



## COPING CONSISTENCY AND EMOTIONAL OUTCOME: INTRA-INDIVIDUAL AND INTER-INDIVIDUAL ANALYSES

Luo Lu

The Graduate Institute of Behavioural Sciences, Kaohsiung Medical College, Kaohsiung, Taiwan

(Received 20 November 1995)

**Summary**—A total of 102 Taiwanese students participated in a diary study over 5 weeks. Stressors, coping and emotional outcomes were recorded once a week. Using both intra-individual and inter-individual analyses, we found that: (1) stressors reported by subjects were diverse, although there were mainly minor daily hassles in nature; (2) the use of both direct coping and suppression was only moderately consistent; (3) reported negative emotions were very stable, and not amenable to coping, positive emotions were less stable, and happiness was affected by coping, after individual differences were controlled. Implications for the person–situation interaction, and the relationship between coping and emotional outcomes are discussed. Copyright © 1996 Elsevier Science Ltd.

### INTRODUCTION

In life-stress research, coping consistency, or coping stability is a long debated controversy. The essence of this debate is precisely the concept of coping, and the appropriate methodology for measuring it. Answers to this controversy will also have serious implications for stress interventions intended to teach people effective coping. Given the theoretical and therapeutic significance of this debate, it should provoke great research interests.

However, the controversy remains unsolved, because relatively few studies have examined this issue, and the available evidence is not unequivocal. On the one side of the debate, researchers favouring the view of coping consistency have conceptualized coping primarily as a dispositional trait, or a typical, habitual preference to approach problems in particular ways (Haan, 1977; Vaillant, 1977). Gorzynski, Holland, Katz, Weiner and Zumoff (1980) have reported striking stability of dispositional coping style, among women awaiting a breast biopsy, assessed by a psychiatrist, and again ten years later. Stone and Neale (1985) and Pearlin and Schooler (1978) have reported that people are relatively consistent in their use of coping strategies dealing with the same problem or the same role-related stressors on different occasions.

Providing similar evidence from a somewhat different perspective, stable personality traits have sometimes been linked to coping styles. Parkes (1986) found that extraverts tended to use more direct coping than introverts. It was also found that dispositional optimism reliably correlated with various adaptive coping, whereas pessimism correlated with maladaptive coping (Scheier, Weintraub & Carver, 1986). Internal locus of control has been found to be associated with active coping (Lu, 1991; Parkes, 1984) rather than suppression (Lu, 1994b). Neuroticism measured by trait anxiety has also been found to relate to maladaptive coping (Parasuraman & Cleek, 1984). However, there are equally as many studies that failed to find any relationships between personality and coping behaviours (see Cohen & Edward, 1989; Cohen & Lazarus, 1973).

On the other side of the debate, researchers favouring the contrast view of coping inconsistency have asserted that coping is not isolated but situation dependent, is an ongoing process rather than a static style (Lazarus & Folkman, 1984). Accordingly, they usually choose to study particular coping efforts, or specific actions that an individual employs to deal with different problems. According to Folkman and Lazarus (1980), people showed little consistency across life situations. People's coping behaviours were also different across life domains (Pearlin & Schooler, 1978). Furthermore, even within a single stressful encounter, coping may change from one time to another, as demonstrated by American students going through the three distinctive stages of a college examination (Folkman & Lazarus, 1984; Smith & Ellsworth, 1987). Chinese college students coping with the stress of exams, displayed a comparable pattern of behavioural change (Lu, 1989). However, researchers in this camp also conceded that some coping strategies are more stable or consistent

than others across different stressful encounters (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986a; Folkman, Lazarus, Gruen & DeLongis, 1986b).

These empirical results are not necessarily contradictory, they can be regarded as supplementary. The evidence supporting coping consistency mainly came from same-event paradigms, whereas the evidence supporting coping consistency was obtained when multiple stressors were examined. In a study of daily hassles (Lu, 1991), coping behaviours, measured in terms of 'general coping' tendency, 'direct coping' and 'suppression', were very consistent in handling aggregate daily hassles that were measured repeatedly four times over 8 months. However, when we took a closer look, coping consistency was highly related to perceived coping effectiveness. Furthermore, the preference for consistent coping only applied to potentially similar situations.

It is possible, therefore, that the restriction and variability of coping consistency may reflect the effect of situational factors, whereas the consistency of coping and the association between coping and personality may reflect the effects of personality factors. Essentially, this debate of coping consistency, or 'style' versus 'process' as labelled by Lazarus (1993), can be traced back to the fundamental issue of person-situation determinism in psychology. A possible solution then might well be the person-situation interaction, now a consensus among psychologists. On the one hand, personality factors and other personal characteristics might predispose people to certain styles of coping. On the other hand, situational characteristics might also help to shape and guide the adoption of coping strategies in a given stress encounter. As the product of this person-situation interaction, coping is a dynamic, changing process, determined by changing situations, as well as being an individually distinct process, influenced by personal traits and experiences. So far, few studies on coping paid more than lip service to the basic idea of person-situation interaction. Much more research of this sort is needed to reveal the degree to which various coping strategies are influenced by either the social context, or personality, or both. It was, therefore, the first purpose of this study to examine both consistencies and inconsistencies in the way individuals cope, over time and across stressful encounters.

#### *Emotional outcome*

The effectiveness of coping is usually conceptualized in terms of its impact on some indices of adaptational outcomes, emotions being among the most frequently used criteria for this purpose. Indeed, coping has been found to mediate emotional outcome, namely, it changes the emotional state from the beginning to the end of the encounter (Bolgar, 1990; Folkman & Lazarus, 1988). However, validity of the empirical evidence regarding adaptational effects of coping is still in serious doubt. One widely recognized problem is the heavy reliance on self-report data, which increases the possibility that the correlations observed are, in some unknown degree, confounded by overlapping antecedent and consequent measures (Dohrenwend, Dohrenwend, Dalson & Shrout, 1984; Lazarus, DeLongis, Folkman & Gruen, 1985). Nonetheless, another related but more serious problem concerning stable individual differences often goes unnoticed. There is now accumulating evidence that personality traits are reliably related to emotional experiences. For example, neuroticism or negative affectivity (NA) had shown a strong link with self-reported distress and symptoms, whether real or imagined (Smith, Pope, Rhodewalt & Poulton, 1989; Lu, 1994a). In a similar vein, extraversion was consistently related to measures of positive emotions, such as happiness (Argyle & Lu, 1990a, 1990b; Lu, 1995; Lu & Argyle, 1991). If indeed there are stable individual differences in both positive and negative emotional experiences, then what is the 'net' impact of coping? Unfortunately, most research data has so far adopted inter-individual designs, which did not allow an adequate decomposition of variance attributed to intra-individual or inter-individual sources. Therefore, the second purpose of this study was to examine the extent that emotions were amenable to coping, over and above the influences of stable individual differences.

In order to accomplish the two research goals, coping and emotions should be measured repeatedly over time, and across diverse stressful encounters in a research design that was 'intra-individual' as well as 'inter-individual'.

## METHOD

### *Subjects*

One hundred and two Chinese psychology students at the Kaohsiung Medical College took part in this study anonymously, in return for their course credits. The sample was composed of 57 males

(56%) and 45 females (44%). Ss' age ranged from 19 to 24, with a mean age of 21 ( $SD = 1.4$ ). All respondents were single, never married and full-time students.

### *The measurements*

Ss completed the 'stress diary' once a week on a fixed day of their own choice, for five consecutive weeks. The diary started with a state measure of Emotions, using 10-point semantic differential scales. Students were asked to rate their affective states along four dimensions of both positive and negative emotions: happy, calm, depressed and anxious. The first two positive emotions have strong associations with subjective well-being (Lu, 1995), whereas the latter two negative emotions have close links with psychological distress (Folkman & Lazarus, 1988). Consequently, the four emotions measured could serve as indices of adaptation.

Ss were then asked to think of one Event that upset them most in the past week. They wrote down a brief description of the event, and proceeded to complete a short version of the Ways of Coping checklist (Lazarus & Folkman, 1984). This 33-item version consists of two subscales constructed from a factor analysis (Parkes, 1984): 'Direct coping' was mainly active efforts such as problem-solving, seeking social support, whereas 'Suppression' was mainly passive strategies, such as distancing, escape/avoidance. This dichotomy of coping behaviours was followed in later analyses. This measurement of coping was adopted because: (1) it was brief, yet included those strategies most often used by people (Lu, 1989, 1994b; Parkes, 1984); (2) it offered an empirical distinction between active coping (termed 'Direct coping') and passive coping (termed 'Suppression'); and (3) it has been used on the Chinese population, and has shown good reliability (Cronbach's alphas of 0.78 and 0.80 for the two subscales respectively), and acceptable validity (Lu, 1994b).

## RESULTS

The 510 stressors reported by 102 Ss, were fairly diverse, including academic worries, time management, interpersonal/heterosexual relationships, health problems, financial/material concerns, and concerns over one's physical appearance/self image. Overall, these were typical minor hassles rather than major life events in student life (Lu, 1994a). Nonetheless, they did provide a wide enough contextual background for analysis of coping consistency over different stressful encounters in real life. For the purposes of this current paper, no attempts were made to classify the stressor, nor to compare the use of coping strategies in different stressful encounters.

### *Auto-correlations*

Table 1 contains means/ $SD$  and averaged auto-correlations computed for coping and emotions. For the purpose of calculating means and standard deviations, all repeated measures were treated as independent observations, hence, the sample size was 510. However, when auto-correlations were calculated, the sample size was 102. Auto-correlations were Pearson's  $r$ s between measures of the same variable taken at two different points of time. As we can see in Table 1, mean auto-correlations for coping were moderately high, with a relatively small range. Even higher auto-correlations were observed for negative emotions: 'depressed' and 'anxious'. The ranges were small too. In contrast, positive emotions seemed less stable; with smaller mean auto-correlations for 'happy' and 'calm'.

Table 1. Auto-correlations: coping and emotions

	Mean	SD	Mean $r$	Range
<i>Coping</i>				
Direct coping	19.16	5.86	0.56	0.40–0.71
Suppression	12.27	5.27	0.52	0.27–0.64
<i>Emotions</i>				
Happy	5.20	2.02	0.32	0.03–0.50
Calm	5.70	2.02	0.30	0.07–0.48
Depressed	5.32	2.28	0.71	0.54–0.87
Anxious	5.71	2.39	0.61	0.53–0.81

coupled with larger ranges. In fact, auto-correlations for positive emotions were twice as high as those for negative emotions.

*Multiple regression analysis*

Multiple regression analyses were used to assess the intra-individual or within-subject association between each coping category and changes in each of the emotional outcomes, following Cohen and Cohen (1975) and Repetti (1993). The basic regression model was:

$$Y_{ij} = (b_1\text{Subj}_1 + \dots + b_n\text{Subj}_N) + bX_{ij}$$

where  $Y_{ij}$  was the emotion outcome score for respondent  $j$  on week  $i$ , the dummy variable  $\text{Subj}_j$  equalled 1 for respondent  $j$  or 0 otherwise, and  $X_{ij}$  was the coping score for respondent  $j$  on week  $i$  (the regression coefficients ( $bs$ ) were estimated with least squares).

The regression model separated within  $Ss$  and between  $Ss$  variance. Between- $Ss$  variance (effects and errors) was controlled by the set of dummy variables ( $\text{Subj}_1 \dots \text{Subj}_N$ ). This necessitated exclusion of a constant to prevent perfect multicollinearity. Because all variance that was due to person factors, or individual differences, had been removed by the dummy variables, this procedure controlled for each respondent's tendency, over 5 weeks, to respond to the weekly-report scales in a particular way. Thus, once the set of dummy variables had been entered, the emotion outcome being predicted was that particular week's deviation from the  $Ss$  baseline level of the outcome or his/her 5-week average. After controlling for the dummy variables, data from each weekly-report were treated as independent observations. That is, the residuals were independent at the cost of losing  $N + 1$  degrees of freedom in fitting  $N + 1$  coefficients. This regression model was similar but superior to an averaging of within- $S$  correlations, because it provided unbiased statistical inferences and more powerful estimators. In summary, the regression model represented a within- $S$  design exploring the determinants of week-to-week fluctuations in emotion.

Results of the multiple regression analyses testing relations between coping and the four emotional outcomes are presented in Table 2. Before examining contributions of the two coping strategies, all of the between- $S$  variance in weekly-emotion scores was controlled by the set of dummy variables. Out of the total variance in weekly-positive-emotion scores, 42–50% was due to between- $S$  variables, and out of the total variance in weekly-negative-emotion scores, 52–53% was due to between- $S$  variables.

After controlling for between- $S$  variance, both direct coping and suppression were significantly associated with changes in 'happy' emotion scores. However, coping was not related to 'calm' or either of the negative emotion outcomes.

Table 2. Predicting emotional outcomes from coping

Emotions		Direct coping	Suppression
<i>Happy</i>			
Total $R^2$	0.52***(0.50***)		
Beta		0.18**	-0.11**
<i>Calm</i>			
Total $R^2$	0.42***(0.42***)		
Beta		0.05	-0.04
<i>Depressed</i>			
Total $R^2$	0.52***(0.52***)		
Beta		0.09	-0.08
<i>Anxious</i>			
Total $R^2$	0.53***(0.53***)		
Beta		0.08	-0.01

\*\*  $P < 0.01$ ; \*\*\*  $P < 0.001$ .

Note: Total  $R^2$  includes all between- $S$  variance in emotions (presented separately in brackets), as well as within- $S$  variance.

## DISCUSSION

This study set out to investigate two research questions: (1) to what extent are coping behaviours consistent over time, across different stressful encounters?; and (2) to what extent do coping behaviours contribute to emotional outcomes, after controlling for individual differences? The following discussion will be organized around these two issues.

### *Coping consistency*

The earlier research on coping with its clear connotation of a psychoanalytic approach, tended to spawn the trait conceptualization of coping, such as the contrast between repression (avoidance or denial in some versions) and sensitization (vigilance, isolation or intellectualization in some versions). After Lazarus and Folkman's seminal book (1984), much more awareness has been raised for a contrasting view, i.e. the process approach to coping. However, as argued earlier in this paper, the two approaches can be regarded as complimentary within a framework of person-situation interaction. The moderate but reliable consistency of two very different categories of coping behaviours in this study may serve as much needed empirical evidence to support the interaction framework.

It seemed no doubt that there was an underlying personal style contributing to the observed stability of coping, over time and across diverse encounters. Origins of this personal coping style may include stable personality dimensions (e.g. Lu, 1991, 1994b; Parkes, 1984; Scheier *et al.*, 1986), personal demographic characteristics (Folkman, Lazarus, Pimley & Novacek, 1987; Lu, 1994b) and availability of social support (Thoits, 1986; Valentiner, Holahan & Moos, 1994).

However, this marked coping consistency was also counter-balanced by its equally strong instability. Responsible factors on this side may include factual context of the encounter (Pearlin & Schooler, 1978), cognitive appraisals of the stressor (Lazarus & Folkman, 1985), namely, both objective and subjective aspects of the situation.

To summarize, the moderate consistency of coping seemed to indicate that both personal and situational factors could influence coping efforts. Furthermore, this consistency seemed a unitary phenomenon, since the nature of coping behaviours did not influence its strength of stability, whether it was 'direct coping' (a mainly problem-focused approach) or 'suppression' (a mainly emotion-focused approach).

### *Coping and emotional outcomes*

Emotion has always been implicated in stress research. It is one of the most used criteria for assessing adaptation outcomes. However, this presumed effect of coping as an emotion regulator is heavily confounded with individual differences in emotional experiences. In fact, results in this study showed that the total amount of variance accounted for in emotional outcomes was almost entirely due to between-subject factors, namely, individual differences. The only exception was the 'happy' emotion, upon which coping still made a significant contribution. It seemed that individual differences were far more important than impacts of coping behaviours per se on emotional outcomes. Have we been over-enthusiastic about coping effectiveness, then? The answer is unlikely to be a straightforward one.

Before going any further in discussing results concerning emotions, the contamination threat of 'priming' must first be ruled out. Since the measure of emotion used in this study was a state one, and Ss completed this measure first, before they went on to recall stressful encounters and coping efforts, consequently, it was unlikely that ruminating on an unpleasant event could have 'primed' Ss into negative emotional states. Hence, when we found that negative emotions were very stable over time, and across situations, it probably implied an underlying personal style rather than priming effects resulting from procedural arrangements. This also corresponded well with the fact that individual differences were the sole predictor of these emotions in multiple regression analyses. In other words, a substantial amount of variance in changes of emotional outcomes may be due to stable personal styles rather than the ameliorating effects of coping. This underlines the assertion that those stable personality factors, such as neuroticism or negative affectivity should be included whenever a research on stress or coping is planned.

On the other hand, both direct coping and suppression made significant impacts on one positive

emotion, 'happy'. Positive emotions were also less stable, hence, perhaps more amenable to coping efforts. Furthermore, direct coping seemed to be beneficial, whereas suppression detrimental to happiness. Although this distinction fitted well with the prevailing notion of direct (problem-focused) coping being adaptive, suppression (emotion-focused) being maladaptive, it is intriguing that emotion-focused coping should in the end be harmful, not just neutral to emotions. Certainly, more research is needed here.

## CONCLUSION

Studies of coping and emotion offer a microscopic look at short-term processes with long-term implications for health. The findings reported here indicate that coping behaviours were only moderately consistent. The research design incorporated strengths of intra-individual and inter-individual analyses, to study coping over time and across diverse sources of stress in the same persons in sufficient numbers to address both its process and trait aspects. Results clearly underlined complex interactions between the person and the situation.

In addition, negative emotions were found to be very stable, and not amenable to coping behaviours, whereas positive emotions were less stable, and one of them, happiness, was affected by coping, over and above influences of individual differences. Studies of changes in emotional outcomes can be very informative about adaptive and maladaptive strategies for coping with stress.

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