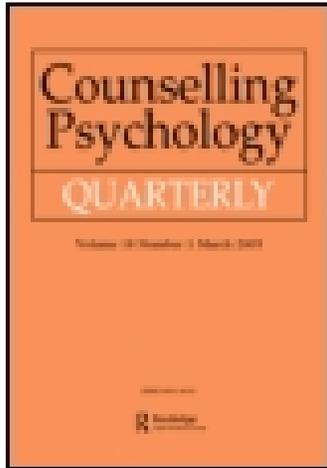


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RESEARCH REPORT

# Correlates of coping behaviours: internal and external resources

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**ABSTRACT** *This study examined some possible factors that were expected to influence choices of coping strategies. They were demographic variables (age, sex, marital status, education, and family income), personality traits (extraversion, neuroticism and locus of control), perceived life stress, and received social support. Five hundred and eighty one randomly selected community adults living in Kaohsiung city were interviewed and completed questionnaires measuring the above variables. Multivariate analyses had shown that: (a) higher income and education were related to more use of 'Seeking social resources' and 'Planning & hoping' coping; (b) higher extraversion was related to more use of 'Seeking social resources', 'Planning & hoping' and 'Emotional suppression' coping, whereas the last was also related to higher neuroticism; (c) people with higher internal locus of control favoured 'Planning & hoping', but not 'Emotional suppression' coping; (d) perceived life stress was not related to any use of coping behaviours; however, (e) more social support was related to more use of all kinds of coping behaviours. Implications of results were discussed in the context of stress and adaptation.*

## Introduction

Coping is an an important part of the stress process. It is usually viewed as a complex set of processes that may moderate influences of stressful life events on the individual's physical and mental health (Billings & Moos, 1981; Folkman *et al.*, 1986; Lu, 1991; Lazarus, 1993). However, most studies in the literature are devoted to examine the impact of coping behaviours on physical and psychological well-being, or to develop a general typology of coping behaviours. Fewer studies have actually investigated various factors that may affect the use of different coping strategies. Therefore, this study will examine multiple correlates of coping behaviours in the hope that this will generate a fuller understanding of stress and mental health.

A review of the literature on general human adaptation indicates that many factors may play important roles in contributing to an individual's choice of coping behaviours. These factors include age period (Folkman *et al.*, 1987), type of stressful events (Lazarus & Launier, 1978), cognitive appraisal of stressful events (Folkman

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& Lazarus, 1985; Thoits, 1991), personality traits (Carver *et al.*, 1989; Lu, 1991), level of life stress (Lu, 1991), and social support (Holahan & Moos, 1987; Fondacaro & Moos, 1987; Thoits, 1986).

Evidence for the relationship between age and coping is mixed. Some research has found that late adulthood is characterized by adaptive coping behaviours (Irion & Blanchard-Fields, 1987); some research has found that younger people use more adaptive coping (Folkman *et al.*, 1987); still, other research has found little or no age differences in coping behaviours (McCrae, 1989).

One way to reconcile this research discrepancy is to look at the issue of adaptive coping in more detail. Although most researchers agree that the efficacy of a particular coping strategy should be evaluated against a variety of criteria (cf. Taylor, 1995), in practice, it is still often implied that active coping behaviours such as problem-solving, seeking social support are 'adaptive', whereas suppression coping such as denial, distancing are 'maladaptive'. On the other hand, researchers have long asserted that types of stressful events may influence people's choice of coping strategies (Lazarus & Launier, 1978). In one study it was found that work-related problems most commonly led people to attempt active coping, whereas health problems, in contrast, led to more emotion-focused coping. Since younger people encounter more work-related and family-related problems, in which something constructive can be done, it is conceivable that they will favour active coping; by the same token, since older people encounter more health problems which must be accepted or got used to, they will favour suppression (Forsythe & Compas, 1987; Shieh, 1994). It seems that adaptive coping should be reconceptualized to reflect the nature of a particular situation or event which activated coping in the first place. It also seems that age, probably through different natures of life situations associated with it, does bear a certain relationship with preference of different coping behaviours.

On another front, general personality traits may also influence personal coping styles. Parkes (1986) has found that extroverts tend to use more direct coping strategies than introverts. Internal locus of control has been found to correlate with direct coping too (Parkes, 1984; Lu, 1991). Neuroticism measured by trait anxiety has also been found to relate to maladaptive coping (Parasuraman & Cleek, 1984). However, some researchers maintain that personality traits are not significant predictors of coping behaviour (Cohen & Lazarus, 1973).

It is very unlikely though, that personality traits would have (or not have) simple linear relationships with coping behaviours as suggested by the above mentioned studies. Unfortunately, relatively few investigations have examined these factors systematically as potential moderators of the stress-coping relationships. However, evidence of their impacts on stress outcome is unequivocal, particularly those involving locus of control (or perceived control) and neuroticism (or negative affectivity) (e.g. Watson & Clark, 1984; Brett *et al.*, 1990; Lu, 1994). Despite cautions and insufficient evidence, the preceding conjectures raise the possibility that there is a health-prone personality, characterized by a sense of control, extraversion and lack of neuroticism. Furthermore, this health-prone personality can act as a reservoir of 'personal resources' or 'internal resources' in time of stress, to

facilitate effective coping. Therefore, looking more specifically at the relationship between personality characteristics and coping behaviours is a worthwhile goal for study.

However, coping is not only influenced by the internal resources an individual has but also by external resources available to him/her. Social support is perhaps a very important factor in this respect. So far the major focus on social support research has been to demonstrate links between adaptation and varied levels of social support (Cohen & Wills, 1985). However, recent work (Fondacaro & Moos, 1987) has pointed out the plausibility of social support as a determinant of coping. Thoits (1986) also stressed the importance of social support as a coping assistance. More promisingly, a recent study (Valentiner *et al.*, 1994) adopting a prospective design has confirmed that parental support available to college students determined their use of 'approach coping' (a term exchangeable with active coping). It seems desirable to replicate and extend this empirical relationship, by examining a wider range of social support in a general population.

Finally, studies on factors affecting the coping behaviours have usually examined the relationship between a single variable and coping, without considering effects of other relevant factors. Therefore, this present study will adopt a multivariate approach to examine the following hypotheses: (1) demographic variables (age, sex, marital status, education, and income) are related to coping behaviours; (2) personality traits (extraversion, neuroticism and locus of control) are related to coping behaviours; (3) perceived life stress is related to coping behaviours; (4) received social support is related to coping behaviours. Ideally, these hypotheses should be more specific in direction, however, due to insufficient existing evidence, it will be treated as an empirical problem.

## Methods

### *Subjects*

Using multi-stage cluster sampling with probability proportionate to size, 600 adults aged over 20 living in Kaoshiung city were randomly selected, covering downtown districts, industrial districts, and suburban districts. According to the published national census data, the final sample of 581 subjects were fairly representative of the city's population in terms of major demographic variables, such as sex, age, education attainment, and family income. All subjects were interviewed at their homes during July–September 1993.

## Measurements

The questionnaires had five parts, described below.

*Demographic information.* Subjects' age, sex, marital status, education attainment, and family income were recorded.

*Personality traits.* Extraversion and neuroticism were measured by the E and N scales in the EPQ (Eysenck & Eysenck, 1975), which is one of the most often used measurements for the target personality traits, and has demonstrated good cross-cultural validity. Locus of control was measured by the revised Sphere of Control Inventory (Paulhus, 1983), covering personal efficacy and interpersonal control. The

Chinese version had a Cronbach alpha of 0.90 and good validity (Lu, 1994). In all the three cases, higher scores indicated more manifested corresponding personality traits. In the case of locus of control, it scored in the 'internal' direction.

*Perceived life stress.* Based on the Social Readjustment Rating Scale (Holmes & Rahe, 1967), and adding some culturally specific events (such as military conscription), a total of 41 events were listed in the final Life Events Scale. Subjects were required to rate the perceived severity of each event which happened in the past year on a 3-point scale, and the total severity score was computed to represent level of life stress.

*Social support.* Actual received support was measured by Socially Supportive Behaviours (Barrera *et al.*, 1981), which included tangible, emotional/companionship, and informational support. Higher scores indicated higher levels of received support.

*Coping behaviours.* Ways of Coping Checklist (WOCC) (Lazarus & Folkman, 1984) is probably the most popular measure in coping research. Folkman, Lazarus and their colleagues (Folkman *et al.*, 1986) originally identified eight different coping strategies using 85 married California couples. These were 'confrontative coping', 'seeking social support', 'planful problem solving', 'self control', 'distancing', 'positive reappraisal', 'accepting responsibility', and 'escape/avoidance'. Many subsequent studies have used WOCC, and came up with various factorial structures (e.g. Pearlin & Schooler, 1978; Parkes, 1984). In general, the Parkes' two-factor structure representing direct coping and suppression is the simplest and most economic in the sense that it used only 33 items, yet covered all of the eight original subscales. Therefore, this short version of the WOCC was used to measure coping behaviours. However, to guard against the possibility of factorial changes due to sample differences, a factor analysis using principle components technique was conducted with the present sample. After varimax rotation, we found four factors with eigenvalues  $> 1$ , and the scree plot also indicated that such a four-factor solution could best fit the data. For clarity of presentation, items grouped under a particular factor in Table I all had loadings  $> 0.30$ . Whenever there was a item loaded on more than one factor, a judgment of choice was made to achieve maximum internal coherence within a factor. As we can see, the original direct coping items (Parkes, 1984) were further split into two factors as 'seeking social resources' and 'planning & hoping'; similarly, the original suppression items were further split into two factors as 'emotional suppression' and 'cognitive suppression'. Cronbach alpha coefficient for each factor was high, and 43.1% of the total variance could be explained. Scores of these four factors were then used in later analyses.

## Results

Descriptive analyses were first conducted to illustrate the sample demographic characteristics, and as mentioned before, the sample was a fairly representative community group. Results are presented in Table II.

Pearson correlation coefficients were computed among all variables studied. Results are presented in Table III. For simplicity sake, we will focus on correlations involving the four kinds of coping behaviours only. First, more 'seeking social resources' and 'planning & hoping' coping were used by younger, better educated, and wealthier people; by people who were higher on extraversion and internal locus of control; by people who received more social support. Second, more 'Emotional suppression' coping was used by younger and not married people; by people who were higher on extraversion and lower on internal locus of control; by people who perceived more life stress; by people who received more social support. Finally, only females used more 'cognitive suppression' coping.

TABLE I. Factor loadings on 'ways of coping checklist'

Items	Seeking social resources	Planning and hoping	Emotional suppression	Cognitive suppression
Ask for advice	0.70			
Get professional help	0.69			
Talk to someone	0.60			
Find out more about the situation	0.56			
Talk to someone about your feelings	0.52			
Go over the problem	0.44			
Concentrate on something good		0.73		
Double your efforts		0.64		
Change something		0.60		
Concentrate on next step		0.59		
Take things one step at a time		0.58		
Wish you were a stronger person		0.57		
Stand your ground		0.53		
Make a plan		0.46		
Wish . . . would go away		0.45		
Daydream			0.74	
Have fantasies			0.72	
Feel bad			0.69	
Hope a miracle			0.68	
Wish . . . could change the feelings			0.64	
Let your feelings out			0.54	
Blame yourself			0.51	
Wish . . . could change			0.49	
Take it out			0.47	
Eating, drinking, smoking, drugs . . .			0.41	
Believe fatalism			0.40	
Go on living				0.73
Not let it bother you				0.73
Make light of the situation				0.72
The next best thing				0.62
Time will make a difference				0.54
Refuse to think				0.54
Not to act too hastily				0.52
Reliability $\alpha$	0.75	0.80	0.81	0.78
Variance explained (%)	4.6	10.5	20.3	7.7

Following the correlation analysis, hierarchical multiple regression analyses were conducted to predict the four kinds of coping behaviours. In all the equations, the sequence of variables entry was logic and as follows: (a) demographic variables were first entered to control their potential effects; (b) personality traits were then entered since they could be regarded as relatively stable and antecedent to stress-related factors; (c) perceived life stress; and (d) social support was lastly entered since it is more likely to be evoked by stress rather than vice versa.

TABLE II. Demographic variables of the sample

Variables	Mean	SD	%	<i>n</i>
<b>Sex</b>				
F			43.7	327
M			56.3	254
<b>Age</b>				
20–29			26.4	
30–39			23.6	
40–49			19.9	
50–59			10.3	
60 +			19.8	
Total sample	42.38	16.36		
<b>Education</b>				
Illiterate (0 yrs)			5.7	
Primary school (6 yrs)			17.8	
Junior school (9 yrs)			14.0	
Senior school (12 yrs)			38.9	
College & Univ. (16 yrs)			22.3	
Post-graduate (18 + yrs)			1.2	
Years of education	10.79	4.30		
<b>Marriage</b>				
Married			67.9	
Not married (including single, divorced, separated, & widowed)			32.1	
<b>Income (NT\$)</b>				
Below 20,000 (20,000)			20.7	
20,000–40,000 (30,000)			41.0	
40,000–60,000 (50,000)			22.7	
60,000–80,000 (70,000)			9.7	
80,000–100,000 (90,000)			3.2	
Above 100,000 (100,000)			2.6	
Total sample	40,160	20,270		

In predicting 'seeking social resources' coping, income (Beta = 0.11,  $p < 0.01$ ), education (Beta = 0.18,  $p < 0.001$ ), extraversion (Beta = 0.13,  $p < 0.01$ ), and social support (Beta = 0.42,  $p < 0.001$ ) all had positive contributions, and 39% of the total variance was accounted for ( $F = 25.82$ ,  $p < 0.0001$ ). In predicting 'planning & hoping' coping, education (Beta = 0.11,  $p < 0.01$ ), extraversion (Beta = 0.11,  $p < 0.01$ ), internal locus of control (Beta = 0.24,  $p < 0.001$ ), and social support (Beta = 0.31,  $p < 0.001$ ) all had positive contributions, and 30% of the total variance was accounted for ( $F = 16.81$ ,  $p < 0.0001$ ). In predicting 'emotional suppression' coping, internal locus of control had negative contribution (Beta = -0.15,  $p < 0.001$ ), whereas extraversion (Beta = 0.15,  $p < 0.001$ ), neuroticism (Beta = 0.44,

TABLE III. Pearson correlations among all variables

	2	3	4	5	6	7	8	9	10	11	12	13	14
Sex	0.29†	0.06	0.04	0.01	0.02	-0.10*	-0.01	0.01	-0.04	-0.03	-0.08	-0.11*	-0.14*
Age	-0.44†	0.19†	0.14*	-0.18†	-0.23†	-0.11*	-0.20†	-0.04	-0.24†	-0.14*	-0.18†	0.05	-0.20†
Education		0.40†	0.16†	0.40†	0.16†	0.02	0.26†	-0.02	0.35†	0.26†	0.04	-0.06	0.20†
Marriage		0.11*	-0.08	0.11*	-0.08	-0.05	0.02	0.01	-0.07	0.00	-0.10*	0.00	-0.06
Income			0.06	0.06	0.06	-0.00	0.15*	-0.03	0.24†	0.19†	0.02	-0.05	0.10*
Extraversion						-0.10*	0.40†	0.00	0.29†	0.28†	0.09*	0.06	0.30†
Neuroticism							0.24†	0.26†	0.08	0.01	0.49†	0.08	0.12*
Locus of control								-0.05	0.29†	0.38†	-0.15†	0.06	0.23†
Severity of stress									0.03	0.04	0.14*	-0.05	0.06
Seeking social resources										0.53†	0.32†	0.26†	0.54†
Planning and hoping											0.22†	0.35†	0.42†
Emotional suppression												0.31†	0.28†
Cognitive suppression													0.29†
Social support													
Mean	42.29	11.15		4.07	12.41	8.53	75.00	4.90	8.88	15.74	11.82	10.62	19.04
SD	15.45	3.95		2.03	4.62	5.13	12.80	7.03	3.29	4.79	5.23	3.93	9.00

\* $p < 0.05$ ; † $p < 0.01$ ; ‡ $p < 0.001$ .

$p < 0.001$ ), and social support (Beta = 0.21,  $p < 0.001$ ) had positive contributions, and 32% of the total variance was accounted for ( $F = 19.11$ ,  $p < 0.0001$ ). In predicting 'cognitive suppression' coping, only social support had positive contribution (Beta = 0.34,  $p < 0.001$ ), and 13% of the total variance was accounted for ( $F = 6.33$ ,  $p < 0.001$ ).

## Discussion

This study attempted to examine some potential correlates of coping behaviours. We have indeed found that both internal and external resources do relate to various types of coping behaviours. But first of all, we have found that the original dual-mode coping behaviours proposed and supported by most researchers (e.g. Parkes, 1984; Lazarus & Folkman, 1984) could be further divided into four types. 'Seeking social resources' and 'planning & hoping' were both active coping but differed in orientation of action: the former was directed at interpersonal realm whereas the latter intrapersonal. Similarly 'emotional suppression' and 'cognitive suppression' were both flight-type responses to stress, but differed in their focus of coping: emotion vs. cognition. This typology of coping behaviours is more specific than the dual-factor model of Parkes (1984), yet still much simpler than the eight-factor model of Folkman and her associates (Folkman *et al.*, 1986). In other words, the present four-factor model is specific enough to allow detailed analysis, yet concise enough to facilitate easy administration of the measurement.

In this study, we examined both internal and external resources as potential correlates of the four coping behaviours identified above. In the former capacity, personal demographic characteristics (i.e. age, sex, marital status, education and family income) and personality traits (i.e. extraversion, neuroticism and locus of control) were examined; in the latter capacity, social support was examined. A general finding was confirmative: some variables from both capacities were found to be related to each of the four coping behaviours.

Among the demographic variables, income and education were important correlates of coping behaviours, hence the first hypothesis was partially confirmed. Higher income and education may enrich the individual's personal resources, hence enable him/her to be more active in coping efforts, such as 'planning & hoping'. Higher income and education may also imply the accessibility of a homogeneous social network, with members of comparable competence and affluence, who are willing and able to help in time of need, hence more use of 'seeking social resources'.

Inconsistent with what we inferred in the introduction section, age did not show any relationships with coping. However, bearing in mind that due to various historical and political reasons, older people (50 and above) in Taiwan were generally less educated and less affluent than their younger counterparts. Indeed, this observation was born out by empirical data in the study: age negatively correlated with education ( $r = -0.44$ ,  $p < 0.001$ ) and income ( $r = -0.18$ ,  $p < 0.01$ ). It is possible then the proposed age effect on coping may be masked by stronger effects of education and income. To tease out the relative importance of

these three factors to coping, a research design which allows only one to vary should be adopted.

Personality traits were also important to coping, hence the second hypothesis was confirmed. The clearest pattern had emerged involving locus of control, whereas people high on internal control favoured active coping, people high on external control favoured emotional suppression instead. It seems to confirm the notion that when people are able to perceive events in their environment as controllable (i.e. sense of internal control), or to perceive that they have ability to enact the necessary action to obtain a specific outcome in a specific situation (i.e. sense of self-efficacy), they can then control their distress and begin active coping efforts. As a result, it may also help to protect people from the adverse effects of stress (Cohen & Williams, 1991).

However, extraversion and neuroticism did not produce a clear *preference* differential in coping behaviours. Extraversion was associated with more use of all types of coping except cognitive suppression. This result looked somewhat inconsistent with previous findings (Parkes, 1984, 1986), which indicated that extraversion was related to more use of 'direct coping' only. In fact, both 'seeking social resources' and 'planning & hoping' can be regarded as 'direct coping', since they directed attention toward the focal event. Even some of the behaviours aimed to manage emotion seemed typical of extroverts' responses. For example, both 'taking it out' and 'eating, drinking, smoking, taking drugs' indicate a tendency to impulsively express one's emotions, and to resort to various substances (c.f. Eysenck, 1953). It follows that in time of stress, extroverts seem to react with a 'do something' approach. To test this tentative hypothesis, we should better focus on a specific stressful situation to examine in more detail different coping behaviours on extroverts versus introverts.

Perceived life stress did not relate to any use of coping behaviours, hence the third hypothesis was disconfirmed. The perceived stress measurement used in this study was really an extension of the traditional life events checklist. Since the severity index would inevitably strongly correlate with number of events checked on the list, the relative low occurrence of these life events would affect the validity of the perceived stress measure. In future studies, either a real perceived stress measure or a closer look at different types of life events should be attempted.

The most consistent finding in this study was that received social support related to all four kinds of coping behaviours, hence the last hypothesis was confirmed. This finding strengthened the argument that external resources, particularly social support may have an important impact on the coping processes, which in turn may influence adaptation, over and above the direct effects of the coping processes. It may also be possible that personal coping behaviours would serve as signals to evoke social support responses from those around the individual. Although the causal relationship between coping and support can not be clarified in this study, we could not afford to ignore this potentially meaningful relationship in future studies of stress—health issues.

Findings from the present study may have important implications for counselling practice, too. First, personality traits are easily observable and

measurable personal resources to a trained counsellor, and they were found to relate to preferences of coping strategies regardless of the nature of stressful situations. Counsellors should then discuss this issue of coping style with their clients, enlightening them that the best way to cope with stress would be to analyze each situation on its merit, and to draw up specifically tailored action plans, rather than mindlessly resort to one's habitual coping style. Second, social support was found to relate to all kinds of coping efforts, further underlying its critical role in the stress-adaptation process. Counsellors should not only help their clients to obtain support to assist coping during a stress episode, but also to prepare them with necessary interpersonal and networking skills to build up the support reservoirs in sunny days.

Finally, a note of caution needs to be voiced. This study is a cross-sectional design, and therefore should not be used to draw causal conclusions. The response method of self-report renders all measurements subjective, and ideally independently rated behaviours indices should be adopted in future research to reduce the threat of confounding. However, we believe that working with a representative and large community sample, using multivariate approach, exploring both internal and external coping resources should help us to understand more about the stress process, and to assist therapeutic efforts in facilitating more adaptive coping.

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