $z = 3.09$, $p < .05$. These patterns of correlations were similar at Time 3.

Correlations of Situational Emotional Approach Scales With Other Scales

Table 2 displays correlations of the Time 2 situational emotional approach coping scales with other measures. Significant gender differences in correlations (one-tailed) are reported in the text. The two situational coping scales were uncorrelated with social desirability. As in Study 1, coping through emotional expression was related more strongly to dispositional emotional expression than was coping through emotional processing. Expressive copers were more dispositionally emotionally expressive and less ambivalent over expression (women only) than those low in emotionally expressive coping. Female expressive copers reported higher hope than less expressive women. Women high in emotional processing reported higher hope and lower neuroticism than women low in emotional processing. As in Study 1, sex differences for relations of emotional processing with hope, $z = 2.43$, $p < .05$, and neuroticism, $z = 3.47$, $p < .05$, were significant. Expressive coping was related to higher life satisfaction for both sexes. Although not significant, correlations between emotional approach

coping and depressive symptoms were in opposite directions for women and men. Emotional processing was related to both ruminative and distracting responses to depression, and emotional expression was associated with distracting responses for women only.

Adjustment Variables Regressed on Coping Scales

Preliminary analyses revealed a sex difference in nominated stressful situations, $\chi^2(1, n = 189) = 10.65$, $p < .001$, with women less likely to report achievement-related stressors. No significant sex or situation content differences emerged on perceived control over stressor outcome ($M = 4.51$, $SD = 1.71$), perceived stressfulness ($M = 5.36$, $SD = 1.22$), or stressor duration ($M = 36.06$ weeks, $SD = 86.94$). In hierarchical regressions predicting change in depressive symptoms and life satisfaction over time, initial values on the dependent variables were entered first, then sex and situation content (interpersonal vs. achievement related) as categorical predictors, Emotional Expression and Emotional Processing coping scales as continuous predictors, the block of hypothesized interactions, and the remaining interactions as a block.

As displayed in Table 6, although the blocks of coping main effects were not significant after initial values on the dependent variables were controlled, the blocks of interactions (except Step 4 for life satisfaction) attained significance, accounting for 6% and 8% of the variance in life satisfaction and depressive symptoms, respectively. Regressions were conducted separately for women and men to interpret the significant three-way interaction for life satisfaction and the significant four-way interaction for depressive symptoms. Only Time 2 life satisfaction significantly predicted Time 3 life satisfaction for women. For men, the Emotional Processing \times Expression interaction was significant, $F(1, 91) = 6.12$, $p < .05$. For depressive symptoms, the three-way interactions held for both men, $F(1, 88) = 7.30$, $p < .01$, and women, $F(1, 83) = 4.13$, $p < .05$. When broken down further by situation content, the Emotional Processing \times Expression interaction was significant for men in interpersonal situations, $F(1, 42) = 14.48$, $p < .0005$, and women in achievement-related

Table 6

Hierarchical Multiple Regressions Predicting Life Satisfaction ($n = 188$) and Depressive Symptoms ($n = 189$) Over 1 Month in Undergraduates Coping With a Self-Nominated Stressor

Step-predictor	Time 3 Satisfaction With Life Scale				Time 3 Beck Depression Inventory			
	R^2	ΔR^2	β	F	R^2	ΔR^2	β	F
1. Initial value	.60	.60**	0.77	277.68**	.54	.54**	0.74	223.52**
2. SIT	.60	.00	0.03	0.21	.55	.01	-0.01	0.00
Participant sex			-0.02	0.20			0.07	1.64
3. PR	.60	.00	0.02	0.22	.55	.00	0.01	0.00
EX			-0.08	1.96			-0.02	0.16
4. Sex \times PR	.62	.02	-0.18	0.95	.59	.04**	0.26	1.19
Sex \times EX			-0.12	0.20			0.19	0.33
PR \times EX			-0.59	4.81*			1.05	14.63**
5. Sex \times SIT	.66	.04*	1.24	0.02	.63	.04**	-2.70	0.02
SIT \times PR			0.22	3.56			-2.57	5.05*
SIT \times EX			0.41	3.48			-1.46	0.36
SIT \times Sex \times PR			-1.43	0.62			3.45	0.19
SIT \times Sex \times EX			-1.58	0.70			2.60	2.91
SIT \times PR \times EX			-0.23	0.65			2.19	0.21
Sex \times PR \times EX			-2.51	7.62**			2.25	1.30
SIT \times Sex \times PR \times EX			1.94	3.52			-3.55	11.16**

Note. Initial value = Time 2 value on dependent variable; SIT = interpersonal or achievement-oriented situation. PR = coping through emotional processing; EX = coping through emotional expression. β s and F s displayed are those for the entry of the predictor at that step.

* $p < .05$. ** $p < .01$.

situations, $F(1, 21) = 9.18, p < .01$. Coping scales did not predict depression for men in achievement-related situations and women in interpersonal situations.

Analyzed with the method recommended by Aiken and West (1991), the three significant Emotional Processing \times Emotional Expression interactions (on life satisfaction for men, depression for men in interpersonal situations and for women in achievement-related situations) assumed the same form. To illustrate, the interaction on depression for men is displayed in Figure 1. In all three cases, high emotional expression and processing were beneficial (i.e., predicted decreased depressive symptoms and increased life satisfaction) when used alone, but their advantage was not additive. The simultaneous use of low initial processing and expression or high initial processing and expression each predicted poorer adjustment over time.

To aid in interpreting these interactions, we conducted post hoc analyses to examine whether they remained significant when other stressor characteristics (i.e., duration, perceived control, perceived stressfulness), coping through seeking social support, and the measured personality variables (e.g., depressive rumination) were controlled and when those variables' interactions with the emotional approach scales were tested. In each case, the Emotional Processing \times Emotional Expression interactions retained significance.

Discussion

Findings from Study 3 provide evidence of the sound internal consistency, test-retest reliability, and convergent and discriminant validity of the situational emotional approach coping scales. CFAs of emotional approach and COPE scale items in situational and dispositional versions yielded relatively good-fitting models (Hu & Bentler, 1999). Like the dispositional versions, their situ-

ational counterparts were uncorrelated with social desirability. The corresponding scales on the dispositional and situational versions were correlated significantly with each other ($r = .60-.69$), and these correlations were somewhat stronger than were the correlations of expression and processing scales with each other at the three time points ($r = .45-.57$). Coping through emotional expression also was more strongly related to dispositional emotional expression than was emotional processing. These results lend support to the contention that emotional processing and emotional expression are distinct forms of emotional approach coping. Situational emotional approach scales also were distinct from other coping scales, although they were related in the expected direction to other active, approach-oriented forms of coping (e.g., problem-focused coping). They also were distinct from previously published emotion-focused coping items that were found to be distress-contaminated (Stanton et al., 1994), although men's coping through emotional expression was related to distress-contaminated coping.

As in Study 1, the greater adaptiveness of emotional approach coping for women than men was suggested by relations of emotional processing with higher hope and lower neuroticism for women only. However, emotional expression was related to initial higher life satisfaction and emotional processing to higher ruminative and distracting responses to depression for both sexes, suggesting that sex differences in the adaptiveness of emotional approach may be less pronounced when coping is reported for a discrete stressor rather than as a more general approach. Perhaps general self-descriptions of coping reflect broader attitudes toward the acceptability of emotional approach or prompt more stereotyped responses (Brody, 1997) than do situational coping responses and, thus, yield stronger gender differences. However, gender differences remained in

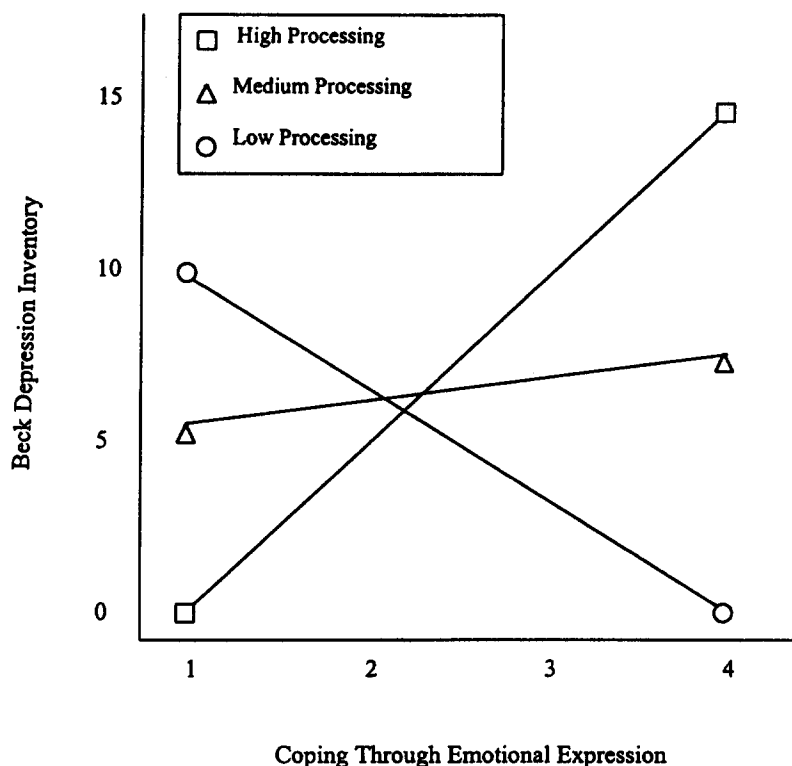


Figure 1. Emotional Processing \times Emotional Expression interaction on depressive symptoms for men in interpersonal situations.

reported use of situational emotional approach coping and its relations with some variables.

Longitudinal analyses predicting adjustment to a self-nominated stressor yielded different outcomes than Stanton et al. (1994, Study 2). In that study, the emotional approach coping scale contained both processing and expression items and predicted adjustment in opposite directions for young women and men. When processing and expression were separated in the present study, they interacted to predict adjustment across time. As hypothesized, low use of both emotional processing and expression predicted increased depressive symptoms and lessened life satisfaction (moderated by sex and situation content). Contrary to expectation, high use of both strategies also predicted poorer adjustment across time. It would be reasonable to suggest that tandem high use of processing and expression might reflect high neuroticism, rumination, or excessive support seeking, but the interactions remained when these variables were controlled. That the coping strategies were more effective in lessening distress when used singly rather than in combination may suggest the adaptiveness of their sequential use. Thus, expression might be most effective once individuals have come to understand their feelings (and thus report low processing). This may be particularly true when individuals are in stressful contexts that are less comfortable by virtue of somewhat gender-dystonic demands (e.g., women's emotional expression in stressful achievement-oriented contexts and men's expression in interpersonal contexts may yield better outcomes when their emotions have been processed thoroughly). The fact that the Processing \times Expression interaction assumed the same form across three anal-

yses promotes some confidence in its reliability. Further, we have replicated this interaction in longitudinal research predicting the adjustment of colorectal cancer patients (Cameron, 1999). However, the interaction did not hold for some situations (e.g., women in interpersonal situations), our interpretation is speculative, and it requires replication for other stressors (e.g., severely traumatic events) in other contexts.⁵ Nonetheless, these findings add to the evidence that the emotional approach coping scales have predictive utility with regard to adjustment in stressful encounters and highlight the importance of considering the utility of emotional approach within specific personal and situational contexts.

Study 4

In Study 4, we extended investigation of predictive validity of emotional approach coping to an experimental context. We explored the utility of induced coping through emotional expression and of congruence between previously elected and experimentally induced coping in managing a chronic, naturalistic stressor. A number of researchers have demonstrated experimentally that suppression of emotion or emotion-laden thoughts has adverse con-

⁵ At a reviewer's suggestion, we tested whether the Emotional Processing \times Expression interaction was significant in cross-sectional analyses. The interaction was not significant in its relation to depressive symptoms in Study 1 (dispositional coping) or in Study 3 (situational coping, Time 2), suggesting that it is relevant only for the prediction of adjustment across time.

sequences, resulting in increased physiological arousal and distress (e.g., Mendolia & Kleck, 1993, Study 2; Wegner, Shortt, Blake, & Page, 1990). For example, Mendolia and Kleck (1993, Study 2) examined effects of emotional expression versus objective responding (i.e., suppression) on affect and physiological arousal. Participants viewed a stress-inducing film and were assigned randomly to talk about their emotional reactions or facts regarding the film. They repeated the procedure 48 hr later, except that they could talk about anything related to the stimulus. Compared with those who discussed facts, those who expressed emotion and reported disruptive thoughts about the film between experimental sessions had lower autonomic arousal after discussing their emotions during the second session, and they reported more positive affect than other participants. The more the participants in the emotion condition talked about themselves or their emotions during Session 2, the lower their physiological arousal, whereas the inverse was true for participants in the fact condition. Mendolia and Kleck suggested that attending to emotion allowed habituation to the stressful stimulus.

In Study 4, we adapted the method of Mendolia and Kleck (1993, Study 2) to examine the utility of matching preferred and induced emotional approach coping methods in addressing a naturalistic stressor. We expected that those assigned to talk about their emotions regarding their stressful experience would show less arousal and negative affect during a second exposure to the emotion-inducing interview, compared with those focusing on the facts. However, Lazarus and Folkman (1984) suggested that coping strategies that are incongruent with one's values are likely to be used with reluctance and without success. Additionally, Engbreton, Matthews, and Scheier (1989) found that inducing men to use their preferred (vs. nonpreferred) mode of anger expression led to significant reductions in cardiovascular reactivity. Accordingly, our central hypothesis involved the interaction between induced and naturally elected emotional approach coping. We postulated that individuals for whom emotional approach is an established strategy would benefit most from induction of that strategy, whereas those who eschew emotional processing and expression would evidence untoward outcomes when instructed to approach their emotions. Thus, we expected congruence between naturally elected and imposed levels of emotional approach to yield positive outcomes (i.e., lower physiological arousal and negative affect). No effects for participant sex or other interactions were hypothesized, although these were tested in preliminary analyses.

Method

Participants and Procedure

In a large screening session, 1,380 undergraduates were asked to indicate from a list of 14 disorders any chronic physical or psychological disorders their parents had. We elected this experience because it represents a chronic, naturally occurring stressor that is understudied. Respondents were selected as potential participants ($n = 480$; 35%) if they reported that at least one parent had a disorder, that both parents were alive and currently married to each other, and that this experience was at least moderately stressful (rating of 3 on a 5-point stressfulness item). Of the 162 participants contacted by phone, 96 elected participation. Four of these declined during the initial session, 13 reported at the first session that their experience was not stressful, and 3 did not return for the second experimental session, yielding 76 participants (43 women and 33 men; M age = 19

years). Participant-reported parental disorders included cancer, heart disease, alcoholism, depression, and others. On average, disorder duration was 8.84 years ($SD = 12.57$). Parents who were reported to have a physical disorder were more likely to have received professional help, $\chi^2(n = 76) = 11.52, p < .005$, and to have been hospitalized, $\chi^2(n = 76) = 17.82, p < .001$, than those who had a psychological disorder. Preliminary analyses revealed no other differences on any measure as a function of parental psychological or physical disorder.

In Session 1, conducted individually, participants completed a coping scale with reference to the experience of having a parent with a physical or psychological disorder. In the case of multiple disorders, participants referred to the one most stressful to them. They then were assigned randomly to talk for 5 min with an interviewer about either their emotions or the facts regarding their parents' disorder.⁶ Participants completed a second interview 48 hr later. Participants' condition assignment was constant across sessions. Although condition-consistent prompt questions were used when necessary, the interviewer's participation was minimal. During each session, heart rate and skin conductance were assessed during a 4-min baseline, throughout the interview, and during a 4-min recovery period. State affect was assessed at the end of each session. Debriefing occurred after Session 2.

Measures

Described previously, the COPE (Carver et al., 1989), with embedded emotional approach coping items, was administered at the beginning of Session 1 with reference to the parent's disorder. Of interest in this study were Emotional Expression and Emotional Processing scales.

Participants also completed the "present moment" version of the Positive and Negative Affect Schedule-Expanded Form (PANAS-X; Watson & Clark, 1991) at the end of each session. The negative affect scales (i.e., fear, hostility, guilt, sadness) were of interest in this study. The state versions are responsive to changing internal and external conditions (Watson & Clark, 1991).

Skin conductance and heart rate were monitored with the J&J Personal Computer Physiological Monitoring System. Silver-silver chloride electrodes placed on the volar surface of the medial phalanges of the nondominant hand's first and third fingers monitored skin conductance, and an optical sensor on the middle finger's fleshy tip monitored heart rate. Readings were recorded electronically at a rate of 5 readings per s and were computer averaged every 10 s throughout each 1-min interval. These then were averaged for each 4-min baseline, 5-min interview, and 4-min recovery period.

Single items assessed self-reported consequences of the experimental manipulation (e.g., time thinking or talking about the experiment between sessions).

⁶ Instructions for the emotion condition were, "At [the large questionnaire session], you indicated that your [mother/father] had [disorder]. I'd like to ask you about that experience. We are specifically interested in the feelings you experience regarding your parent's experience with [disorder]. Please be as specific as possible in talking about the emotions you experienced over the course of the [disorder]. You might talk about how you felt when it began, how you felt when your parent was hospitalized or in treatment, or feelings about how your family responded to your parent's [disorder]. Again, I'd like you to focus on your feelings." Instructions for the fact condition were identical in the first two sentences. Then they read, "We are specifically interested in the facts of your parent's experience with [disorder]. You might talk about when it began, and any hospitalizations or treatments that have occurred as a result of [disorder]. Again, I'd like you to focus on the facts of [disorder]."

Results

Following Mendolia and Kleck (1993), baseline values were used as covariates in analyses of Session 1 physiological data, and Session 1 interview physiological values and postinterview affect scores were covariates in analyses of Session 2 data. Preliminary analyses including sex as an independent variable revealed only two significant main effects for sex—that is, women, adjusted $M = 75.61$, $SE = 0.64$, had higher heart rates during the first interview than men, adjusted $M = 72.79$, $SE = 0.79$, $F(1, 59) = 9.11$, $p < .005$, and lower Session 1 baseline skin conductance, $M = 2.94$, $SE = 0.34$, than men, $M = 4.69$, $SE = 0.42$, $F(1, 58) = 8.33$, $p < .01$. Further, in no case was the block of interactions significant for which no hypotheses were advanced. Accordingly, sex and those interaction terms were dropped, such that analyses of hypotheses included experimental condition (Fact vs. Emotion) as a categorical independent variable, emotional expression and processing as continuous independent variables, and the Coping \times Condition interactions. Dependent variables were heart rate, skin conductance, and the negative affect scales. For ease of interpretation, simple effects follow-up analyses of significant interactions were performed using median splits on emotional expression and processing ($Mdn = 2.00$ on both scales).⁷

Analyses on Session 1 Physiological Arousal and Affect

As found by Mendolia and Kleck (1993), analyses of covariance on heart rate and skin conductance and analyses of variance on affect scales revealed no significant effects of experimental condition during the first session. Further, no significant effects emerged on the amount of time participants reported thinking about or discussing the experiment between sessions. Only naturally elected coping was related to Session 1 dependent variables: High emotional processing was related to lower skin conductance during, $F(1, 69) = 8.06$, $p < .01$, and after, $F(1, 69) = 4.42$, $p < .05$, the first interview.

Analyses on Session 2 Physiological Arousal and Affect

The hypothesis that participants in the emotion condition would experience lower physiological arousal and negative affect than those in the fact condition was supported (except for skin conductance, which yielded no significant condition main effects). As displayed in Table 7, analyses on heart rate during the second session demonstrated that participants who were assigned to talk about their emotional reactions had significantly lower heart rates before, during, and after the interview than did those who focused on the facts. Significant main effects of experimental condition also emerged on guilt and sadness, and means for hostility and fear were in the expected direction, such that participants in the emotion condition reported lower negative affect after Session 2. Significant main effects of naturally elected coping revealed that high emotional processing was related to higher skin conductance before, $F(1, 69) = 7.13$, $p < .01$, and during, $F(1, 69) = 4.52$, $p < .05$, Session 2, and to lower guilt after Session 2, $F(1, 69) = 6.07$, $p < .05$. Expressive copers had lower skin conductance before, $F(1, 69) = 4.51$, $p < .05$, and after, $F(1, 69) = 9.57$, $p < .005$, the Session 2 interview.

Table 7
Main Effects of Experimental Condition on Arousal and Affect at Session 2

Variable	Condition				<i>F</i> (1, 69)
	Emotion		Fact		
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	
Heart rate					
Baseline ^a	71.52	0.91	74.10	1.02	4.00*
Interview	74.22	0.86	76.79	0.96	4.04*
Recovery ^a	70.56	0.76	73.12	0.85	5.00*
Skin conductance					
Baseline ^a	3.65	0.25	3.54	0.28	0.07
Interview	5.69	0.32	5.80	0.35	0.05
Recovery	4.97	0.28	4.97	0.26	0.01
PANAS-X					
Fear ^a	1.50	0.07	1.60	0.08	1.39
Hostility ^a	1.24	0.05	1.39	0.06	3.34
Guilt ^a	1.22	0.07	1.47	0.08	6.63*
Sadness	1.44	0.06	1.69	0.07	6.83*

Note. Means are adjusted for slightly unequal cell sizes and the covariate (i.e., relevant value at Session 1). PANAS-X = Positive and Negative Affect Schedule—Expanded Form.

^a Main effect qualified by a significant Condition \times Coping interaction.

* $p < .05$.

As displayed in Table 8, main effects were qualified by several significant interactions between condition and coping, primarily coping through emotional expression. Emotional expression interacted with condition on Session 2 baseline heart rate, $F(1, 69) = 4.39$, $p < .05$, and recovery heart rate, $F(1, 69) = 4.67$, $p < .05$, as well as on Session 2 baseline skin conductance, $F(1, 69) = 3.96$, $p < .05$. Significant Expression \times Condition interactions also emerged on Session 2 fear, $F(1, 69) = 5.18$, $p < .05$, and hostility, $F(1, 69) = 3.92$, $p < .05$.

Simple effects analyses of the interactions revealed that, except for fear, the matching hypothesis was supported for highly emotionally expressive participants. Expressive copers had significantly lower heart rates, skin conductance, and hostility when induced to express emotions than did participants low in emotional expression. In fact, means in Table 8 reveal that emotionally expressive participants in the congruent experimental condition evidenced less arousal and negative affect than participants in the other three conditions across every dependent variable except fear.

The complementary matching hypothesis that low emotional expression would be associated with better outcomes in the facts condition was not supported. Contrary to hypothesis, those low in emotional expression reported significantly greater fear in the fact condition than did expressive copers, and the other comparisons within the facts condition were not significant.

The sole significant Condition \times Emotional Processing interaction emerged on Session 2 guilt, $F(1, 69) = 4.83$, $p < .05$. Although simple effects tests were not significant, high emotional processors in the emotion condition reported the least guilt

⁷ Analyses of significant interactions using continuous emotional expression and processing scores revealed the same pattern of findings as those using median splits.

Table 8
Means for Session 2 Experimental Condition \times Emotional Expression Coping Interactions

Variable	Fact condition					Emotion condition				
	High exp.		Low exp.		<i>F</i> (1, 31)	High exp.		Low exp.		<i>F</i> (1, 39)
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>		<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	
Heart rate										
Baseline ^a	74.04	1.27	74.92	1.20	0.24	68.99	1.21	73.36	1.33	5.89*
Interview	76.77	1.34	77.73	1.26	0.26	72.06	1.08	75.85	1.19	5.52*
Recovery ^a	73.84	0.98	73.08	0.92	0.30	68.14	1.11	72.56	1.22	7.20*
SCL										
Baseline ^a	3.85	0.56	3.67	0.43	0.06	2.79	0.27	4.04	0.26	10.95***
Interview	6.32	0.71	6.04	0.55	0.09	4.83	0.33	5.85	0.31	4.99*
Recovery	4.92	0.53	5.35	0.41	0.39	3.93	0.35	5.52	0.33	11.00*
PANAS-X										
Fear ^a	1.49	0.13	1.99	0.10	4.55*	1.54	0.10	1.37	0.09	1.60
Hostility ^a	1.46	0.10	1.38	0.07	0.43	1.12	0.07	1.31	0.07	4.24*
Guilt	1.42	0.16	1.52	0.13	0.20	1.16	0.06	1.28	0.06	1.50
Sadness	1.74	0.12	1.81	0.10	0.24	1.40	0.08	1.45	0.07	0.26

Note. Means are adjusted for slightly unequal cell sizes and the covariate (i.e., relevant value at Session 1). SCL = Skin conductance; PANAS-X = Positive and Negative Affect Schedule—Expanded Form; exp. = expression.

^a Significant Condition \times Emotional Expression Coping interaction ($p < .05$).

* $p < .05$. *** $p < .005$.

($M = 1.16$, $SE = 0.06$ in the high-processing-emotion condition versus $M_s = 1.30$ – 1.59 in the other conditions).

Discussion

As did the findings of Mendolia and Kleck (1993), these results demonstrate the efficacy of imposed emotional expression on physiological arousal (i.e., lowered heart rate) and negative affect, particularly sadness and guilt, across time. If induced expression can be likened to expressive coping, then these findings suggest the adaptiveness of that coping strategy. Moreover, emotional approach coping moderated the effects of experimental condition. Findings revealed hypothesized benefits on physiological and psychological habituation of matching imposed with preexisting emotional approach coping, again suggesting the utility of the emotional approach scales. Results also suggest that emotionally expressive coping is adaptive for both men and women when it occurs in a receptive context and that it may be less useful when constrained by intrapersonal or social factors promoting emotional suppression. That participant sex did not interact with condition or naturally elected coping is consistent with Study 3 findings, as well as other research involving emotion manipulation (e.g., Gross & Levenson, 1993) and stress induction (e.g., Schwebel & Suls, 1999). However, as demonstrated in Study 3, sex differences in the adaptive consequences of emotional approach coping may be more likely when different situational contexts are contrasted (Brody, 1997, 1999). Further, statistical power was low to detect a three-way interaction (i.e., Participant Sex \times Induced Coping \times Naturally Elected Coping).

Four limiting conditions on the adaptiveness of matching-induced and preexisting emotional approach coping are apparent. First, that these effects did not emerge until the second session suggests that repeated exposure is necessary for emotional expression to be effective (e.g., Foa & Kozak, 1986), even for those who

have engaged in emotional expression during the course of a chronic problem. Second, significant condition main effects and Condition \times Coping interactions were most consistent for physiological activation as indicated by heart rate. By contrast, skin conductance was related more consistently to preexisting emotional approach coping. This finding is consistent with the suggestion that electrodermal activity is "considered a relatively stable subject trait related to behavioral and psychological individual differences" (Dawson, Schell, & Filion, 1990, p. 308). It also is possible that emotional approach affects both parasympathetic and sympathetic activation (indicated by heart rate) rather than purely sympathetic processes (indicated by skin conductance). Third, results were more consistent for the effects of coping through emotional expression than emotional processing. This is not surprising, given that the experimental manipulation induced participants to express feelings and not to explore their meanings. Finally, no support, and some contrary evidence, emerged for the complementary matching hypothesis that focusing on facts would confer relative benefit for less emotionally expressive copers. In a stressful context that provokes emotion, such as confronting a close other's serious disorder, imposed emotional suppression may be costly regardless of one's coping preference.

General Discussion

Taken together, these four studies provide evidence for the psychometric adequacy and the validity of dispositional and situational versions of scales to measure coping through emotional approach. Exploratory factor analyses and CFAs, cross-sectional relations with other measures, and longitudinal and experimental studies predicting adjustment revealed that emotional processing (i.e., active attempts to acknowledge and understand emotions) and emotional expression are distinct forms of emotional approach coping. The scales were related to other approach-oriented strate-

gies, such as problem-focused coping. They were uncorrelated with avoidance-oriented mechanisms, countering the contention that emotional expression is an avoidant strategy (Moos & Schaefer, 1993). Although coping through emotional processing and expression clearly are related strategies, several findings suggest their distinctiveness. Studies 1 and 3 revealed that coping through emotional expression was related more consistently to measures of dispositional emotional expressiveness than was emotional processing, and, in general, coping through emotional processing was related more strongly to indexes of psychological adjustment in these young adult samples. Study 2 demonstrated that family members are better able to estimate each other's expressive coping than their more private emotional processing. In Study 4, emotional processing and expression demonstrated somewhat different relations with physiological measures, and the effects of induced emotional expression were more likely to vary as a function of self-reported expressive coping than of emotional processing. Further, other research conducted with breast cancer patients suggests that the two coping strategies are differentially related to adaptive outcomes (Stanton et al., *in press*). These findings support the utility of assessing coping through emotional expression and processing as separate constructs.

Findings counter prior conclusions by coping researchers (e.g., Endler & Parker, 1990b; Moos et al., 1990) that coping through emotional approach is uniformly maladaptive. Rather, it was related to positive adjustment under particular conditions in all three relevant studies. For whom and under what conditions is coping through emotional approach effective? Utility of emotional approach varied as a function of individual and contextual characteristics. First, gender may moderate the relation between emotional approach and adaptive outcomes. Across studies, women reported greater use of emotional processing and expression than men. Functionalist theorists might suggest that this greater use is consistent with emotional approach fostering more successful goal pursuit for women, especially in interpersonal realms (Brody, 1999). In our previous longitudinal study, emotional approach coping also was more adaptive for women (Stanton et al., 1994, Study 2). In addition, Study 1 and 3's cross-sectional analyses revealed that women's emotional processing was associated positively with hope and instrumentality and negatively with anxiety, neuroticism, and depressive symptoms, whereas emotional processing was not related to better functioning for men (but note that expression was related to life satisfaction for both sexes). However, several findings call into question the suggestion that, by itself, gender is a strong or consistent moderator. First, it accounted for no more than 7% of the variance in use of emotional approach coping; although consistent, the magnitude of the relation between gender and coping use was not large. Second, cross-sectional relations of emotional approach and positive adjustment for women cannot be interpreted causally. Perhaps psychologically healthy women are enabled to use more emotional approach by virtue of their personal resources, cognitive and expressive skills, or supportive environments rather than emotional approach itself contributing to their health. Third, designs that allowed stronger causal inference (Study 3, Study 4) did not indicate that emotional approach coping predicted better adjustment for women. Rather, the longitudinal study revealed an interaction between emotional processing and expression on adjustment for both sexes (in different situations), and the experimental study indicated that emotional

expression confers benefit for both sexes when it occurs in a receptive context. Further, other studies involving emotion induction have not yielded strong gender effects on psychological and physiological outcomes (e.g., Gross & Levenson, 1993).

As do other theorists (e.g., Brody, 1999; Lazarus, 1996), we suspect that coping use and effectiveness are not so much a function of immutable individual differences as dependent on joint psychological attributes of the person and the environmental context. This was apparent in Study 4, in which preference for emotionally expressive coping paired with experimental imposition of emotional approach yielded reductions in physiological activation and negative affect in participants describing a stressful situation. As another example, Berghuis and Stanton (1994) found that emotional approach coping protected against depressive symptoms occurring at a failed insemination attempt in both members of heterosexual couples experiencing infertility. This relatively uncontrollable stressor, in which partners typically rely on each other for support, may call for emotional approach coping. Other research also reveals the importance of the person-environment fit in adjustment to stressors (e.g., Engebretson et al., 1989; Lepore, Silver, Wortman, & Wayment, 1996). The current studies suggest that coping preference, situation content, and receptivity of the environmental context influence the utility of emotional approach coping. Other likely moderators include the specific emotion that is processed or expressed, the timing of the attempt to understand or express emotion relative to stressor onset (e.g., repeated attempts to understand emotion long after stressor onset may produce distress), and the individual's adjustment prior to stressor onset (e.g., individuals with few premorbid psychological resources may not make effective use of emotional approach). Although we have focused on the potentially adaptive functions of emotional approach coping, coping processes in general are assumed to be neither inherently maladaptive nor adaptive (Lazarus & Folkman, 1984), and the conditions under which emotional approach coping contributes to dysfunctional outcomes require study.

What are the mechanisms through which emotional approach coping may foster benefits? Emotional processing and expression may function through somewhat distinct mechanisms. First, emotional approach, and particularly emotional processing, serves a signaling function. Acknowledging and seeking to understand emotions render situations salient, calling one's attention to important goals (Frijda, 1994). In their behavioral self-regulation theory, Carver and Scheier (1998) contended that emotions signal the extent of discrepancy between one's progress toward a goal versus the expected rate of progress. Although emotions need not be processed in detail to serve a basic signaling function, we suggest that more detailed processing might facilitate specification of goal impediments and motivate action to address them. Second, emotional processing may promote reappraisal of the stressor. In coming to understand emotions, one may come to a satisfying attribution regarding the stressor, reduce perceived threat, or find benefit in one's experience, which in turn may promote positive adjustment (e.g., Davis, Nolen-Hoeksema, & Larson, 1998). Indeed, post hoc analyses of Study 3 data revealed that Time 2 emotional processing predicted higher positive reframing at Time 3, with Time 2 positive reframing controlled (partial $r = .15$, $p < .05$; partial r for emotional expression = $.06$, ns ; cf. Stanton et al., *in press*). Third, emotional approach, and particularly emo-

tional expression, may promote habituation to the stressor, as demonstrated in Study 4 and in controlled research on exposure-based psychotherapies (Foa & Kozak, 1986). Finally, coping through emotional expression may aid in regulating the social environment, providing information to others about the individual's concerns and prompting reaction (e.g., Thompson, 1994). Also, a rich understanding of one's emotions in stressful encounters may allow the individual to "niche pick" (Thompson, 1994), that is, to select a maximally satisfying emotional environment. Certainly, the mechanisms for the effectiveness of coping through emotional processing and expression require continued study.

Limitations of these studies, which also provide the impetus for further research, deserve mention. First, our development of self-report coping scales is undergirded by assumptions that individuals have conscious awareness of coping mechanisms, that they can report them accurately, and that such mechanisms are related meaningfully to adaptive outcomes. These assumptions have undergone criticism in the coping literature (e.g., Coyne & Gottlieb, 1996). Evidence for the interjudge reliability (Study 2) and predictive validity (Studies 3 and 4) of the emotional approach scales strengthens our contention that these assumptions are reasonable. However, continued validation of the scales and comparison with other indicators of emotional approach are necessary. Further, it is important to note that emotional approach may be adaptive only when intentionally performed (Compas, Connor, Osowiecki, & Welch, 1997). Nonvolitional emotional processing may become maladaptive rumination. Unintentional emotional expression may produce destructive emotional outbursts. Intentionality is embedded in the emotional approach coping items. Other limitations include the general nature of the emotional approach coping items. The differential utility of emotional approach in contexts that prompt specific emotions, such as anger or sadness, requires study. In addition, for some research questions, it may be useful to alter the scales' items to refer to specific emotions. Further, the adaptiveness of emotional approach for very profound stressors and in culturally and developmentally diverse cohorts warrants examination.

Beyond offering the development of emotional approach coping scales, these studies suggest that conclusions from the stress and coping literature that emotion-focused coping is maladaptive require revision. Further, they highlight the utility of functionalist theories of emotion (e.g., Campos et al., 1994; Thompson, 1994) as applied to stress and coping theory and suggest potential moderators and mediators of the utility of emotional approach. Our hope is that researchers consider abandoning emotion-focused coping measures that are contaminated with distress-laden content in favor of more psychometrically and conceptually adequate measures and that they explore the utility of active, approach-oriented mechanisms for addressing emotions.

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