

Assessing Coping Flexibility in Real-Life and Laboratory Settings: A Multimethod Approach

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This research sought to formulate a theoretically based conceptualization of coping flexibility and to adopt a multimethod approach in assessing this construct. A self-report daily measure and an experiment were designed geared to theoretical and empirical grounds. The new daily measure was used in Study 1 to examine coping flexibility in a life transition. Findings showed individual differences in patterns of coping flexibility across different real-life stressful events. In Study 2, coping flexibility was examined in both real-life and laboratory settings. Results replicated those of Study 1 and further revealed consistency between the self-report and the experiment data. Study 3 extended previous studies by adopting a longitudinal design over a 3-month time span. Participants' flexibility in coping with laboratory tasks was found to predict how flexible they would be in handling real-life stressful events.

Coping has been well researched because of its influential role in psychological adjustment. Two major functions of coping—problem management (i.e., problem focused) and emotion regulation (i.e., emotion focused)—have been proposed (Lazarus & Folkman, 1984; see also Chan, 1994; Parker & Endler, 1996). Previous findings have shown that problem-focused coping strategies are generally adaptive in mitigating stress-related distress (e.g., Kim, Won, Liu, Liu, & Kitanishi, 1997; Marx & Schulze, 1991), but these strategies can also elicit distress (e.g., Cheng, Hui, & Lam, 1999, 2000; Folkman, Lazarus, Gruen, & DeLongis, 1986). Emotion-focused coping strategies are generally maladaptive in magnifying stress-related distress (e.g., Chan & Hui, 1995; Holmes & Stevenson, 1990). However, some studies (e.g., Baum, Fleming, & Singer, 1983; Levenson, Mishra, Hamer, & Hastillo, 1989) have revealed that such strategies can also reduce distress. These inconsistent findings suggest that the same coping strategy can have distinct outcomes in different situations. In light of the evidence revealing little consistency in the use of coping strategies across situations (see, e.g., Compas, Forsythe, & Wagner, 1988; Kaloupek, White, & Wong, 1984), a more complete understanding of coping may require a microanalysis of coping processes in which individuals flexibly deploy different coping strategies in distinct stressful contexts.

The adaptive nature of coping flexibility is consistent with both the social-cognitive approach to personality (e.g., Cantor & Flee-son, 1994; Mischel & Shoda, 1995, 1998) and the transactional approach to coping (e.g., Lazarus & Folkman, 1984, 1987; Pearlin,

Menaghan, Lieberman, & Mullan, 1981). In the social-cognitive approach to personality, individuals are posited as cognitive beings who can discriminate characteristics among different situations and flexibly adjust their behavior according to changing situational constraints (Cantor & Kihlstrom, 1987; Mischel, 1973). Hence, social-cognitive theorists have regarded flexibility as an adaptive personality quality that enables individuals to meet the specific constraints of a variety of situations. In the transactional approach to coping, the construct of coping is conceptualized as a dynamic process. Individuals constantly alter their thoughts and behavior in response to the changes in their appraisals of stressful situations and in the demands of those situations (see Neufeld, 1999, for a discussion). As our environment is ever-changing, adaptiveness of coping flexibility is implied.

Despite the emphasis on the adaptive nature of coping flexibility in recent theoretical discussions (see Aspinwall & Taylor, 1997; Miller, Shoda, & Hurley, 1996), not many attempts have been made to examine this construct. A review of the existing literature identifies unexplored conceptual and methodological issues that may hamper the understanding of the coping process.

In the literature on coping flexibility, no conceptual definition of this construct has been provided. Apart from the conceptualization of coping flexibility, conceptual overlap is another concern. Apparently, coping flexibility may be similar to self-monitoring, which refers to the tendency to monitor one's self-presentation to display socially appropriate behaviors (see Snyder, 1974). A close examination of the nature of these constructs reveals that there should be minimal overlap between them. The variable behavioral patterns of individuals who are high in self-monitoring often do not correspond to these individuals' attitudes about how they should behave (e.g., Snyder, 1974; Snyder & Cantor, 1980). In contrast, coping flexibility should reflect one's attitudes about coping effectively in situations and one's intentions to display situation-appropriate behavior (Cheng, Chiu, Hong, & Cheung, in press; Chiu, Hong, Mischel, & Shoda, 1995). Moreover, the construct of coping flexibility should be related to psychological adjustment to stressful situations rather than to the mere intention to give socially desirable answers. In addition, coping, especially

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emotion-focused coping, has often been found to confound with psychological distress (e.g., Coyne & Racioppo, 2000; Parker & Endler, 1996), but it remains unknown whether this confounding problem applies also to coping flexibility. To fill these knowledge gaps, the present research attempts to formulate a comprehensive conceptualization of coping flexibility based on major coping theories and to examine the conceptual distinctiveness of coping flexibility.

In addition, adequate methods have been lacking for the assessment of coping flexibility. In previous research (e.g., C. E. Schwartz & Daltroy, 1991; Westman & Shirom, 1995), the operationalization of coping flexibility was not derived from any coping theories. To address this problem of the atheoretical nature of measure development, I developed methods that are geared to theoretical concerns and grounded on major coping theories. My operationalization of coping flexibility is based on the theory-derived conceptualization.

Conceptualization of Coping Flexibility

Processes Underlying Coping Flexibility

The existing measures of coping flexibility assess how individuals behave differently in distinct situations. Although behavioral variability is a common indicator of flexibility, flexibility may also reflect a considerable degree of cognitive activity (see, e.g., Guilford, 1967; see also Lees & Neufeld, 1999). Consistent with this notion, the transactional theory of coping (Lazarus & Folkman, 1984) identifies two processes: cognitive appraisal and coping. Therefore, flexibility in both cognitive appraisal and coping pattern should be examined.

Individual Differences in Flexibility of Cognitive Appraisal

As researchers have posited in previous theoretical discussions, perceived controllability is a key element in appraisals of stressful events (e.g., see Folkman, 1984; Lefcourt, 1992). Past studies (e.g., Affleck, Tennen, Pfeiffer, & Fifield, 1987; Felton & Revenson, 1984) have shown a reliable relationship between situational appraisals of control and psychological adjustment. In the present conceptualization, *cognitive flexibility* thus refers to the variability in the pattern of perceived controllability across situations.

Reviewing previous literature, one can identify three patterns of perceived controllability. The first pattern is characterized by variability in perceived controllability across situations. Relevant studies (Cheng et al., 2000; Cheng et al., in press) showed that some individuals tended to appraise some stressful situations as controllable and others as uncontrollable. These individuals are more flexible in cognitive appraisal.

The second pattern is characterized by consistency in perceived controllability across situations. For instance, some studies (Clark & Miller, 1990; Miller, Lack, & Asroff, 1985) revealed that individuals with a Type A personality (Friedman & Rosenman, 1974) tended to overvalue control and indiscriminately appraise stressful events as controllable, but this was not the case for those with a Type B personality. Individuals with a relatively consistent pattern of perceived controllability are less flexible in cognitive appraisal.

The third pattern is characterized by consistency in perceived uncontrollability across situations. As cognitive theories of depression have posited (e.g., Abramson, Alloy, & Metalsky, 1986; Beck, 1976), depressed individuals are prone to make rigid, overgeneralized attributions that all event outcomes are uncontrollable. These individuals also are less flexible in cognitive appraisal.

Individual Differences in Flexibility of Coping Pattern

Given the close associations between cognition and behavior (cf. Gibson, 1979), cognitive appraisals of the controllability of stressful events may influence a person's choice of coping strategies (e.g., see Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Terry, 1994). Individuals who consistently perceive stressful events as controllable may use more problem-focused coping. This group may include individuals with Type A personality and those with high levels of neuroticism, both of whom tend to use more problem-focused coping in stressful situations than others do (e.g., Bolger & Zuckerman, 1995; Clark & Miller, 1990). These individuals are referred to as the *active-inflexible* group.

In contrast, individuals who consistently perceive stressful events as uncontrollable may use more emotion-focused coping (David & Suls, 1999). This group may include those who feel pessimistic, helpless, or depressed (e.g., Aldwin, Sutton, & Lachman, 1996; Sherbourne, Hays, & Wells, 1995). These individuals are referred to as the *passive-inflexible* group.

Unlike these two groups, individuals who are cognitively flexible may vary their behavior according to the perceived nature of different stressful events. Studies (e.g., Cheng et al., in press; Shoda, 1996) have shown that some individuals are sensitive to subtle cues embedded in situations and vary their behavior accordingly. These individuals are referred to as the *flexible* group.

However, not all individuals with a flexible perceptual pattern necessarily have a flexible coping pattern. Studies (Cheng, Hui, et al., 1999; Cheng et al., 2000; Patterson et al., 1990; Westman & Shirom, 1995) have revealed that some individuals recognize that some stressful situations are controllable and others uncontrollable but prefer to use problem-focused strategies to cope with both types of stressful events. These individuals are referred to as the *active-inconsistent* group.

In a similar vein, individuals with a consistent perceptual pattern may not always cope with stressful situations in a way that is consistent with their perception. Individuals with "weak personality" (Shapiro, 1965; see also Paulhus & Martin, 1988) generally perceive that the environment is uncontrollable and tend to subject their behavior to situational demands. Their perceptual pattern is consistent, but their coping pattern is inconsistent. These individuals are referred to as the *passive-inconsistent* group.

Table 1 summarizes the characteristics of these five groups. The present research aims at identifying these possible types of coping flexibility.

Outcomes Indicating Coping Flexibility

Coping flexibility refers not only to the way individuals vary their coping strategies across situations but to whether such flexible strategy deployment is situation appropriate. Most research on coping flexibility has focused on variability in coping patterns, and a variable pattern is considered effective (e.g., Lester, Smart, &

Table 1
Characteristics of Five Proposed Types of Coping Flexibility

Type of coping flexibility	Pattern of perceived controllability	Pattern of coping
Flexible	More variable	More variable
Active-inflexible	More consistent (controllable)	More consistent (problem focused)
Passive-inflexible	More consistent (uncontrollable)	More consistent (emotion focused)
Active-inconsistent	More variable	More consistent (problem focused)
Passive-inconsistent	More consistent (uncontrollable)	More variable

Baum, 1994; Mattlin, Wethington, & Kessler, 1990). However, the variability effect is rather modest, suggesting that variable patterns may not reveal a complete picture of coping effectiveness. Thus, the present research extends previous research by adding two additional components—strategy–situation fit and goal attainment—to the conceptualization of coping flexibility.

Strategy–Situation Fit

I adopted a “rational” or theory-driven approach to evaluate the strategy–situation fit (e.g., see Folkman, Schaefer, & Lazarus, 1979; Menaghan, 1983). In the coping literature, previous work (see, e.g., Aldwin, 1994; Miller, 1992) has posited that adaptive coping requires a good fit between the nature of the coping pattern and the controllability of the stressful situation. Specifically, problem-focused coping is generally considered adaptive in controllable situations, whereas emotion-focused coping is generally considered adaptive in uncontrollable situations. Individuals with a coping pattern that is (a) variable and (b) consistent with these notions may be more adaptive than are those who use a particular type of strategy regardless of event controllability (i.e., meeting neither Criterion *a* nor Criterion *b*) or those who use coping strategies randomly across distinct situations (i.e., meeting Criterion *a* only).

Goal Attainment

Apart from the rational approach that assesses the degree of strategy–situation fit, I also adopted a more subjective approach in conceptualizing coping outcomes that relies on individuals’ own appraisals of goal attainment. Goal theories posit that individuals’ behavior is geared toward their own goals and that the degree of goal fulfillment influences these individuals’ psychological well-being (e.g., Higgins, 1996). The adaptiveness of goal attainment has been widely discussed in the coping literature (e.g., Cantor & Fleeson, 1994; Zeidner & Saklofske, 1996).

In summary, coping flexibility is conceptualized as (a) variability in cognitive appraisal and coping patterns across stressful situations, (b) a good fit between the nature of coping strategies and situational demands, and (c) subjective evaluation of effectiveness in attaining the desired goals.

A Multimethod Approach to Coping Flexibility

In the body of research on coping flexibility, researchers rely too frequently on a single methodology, the self-report method. These

studies have been criticized as being too narrowly method bound (see Coyne & Racioppo, 2000). To address this problem, I adopt a multimethod approach to assess the construct of coping flexibility. This approach involves the application of more than one research methodology, each with different characteristics and revealing somewhat different aspects of a construct. The rationale of using this approach is that no two methodologies share the same strengths and weaknesses, and different methodologies can complement each other.

In this research, I use both the self-report and the experimental methodologies. I adopt a new self-report daily measure, constructed on the basis of both theoretical and empirical considerations (see Study 1), to assess participants’ coping flexibility in real-life stressful situations. I designed an experiment that aims to obtain more objective data on coping flexibility from a controlled setting (see Study 2). Despite the considerable differences in the nature of these methodologies, I operationalized coping flexibility in the same way, on the basis of the conceptualization proposed in this research. Such a correspondence in operationalization enables researchers to make comparisons between the two data sets.

The self-report methodology provides valuable data on participants’ perception of their stressful experiences and evaluation of the effectiveness of their coping efforts. However, such subjective data are vulnerable to the influence of extraneous factors, such as temporary mood changes, that may lead to distortions or biases. The experimental methodology can supplement the self-report methodology in two major ways. First, different individuals may have distinct stressful experiences. The use of experiments, in which every participant is exposed to the same nature and number of stressful situations, may relieve this problem. Second, coping outcomes can be assessed by well-defined, quantified behavioral measures rather than merely by participants’ global evaluation of their coping style.

Despite its considerable advantages over the self-report methodology, the experimental methodology is not without shortcomings. For instance, experiments are limited by their artificial settings, which weaken their external validity (i.e., generalizability of the experiment findings to real life). The artificiality of the laboratory tasks can be supplemented by self-report questionnaires that assess participants’ experiences in real-life stressful contexts. More important, the use of experiments depends on what is practically and ethically possible to examine participants’ behaviors in a stressful situation. Stressful situations involving private behaviors, such as adjusting to different lifestyles for newlywed couples, cannot be “sampled” in the laboratory. The self-report methodology can supplement the experimental methodology by examining a wider variety of real-life experiences.

This research demonstrates how the self-report and the experimental methodologies can be combined harmoniously within a single study to assess the construct of coping flexibility (see Studies 2 and 3). Using multiple methodologies within a study and multiple assessments across studies may provide a more robust testing of the construct of coping flexibility than does the frequently adopted single-method, single-study approach.

Study 1

There are three existing self-report measures of coping flexibility, the Coping Inventory (Zeitlin, 1985), the Flex measure (C. E.

Schwartz & Daltroy, 1991), and an open-ended questionnaire by Westman and Shirom (1995). These measures are susceptible to several methodological problems. First, although these measures include a variety of real-life situations to assess coping flexibility, the situations that are compared are merely broad domains. Situational characteristics can differ within a domain and, thus, have a different impact on individuals (e.g., see Cheng, 1997). Second, research (e.g., Chang, 1998; Krohne, 1989) has revealed that it is the subjective appraisals of stressful situations rather than the situations themselves that play an influential role in coping outcomes. These measures largely disregard individual differences in the perceived characteristics of stressful situations. Third, the coping flexibility index of these measures only reflects variability in the coping pattern across situations. The situation-appropriate aspect of coping flexibility remains largely unexplored. Researchers do not know whether coping flexibility involves the selection of coping strategies that suit the specific characteristics of different stressors or whether it merely represents a random display of coping behaviors. Fourth, these measures may not successfully tap actual coping responses. In the Coping Inventory and the Flex measure, respondents indicate what they generally do, but this may not necessarily correspond to their actual coping responses in real-life situations (see, e.g., Coyne & Racioppo, 2000; J. E. Schwartz, Neale, Marco, Shiffman, & Stone, 1999). In the open-ended questionnaire, respondents are asked to recall what they have done in the past 3 months. Recall over this relatively long period may be susceptible to biases and distortion (e.g., see J. E. Schwartz et al., 1999; Smith, Leffingwell, & Ptacek, 1999).

On the basis of theoretical and empirical considerations, I constructed the Coping Flexibility Questionnaire (CFQ) to address these unexplored issues. Attempting to capture the person-situation transactional process, the CFQ adopts a flexible structure that allows simultaneous examination of stressful events and coping response on a daily basis.

The CFQ comprises two sections. In the first section on stressful experiences, participants describe the most stressful event they encountered on a particular day and its perceived characteristics. This is followed immediately by a section on coping responses, in which participants are asked to report how they actually handled this specific event. This procedure is repeated for subsequent days; participants are asked to report the most stressful event on each day and their coping responses. Hence, the nature of a stressful event and, more important, its corresponding coping response can be examined. This flexible structure allows researchers to compare these "stress-and-coping pairs" across situations, thus facilitating the examination of situation appropriateness of coping patterns by a participant. Such intraindividual differences in the arrays of coping responses can then be compared among different participants. These within-subject (ipsative) and between-subjects (normative) comparisons may reveal a more complete picture of coping flexibility.

Method

Overview

I adopted the CFQ to scrutinize individual differences in coping flexibility in the context of the transition to university life for freshmen. At the beginning of their first semester, participants were asked to report the most

stressful event experienced on each of 6 specified days and their corresponding responses to each event.

Apart from examining individual differences in coping flexibility, this study also aims at examining the conceptual distinctiveness of this construct. I included measures of anxiety, depression, self-monitoring, and social desirability to scrutinize the associations between coping flexibility and these conceptually unrelated variables.

Participants

One hundred Chinese freshmen (50 women and 50 men) were recruited through an advertisement placed on the university electronic bulletin board. Their average age was 19.52 years ($SD = 0.84$). Participants were paid 100 Hong Kong dollars (about \$12) for taking part in this study. Informed consent was obtained from all participants before the study began.

Measures

Coping flexibility. The CFQ (see Appendix) was constructed in this study. This measure adopts a daily assessment approach (e.g., see Porter & Stone, 1996; Tennen, Affleck, Armeli, & Carney, 2000) in examining coping flexibility. Participants were told that their task was to recall and describe the most stressful event experienced on a specific day. Then they rated the desirability, the impact, and the controllability of the event on a 6-point scale (see Appendix). Single-item rating scales were used, because they are as informative as multi-item measures (Burisch, 1984). According to the transactional theory of coping, the stress-related appraisals comprise both primary and secondary appraisals. The dimensions of desirability and impact were included to assess primary appraisals, which reflect perception of the nature and potential influence of the stressful event, whereas the dimension of controllability was included to assess secondary appraisals, which reflect perception of resources or abilities to handle the stressful event (see Cheng, 1997; Tomaka, Blascovich, Kibler, & Ernst, 1997). An additional option was provided in case participants found it difficult to rate any of these three dimensions for any event. If participants selected this option, they could appraise the event in their own way in the space provided and give it a rating.

After describing the stressful event, participants were instructed to describe all the strategies they deployed to overcome the experience and then to classify each strategy in one of two categories.¹ The first category was labeled *problem-focused*, and the second one was labeled *emotion-focused*. If participants reported that their goal of using a particular strategy applied to both options, they were instructed to choose the one that represented their primary goal of using that strategy. Participants then gave an effectiveness rating on a 6-point scale for each strategy. This scale ranges from 1 (*very ineffective in bringing about the primary goal*) to 6 (*very effective in bringing about the primary goal*). All these procedures were repeated for the next specified day. A sample was included to illustrate how the various parts should be completed.

Trait anxiety. The T-Anxiety scale of the State-Trait Anxiety Inventory (STAI, Form Y-2; Spielberger, Vagg, Barker, Donham, & Westberry, 1980) was used to assess general feelings of tension, apprehension, and nervousness. The anxiety scores range from 20 to 80, with a higher score indicating a higher trait anxiety level. The Chinese STAI is both reliable and valid in Hong Kong samples (Shek, 1988). In this study, the internal consistency of the STAI was high ($\alpha = .81$).

Depression. The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) was adopted for measuring depression. The depression score ranges from 0 to 63, with a higher score indicating a

¹ Subsequent analyses focused on coping goals (i.e., problem-focused and emotion-focused) only because goal attainment, rather than the content or variety of coping strategies, was the focus of the present research.

Table 2
*Pearson Zero-Order Correlations Between Aspects of Coping Flexibility
 for Freshmen (N = 100)*

Variable	1	2	3	4	5	6	7	8
1. PCTRL	—	-.19	.43***	-.23*	-.30**	-.30**	-.24*	-.17
2. VPCTRL		—	.15	.35***	.13	.22*	.30**	.23*
3. PFC			—	-.34***	-.48***	-.20	-.24*	-.06
4. VPFC				—	.12	.36***	.41***	.26**
5. EFC					—	.27***	.05	.17*
6. VEFC						—	.22*	.38***
7. EPFC							—	-.37***
8. EEFC								—

Note. PCTRL = perceived controllability; VPCTRL = variability in perceived controllability; PFC = problem-focused coping; VPFC = variability in problem-focused coping; EFC = emotion-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping.

* $p < .05$. ** $p < .01$. *** $p < .001$.

higher level of depression. The Chinese BDI has good reliability (Shek, 1990) and criterion-related validity (Shek, 1991). The BDI items were internally consistent for the present sample ($\alpha = .91$).

Self-monitoring. The Self-Monitoring Scale (SMS; Snyder, 1974) was used to assess self-monitoring. The SMS score ranges from 0 to 18, with a higher score indicating a higher level of self-monitoring. The Chinese SMS has good reliability and criterion-related validity (see Yang, 1997). In this study, the SMS items were internally consistent ($\alpha = .77$).

Social desirability. The Marlowe-Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1960) was used to assess social desirability. The MCSD score ranges from 0 to 33, with a higher score indicating a desire to achieve greater social desirability. The Chinese MCSD displays good reliability and criterion-related validity (see Yang, 1997). The internal consistency of the MCSD was high for this sample ($\alpha = .84$).

Procedures

To avoid any possible contamination of the conceptually unrelated measures (i.e., STAI, BDI, SMS, and MCSD) and the CFQ, I administered these two kinds of measures in separate sessions. At the beginning of the first semester, the conceptually unrelated measures were administered to participants in groups of 8 to 10.

One week later, participants were asked to participate in an allegedly unrelated study, in which they were given a package of six daily log sheets (i.e., the CFQ) and were instructed to fill in each log sheet at home on specified days within a 3-week period. In a briefing session, a research assistant asked the participants to familiarize themselves with the definitions of all the constructs (i.e., stressful event, coping, problem-focused goal, and emotion-focused goal) and the rating criteria of all the appraisal scales. Any questions were clarified in that session. In the evening of each scheduled day, a research assistant reminded the participants by telephone to complete the checklist. Participants were also asked to return the log sheet completed on weekdays to the research assistant on the next day and to return the log sheets completed on weekends on the following Monday. If they forgot to fill in the log sheet on a particular day, they were instructed to report what had happened on the day of completion rather than on the specified day.²

At the end of the 3-week period, all participants were asked to attend a debriefing session. They completed the STAI and the BDI in this session and then were debriefed and paid for their participation.

Results and Discussion

Overview

In this research, the construct of coping flexibility was assessed by flexibility in both cognitive appraisal and coping pattern. Flexibility in cognitive appraisal was operationalized as variability in patterns of perceived controllability across situations. Flexibility in coping pattern was operationalized as variability in patterns of problem-focused and emotion-focused coping across situations.

Cluster analysis was used to identify different groups of coping flexibility. Group and gender differences in coping flexibility and coping outcomes were examined by multivariate analysis of variance (MANOVA) and independent-samples t tests, respectively. Pearson zero-order correlations were used to examine the interrelationships among various aspects of coping flexibility. The correlation matrix is shown in Table 2.

Identification of Types of Coping Flexibility

The present study proposes different types of coping flexibility, each with a distinct pattern of cognitive appraisal and coping pattern. To identify different types of coping flexibility, I performed hierarchical cluster analysis to classify participants into discrete groups on the basis of their perceptions of controllability and use of coping strategies across six stressful events. I used hierarchical cluster analysis because it is largely data driven; this minimizes the possible confounding effect of subjective decisions in data categorization. This technique has been commonly used to identify underlying psychological dimensions (e.g., Forgas, 1982; Ogilvie & Ashmore, 1991).

I constructed an 18×100 data matrix with the 100 participants as cases and their raw scores of perceived controllability (the first six columns), problem-focused coping (the following six col-

² In all three studies, the coping flexibility and demographic characteristics of the participants who failed to complete some daily logs on the specified days ($n_s = 7, 5$, and 15 for Studies 1, 2, and 3 respectively) did not differ significantly from those of the participants who completed all daily logs on the specified days.

umns), and emotion-focused coping (the last six columns) across the rows. As Blashfield (1984) recommended, I used the squared Euclidean distance as the proximity measure in clustering the data, and I adopted Ward's (1963) minimum variance method as the grouping method. In comparison with other possible solutions, the four-cluster solution was the most meaningful (see *Individual Differences in Flexibility of Coping Pattern*) and stable (as reflected by the replicable results, using the split-half method and the results from Study 2). Table 3 presents the means and standard deviations of the major variables for the four cluster groups.

Participants in the first cluster (21 women and 9 men) were characterized by a high variability in perceived controllability (VPCTRL), variability in problem-focused coping (VPFC), and variability in emotion-focused coping (VEFC). They evaluated some stressful events as controllable and others as uncontrollable, and they varied their use of problem-focused coping (PFC) and emotion-focused coping (EFC) across situations. Characteristics of this group correspond to the flexible type of coping flexibility.

Participants in the second cluster (14 women and 28 men) were characterized by a low VPCTRL, VPFC, and VEFC. They evaluated most stressful events as controllable and used a lot of PFC but a small amount of EFC. Characteristics of this group correspond to the active-inflexible type of coping flexibility.

Participants in the third cluster (7 women and 1 man) were also characterized by a low VPCTRL, VPFC, and VEFC. However, they differed from the second group in evaluating most stressful events as uncontrollable and in using a large amount of EFC but a

small amount of PFC. Characteristics of this group correspond to the passive-inflexible type of coping flexibility.

Participants in the fourth cluster (8 women and 12 men) were characterized by a high VPCTRL but a low VPFC and VEFC. They evaluated some stressful events as controllable and others as uncontrollable but consistently used much PFC but a small amount of EFC across situations. Characteristics of this group correspond to the active-inconsistent type of coping flexibility.

Individual and Gender Differences in Coping Flexibility

I used MANOVA to examine group and gender differences in coping flexibility. Results revealed a significant group effect, $F(18, 267) = 138.29, p < .001$ (effect size = .80), and a significant gender effect, $F(6, 87) = 3.97, p < .01$ (effect size = .22). However, the Group \times Gender interaction was nonsignificant, $F(18, 267) = 1.33, ns$.

To further examine the significant group effect, I used a post hoc Tukey honestly significant difference (HSD) test. For perceived controllability (PCTRL), the active-inflexible group had the highest level, followed by the flexible group, the active-inconsistent group, and the passive-inflexible group, $ps < .001$. For PFC, the active-inflexible and the active-inconsistent groups used more than the flexible group, which in turn used more than the passive-inflexible group, $ps < .001$. For EFC, the passive-inflexible group used more than the flexible group, which in turn used more than the active-inflexible and the active-inconsistent groups, $ps < .001$.

Table 3
Descriptive Statistics of Major Variables for the Four Groups of Freshmen

	Flexible (<i>n</i> = 30)		Active-inflexible (<i>n</i> = 42)		Passive-inflexible (<i>n</i> = 8)		Active-inconsistent (<i>n</i> = 20)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
PDES	2.51 _a	0.41	2.21 _a	0.29	2.04 _a	0.37	2.23 _a	0.24
VDES	0.73 _a	0.24	0.79 _a	0.24	0.76 _a	0.26	0.73 _a	0.34
PIMPACT	4.91 _a	0.36	5.06 _a	0.32	4.79 _a	0.09	4.90 _a	0.26
VIMPACT	0.79 _a	0.23	0.85 _a	0.26	0.87 _a	0.23	0.92 _a	0.16
PCTRL	3.54 _c	0.37	5.17 _d	0.36	2.08 _a	0.10	3.20 _b	0.33
VPCTRL	1.29 _b	0.27	0.65 _a	0.25	0.76 _a	0.11	1.59 _c	0.35
PFC	2.52 _b	0.66	3.90 _c	0.28	0.06 _a	0.10	3.92 _c	0.09
VPFC	1.10 _b	0.50	0.16 _a	0.29	0.14 _a	0.25	0.20 _a	0.21
EFC	1.40 _b	0.50	0.15 _a	0.06	2.13 _c	0.52	0.04 _a	0.04
VEFC	1.41 _b	0.23	0.13 _a	0.16	0.26 _a	0.31	0.10 _a	0.11
EPFC	4.61 _b	0.69	3.22 _a	0.56	2.50 _a	0.71	3.31 _a	0.42
EEFC	4.52 _b	0.53	1.73 _a	0.68	1.94 _a	0.30	2.00 _a	0.71
SS fit	0.71 _b	0.17					0.45 _a	0.11
Anxiety—T1	36.93 _a	7.73	50.48 _b	6.14	32.75 _a	5.97	51.00 _b	4.00
Anxiety—T2	35.73 _a	7.66	48.48 _b	5.31	32.00 _a	3.74	53.30 _b	7.33
Depression—T1	8.53 _a	5.34	13.19 _b	6.20	24.25 _c	3.59	17.20 _b	5.61
Depression—T2	6.00 _a	6.56	14.81 _b	5.72	25.50 _c	2.08	18.80 _c	5.94
Self-monitoring	9.87 _a	1.89	10.19 _a	1.45	9.00 _a	1.58	10.90 _a	1.85
Social desirability	18.00 _a	3.80	17.76 _a	3.52	19.00 _a	4.24	19.00 _a	2.71

Note. Within each row, means that do not share a common subscript differ from each other, according to the post hoc Tukey honestly significant difference tests, at $p < .05$. PDES = perceived desirability; VDES = variability in perceived desirability; PIMPACT = perceived impact; VIMPACT = variability in perceived impact; PCTRL = perceived controllability; VPCTRL = variability in perceived controllability; PFC = problem-focused coping; VPFC = variability in problem-focused coping; EFC = emotion-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping; SS fit = strategy-situation fit; T = time.

.001. For VPCTRL, the active-inconsistent group had higher levels than the flexible group, which had higher levels than the active-inflexible and the passive-inflexible groups, $ps < .001$. For both VPFC and VEFC, the flexible group had higher levels than the other three groups, $ps < .001$.

To further examine the significant gender effect, I conducted a post hoc independent-samples t test. For PCTRL, female participants ($M = 3.54$) had lower levels than their male counterparts did ($M = 4.55$), $t(98) = -5.24$, $p < .001$. For PFC, female participants ($M = 2.80$) used less than their male counterparts did ($M = 3.56$), $t(98) = -3.34$, $p < .01$. For EFC, female participants ($M = 0.95$) used more than male participants did ($M = 0.30$), $t(98) = 4.30$, $p < .001$. For VPCTRL, VPFC, and VEFC, female participants ($Ms = 1.16, 0.56$, and 0.67 , respectively) had higher levels than did male participants ($Ms = 0.91, 0.34$, and 0.37 , respectively), $ts(98) > 1.93$, $ps < .05$.

Coping Flexibility and Coping Outcomes

I examined possible differences in coping outcomes among these cluster groups using the criteria of strategy-situation fit and goal attainment. Previous theories have posited a strategy-situation fit by (a) the use of PFC in controllable situations and (b) the use of EFC in uncontrollable situations. The use of a strategy that matched either of these criteria was assigned a score of 1, and the use of a particular strategy that did not match either criterion was assigned a score of 0. These "fit" scores reflect the extent to which the deployment of different strategies matched the demands of different situations. As shown in the previous section, only the flexible group and the active-inconsistent group reported having a variable coping pattern across situations. I compared the average fit scores, which ranged from 0 (no fit) to 1 (a perfect fit), of these two groups. The independent-samples t test revealed a significant group difference, $t(48) = 6.63$, $p < .001$. The flexible group had a greater degree of strategy-situation fit than did the active-inconsistent group.

Subjective evaluation of goal attainment was indicated by participants' ratings of the effectiveness of problem-focused coping (EPFC) and the effectiveness of emotion-focused coping (EEFC). The MANOVA results revealed a significant Type of Coping Effectiveness \times Group difference in these outcome measures, $F(3, 92) = 17.09$, $p < .001$ (effect size = .51). To further examine this interaction effect, I conducted post hoc analyses for group differences for each outcome measure. For EPFC, the analysis of variance (ANOVA) results revealed a significant group difference, $F(3, 96) = 4.22$, $p < .05$, $MSE = 0.28$ (effect size = .20). Post hoc Tukey HSD tests showed that the flexible group gave higher EPFC ratings than the other three groups, $ps < .01$. For EEFC, the ANOVA results also showed a significant group difference, $F(3, 96) = 35.33$, $p < .001$, $MSE = 0.29$ (effect size = .68). The flexible group gave higher EEFC ratings than the other three groups, $ps < .01$. However, the main effect of gender and all other interaction effects were nonsignificant, $Fs < 1.47$, ns .

Conceptual Distinctiveness of Coping Flexibility

To examine whether the various aspects of coping flexibility (VPCTRL, VPFC, VEFC, EPFC, and EEFC) were confounded by trait anxiety and depression, I used partial correlations (see Stan-

ton, Danoff-Burg, Cameron, & Ellis, 1994). Measures that are confounded with distress would correlate strongly with Time 2 trait anxiety and depression, but such correlations would wane when Time 1 trait anxiety and depression scores have been partialled out. As shown in Table 4, PCTRL, PFC, EFC, and various aspects of coping flexibility were significantly related to Time 2 trait anxiety and depression, except for the nonsignificant relationships between Time 2 depression and the two aspects of coping flexibility, VPCTRL and VEFC. After I partialled out Time 1 trait anxiety and depression, the relationships between coping (PFC, EFC) and Time 2 distress measures (i.e., trait anxiety and depression) became weaker. In contrast, the nonsignificant associations with depression for VPCTRL and VEFC became significant. The significant associations between various aspects of coping flexibility and Time 2 distress measures remained significant, and most of them even became stronger. These results indicate that various aspects of coping flexibility are associated with but not confounded by trait anxiety and depression.

I examined the conceptual distinctiveness of coping flexibility through the interrelationships between the various aspects of coping flexibility and other theoretically unrelated measures (i.e., self-monitoring and social desirability). The various aspects of coping flexibility were unrelated to self-monitoring and social desirability (correlations ranged from .02 to .14, ns). The ANOVA results further revealed nonsignificant group differences in self-monitoring and social desirability, $Fs(3, 96) = 2.27$ and 0.76 , ns , respectively. Taken together, these results provide evidence that coping flexibility is a conceptually distinctive construct.

Study 2

This study aims to extend the two new findings of Study 1. First, results of cluster analysis revealed four types of coping flexibility: flexible, active-inflexible, passive-inflexible, and active-inconsistent. The reliability of this classification method can be

Table 4

Partial Correlations Between Aspects of Coping, Aspects of Coping Flexibility, and Time 2 Distress Measures (N = 100)

Variable	Trait anxiety		Depression	
	<i>r</i>	Partial <i>r</i> ^a	<i>r</i>	Partial <i>r</i>
Aspects of coping				
PCTRL	.25*	.21*	-.28**	-.22*
PFC	.42***	.22*	.33**	.29**
EFC	-.49***	-.22*	-.45***	-.18
Aspects of coping flexibility				
VPCTRL	-.22*	-.28**	-.16	-.22**
VPFC	-.39***	-.46***	-.24*	-.44***
VEFC	-.23*	-.33**	-.15	-.34**
EPFC	-.49***	-.32**	-.29**	-.36***
EEFC	-.43***	-.25*	-.37***	-.49***

Note. PCTRL = perceived controllability; PFC = problem-focused coping; EFC = emotion-focused coping; VPCTRL = variability in perceived controllability; VPFC = variability in problem-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping.

^a Correlation coefficient with Time 2 distress measures after partialing out Time 1 distress measures.

* $p < .05$. ** $p < .01$. *** $p < .001$.

evaluated by replicating the clustering results with a new sample of participants in a different life transition—that is, a sample of new graduates adjusting to a new work environment. Second, results from Study 1 also show that individuals with distinct coping patterns reported different coping outcomes. Apart from adopting a subjective approach using self-reports, this study also includes an experimental method that provides a relatively more objective assessment of coping flexibility and coping outcomes.

Method

Overview

This study consists of two parts. In the first part, a sample of new graduates completed the CFQ, describing their stressful experiences and coping responses in their first full-time jobs. In the second part, these participants were invited to take part in an allegedly unrelated experiment, in which they had to handle several controllable and uncontrollable stressful tasks (see the *Experimental Design and Procedures*). Participants' perceptions of the task nature, coping processes, and coping outcomes were assessed by the CFQ. The CFQ data were supplemented by an objective measure of coping outcomes—task performance.

Participants

Sixty Chinese new graduates (35 women and 25 men) participated in this study. Each was paid HK\$150 (about \$20) for their participation. Their average age was 22.90 years ($SD = 0.88$). In September 1997, 109 final-year undergraduates were given a sign-up sheet asking them to leave their name and contact number if they were interested in participating in a study after graduation. In October and November 1998, a research assistant contacted them and asked them to take part in this study. Only those who were in their first full-time employment at that time were recruited. Participants were asked to sign a consent form before the study began.

Measures

In the first part of this study, the CFQ was used again to assess coping flexibility.³ The procedures were identical to those of Study 1.

Experimental Design and Procedures

In the second part of this study, an experiment was designed. Two types of stressful tasks, controllable (A) and uncontrollable (B), were alternately given to all participants. The presentation order of these two types of tasks was counterbalanced (i.e., ABAB or BABA), and participants were randomly assigned to either of these orders.

The controllable task was a test of memory and reaction time, and the task difficulty was set at a controllable level that made improvement in performance possible with practice. Participants were asked to memorize a six-digit number while performing a judgment task and to recall the six-digit number when prompted after the judgment task. The pilot studies showed that improvement, which was operationalized by (a) an increase in recall rate (i.e., percentage of correct recall) and (b) a reduction in reaction time, was possible with practice for this task.

The uncontrollable task was a "mental IQ" test, and the task difficulty was set at an uncontrollable level that made improvement in performance impossible even with practice. Specifically, participants were asked to do mental calculations by multiplying as many pairs of three-digit numbers as possible in a period of 3 min. The time limit for multiplying each pair of numbers was 30 s. The pilot studies showed that no participants could perform this task accurately within the time limit. These two tasks have been used in previous studies on stress induction (e.g., Cheng & Chiu, in press; Hinton et al., 1992).

On completion of the laboratory tasks, the CFQ was administered. The content of the CFQ was identical to that for measuring real-life stressful events, except the six stressful events had been replaced by three controllable tasks and three uncontrollable tasks. These tasks were sampled from the beginning (i.e., Task 1), the middle (i.e., Task 4), and the end (i.e., Task 6) of the experiment.

Results and Discussion

In this study, two sets of data were obtained, one from a real-life setting (i.e., transition to a new work environment), and another from a laboratory setting. These data sets were first described in separate sections, and then the degree of similarity between these two sets of data was examined. The correlations among aspects of coping flexibility are shown in Table 5.

Coping Flexibility in a Real-Life Setting

Identification of types of coping flexibility. As in Study 1, I used hierarchical cluster analysis to classify participants into discrete groups on the basis of their perceptions of controllability and their use of coping strategies across six real-life stressful events. I found a four-cluster solution. Table 6 (the upper panel) summarizes the descriptive statistics of major variables for these four cluster groups.

Participants in the flexible group (9 women and 2 men) had a high VPCTRL, VPFC, and VEFC. They varied their perception, use of PFC, and use of EFC across stressful events. Those in the active-inflexible group (9 women and 10 men) had a low VPCTRL, VPFC, and VEFC. They perceived most stressful events as controllable and consistently used a lot of PFC but a little EFC. Those in the passive-inflexible group (7 women and 2 men) also had a low VPCTRL, VPFC, and VEFC. They perceived most stressful events as uncontrollable and used a large amount of EFC but a small amount of PFC. Those in the active-inconsistent group (10 women and 11 men) had a high VPCTRL but a low VPFC and VEFC. They used much PFC but a little EFC, regardless of their perception of the controllability of stressful events. The cognitive and coping patterns of these four groups resembled those of the groups found in Study 1.

Individual and gender differences in coping flexibility. The MANOVA results showed a significant group effect, $F(18, 147) = 19.17, p < .001$ (effect size = .70), and a significant gender effect, $F(6, 47) = 8.24, p < .001$ (effect size = .51).

To further examine the group effect, I used the post hoc Tukey HSD test. For PCTRL, the active-inflexible group had the highest level, followed by the flexible group and the active-inconsistent group, and then the passive-inflexible group, $ps < .001$. For PFC, the active-inflexible and the active-inconsistent groups used more than the flexible group, which used more than the passive-inflexible group, $ps < .001$. For EFC, the passive-inflexible group used more than the flexible group, which used more than the active-inflexible and the active-inconsistent groups, $ps < .001$.

³ In Study 1, most participants perceived the experienced stressful events as undesirable and as having a great impact on them. Significant individual differences in perceived desirability and impact were lacking, because participants had to describe the most bothersome event on each specified day. Therefore, these two dimensions were omitted in Studies 2 and 3.

Table 5
Pearson Zero-Order Correlations Between Aspects of Coping Flexibility for New Graduates ($N = 60$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Real-life setting																
1. PCTRL	—	-.22	.44***	-.25*	-.27*	-.21	-.22	-.14	.76***	-.10	.38**	-.18	-.32*	-.20	-.09	-.17
2. VPCTRL		—	.22	.35**	.16	.27*	.24	.30*	-.18	.56***	.21	.15	.01	.26*	.14	.24
3. PFC			—	-.27*	-.42**	-.19	-.19	-.06	.41***	.29*	.66***	-.26*	-.31*	-.16	-.15	-.16
4. VPFC				—	.03	.33*	.40**	.30*	-.07	.12	-.10	.45***	.24	.37**	.29*	.34**
5. EFC					—	.24	.11	.30*	-.35**	.18	-.38**	-.03	.70***	.32*	.12	.25*
6. VEFC						—	.21	.43**	-.23	.38**	-.24	.36**	.36**	.61***	.18	.29*
7. EPFC							—	-.35**	-.05	.27*	-.17	.26*	.13	.19	.39**	.23
8. EEFC								—	-.12	.18	-.10	.17	.18	.29*	.29*	.39**
Laboratory setting																
9. PCTRL									—	-.16	.36**	-.19	-.25	-.25	-.26*	-.16
10. VPCTRL										—	-.03	.28*	.11	.32*	.33**	.22
11. PFC											—	-.28*	-.43***	-.18	-.18	-.16
12. VPFC												—	.17	.45***	.41**	.22
13. EFC													—	.28*	.17	.28*
14. VEFC														—	.16	.35**
15. EPFC															—	-.25*
16. EEFC																—

Note. PCTRL = perceived controllability; VPCTRL = variability in perceived controllability; PFC = problem-focused coping; VPFC = variability in problem-focused coping; EFC = emotion-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping.
* $p < .05$. ** $p < .01$. *** $p < .001$.

For VPCTRL, the flexible and the active-inconsistent groups had higher levels than did the active-inflexible and the passive-inflexible groups, $ps < .001$. For VPFC and VEFC, the flexible group had higher levels than the other three groups, $ps < .01$.

To further examine the gender effect, I used the post hoc independent-samples t test. For PCTRL, female participants ($M = 3.45$) had lower levels than did male participants ($M = 4.18$), $t(58) = -2.82$, $p < .05$. For PFC, female participants ($M = 2.63$) used less than did their male counterparts ($M = 3.33$), $t(58) = -2.04$, $p < .05$. For EFC, female participants ($M = 0.89$) used more than did male participants ($M = 0.33$), $t(58) = 2.62$, $p < .05$. For VPCTRL and VPFC, no significant gender differences were found, $ts(58) < .59$, ns . For VEFC, female participants ($M = 0.52$) had higher levels than did their male counterparts ($M = 0.30$), $t(58) = 1.91$, $p < .05$.

Coping flexibility and coping outcomes. For strategy-situation fit, results of the independent-samples t test revealed that the flexible group had a greater degree than did the active-inconsistent group, $t(29) = 2.95$, $p < .01$. For coping effectiveness, the MANOVA results revealed a significant Type of Coping Effectiveness \times Group interaction, $F(3, 52) = 18.28$, $p < .001$ (effect size = .66). For EPFC, the ANOVA results showed a significant group difference, $F(3, 56) = 3.73$, $p < .05$, $MSE = 0.25$ (effect size = .27). Post hoc Tukey HSD tests revealed that the flexible group had higher EPFC ratings than did the other three groups, $ps < .001$. For EEFC, results also showed a significant group difference, $F(3, 56) = 9.19$, $p < .001$, $MSE = 0.66$ (effect size = .47). Post hoc Tukey HSD tests revealed that the flexible group gave higher EEFC ratings than did the other three groups, $ps < .001$.

Coping Flexibility in a Laboratory Setting

For the experiment results, the means and standard deviations of major variables for these four groups are depicted in the lower panel of Table 6.

Individual and gender differences in coping flexibility. In the present experiment, all participants encountered six controllable and six uncontrollable stressful situations. I used the mixed-design ANOVA to examine the between-subjects effects of group and the within-subject effects of controllability (controllable vs. uncontrollable stressful tasks). Results of the MANOVA revealed a significant Controllability \times Group interaction effect, $F(9, 156) = 23.20$, $p < .001$ (effect size = .57). I conducted two sets of post hoc analyses to further explore this interaction effect.

The first set of analyses examined the group effect in controllable and uncontrollable conditions. In the controllable condition, the MANOVA results revealed a significant group effect, $F(9, 168) = 10.19$, $p < .001$ (effect size = .35). For PCTRL, post hoc Tukey HSD revealed that the flexible, the active-inflexible, and the active-inconsistent groups ($Ms = 4.49$, 4.93 , and 4.44 , respectively) perceived higher levels than did the passive-inflexible group ($M = 1.89$), $ps < .001$. For PFC, the flexible, the active-inflexible, and the active-inconsistent groups ($Ms = 1.76$, 1.47 , and 1.59 , respectively) used more than did the passive-inflexible groups ($M = 0.15$), $ps < .001$. For EFC, the flexible, the active-inflexible, and the active-inconsistent groups ($Ms = 0.33$, 0.05 , and 0.05 , respectively) used less than did the passive-inflexible group ($M = 1.33$), $ps < .001$.

Table 6
Descriptive Statistics of Major Variables for the Four Groups of New Graduates

Variable	Flexible (<i>n</i> = 11)		Active-inflexible (<i>n</i> = 19)		Passive-inflexible (<i>n</i> = 9)		Active-inconsistent (<i>n</i> = 21)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Real-life setting								
PCTRL	3.52 _b	0.26	5.00 _c	0.36	2.11 _a	0.35	3.46 _b	0.43
VPCTRL	1.73 _b	0.38	0.87 _a	0.22	0.78 _a	0.20	1.62 _b	0.38
PFC	2.34 _b	0.68	3.79 _c	0.14	0.37 _a	0.71	3.54 _c	0.78
VPFC	1.17 _b	0.47	0.42 _a	0.24	0.43 _a	0.40	0.47 _a	0.44
EFC	0.97 _b	0.57	0.11 _a	0.13	2.25 _c	0.62	0.30 _a	0.43
VEFC	1.01 _b	0.54	0.20 _a	0.18	0.41 _a	0.31	0.34 _a	0.37
EPFC	4.32 _c	0.69	3.10 _b	0.19	3.39 _b	0.67	2.46 _a	0.64
EEFC	4.71 _b	0.55	1.55 _a	0.45	2.24 _a	0.65	2.52 _a	0.47
SS fit	0.65 _b	0.17					0.47 _a	0.16
Laboratory setting								
PCTRL	3.97 _b	0.73	4.94 _d	0.37	1.91 _a	0.39	4.44 _c	0.48
VPCTRL	1.13 _b	0.40	0.75 _a	0.27	0.76 _a	0.28	1.10 _b	0.36
PFC	1.03 _b	0.38	1.48 _c	0.40	0.17 _a	0.12	1.60 _c	0.61
VPFC	0.96 _b	0.23	0.61 _a	0.25	0.34 _a	0.20	0.43 _a	0.35
EFC	1.23 _b	0.28	0.06 _a	0.14	1.35 _b	0.64	0.06 _a	0.18
VEFC	1.18 _c	0.28	0.10 _a	0.20	0.34 _b	0.20	0.06 _a	0.16
EPFC	3.81 _b	0.41	3.40 _b	0.43	2.14 _a	0.99	3.60 _b	0.37
EEFC	3.48 _c	0.53	1.97 _a	0.60	2.89 _b	0.29	2.32 _a	0.48
SS fit	0.62 _b	0.13					0.30 _a	0.22
Correct recall	3.64 _b	1.96	4.05 _b	1.35	1.44 _a	1.88	3.81 _b	1.21
CRT	1,338.53 _a	238.34	1,366.46 _a	221.13	1,719.06 _b	264.62	1,355.02 _a	205.93

Note. Within each row, means that do not share a common subscript differ from each other, according to the post hoc Tukey honestly significant difference tests, at $p < .05$. PCTRL = perceived controllability; VPCTRL = variability in perceived controllability; PFC = problem-focused coping; VPFC = variability in problem-focused coping; EFC = emotion-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping; SS fit = strategy-situation fit; CRT = changes in response time.

In the uncontrollable condition, results also showed a significant group effect, $F(9, 168) = 25.60$, $p < .001$ (effect size = .58). For PCTRL, the active-inflexible group perceived the highest level ($M = 4.95$), followed by the flexible group ($M = 3.45$), the active-inconsistent group ($M = 2.64$), and the passive-inflexible group ($M = 1.93$), $ps < .05$. For PFC, the active-inflexible and the active-inconsistent groups ($Ms = 1.49$ and 1.60 , respectively) used more than did the flexible and the passive-inflexible groups ($Ms = 0.30$ and 0.19 , respectively), $ps < .001$. For EFC, the flexible group ($M = 2.12$) used more than did the passive-inflexible group ($M = 1.37$), which used more than the active-inflexible and the active-inconsistent groups ($Ms = 0.07$ and 0.06 , respectively), $ps < .001$.

The second set of analyses examined the controllability effect for each group. For the flexible group, post hoc paired t tests revealed that participants gave a higher PCTRL rating in the controllable condition than in the uncontrollable condition, $t(10) = 3.80$, $p < .01$. They used more PFC in the controllable condition than in the uncontrollable condition, $t(10) = 14.09$, $p < .001$, and they used less EFC in the controllable condition than in the uncontrollable condition, $t(10) = -9.86$, $p < .001$.

For the active-inflexible group, results showed that participants gave a high PCTRL rating in both the controllable and the uncontrollable conditions, $t(18) = -0.09$, ns . In both conditions, these

participants did not vary their use of PFC and EFC across conditions, $t(18) = -0.25$ and -0.57 , ns . Specifically, they used a lot of PFC but a little EFC in all conditions.

For the passive-inflexible group, participants gave a low PCTRL rating in both the controllable and the uncontrollable conditions, $t(8) = -0.13$, ns . Participants in this group did not vary their use of PFC and EFC across conditions, $ts(8) = -0.32$ and -0.43 , ns . They used a lot of EFC but a little PFC in these two conditions.

For the active-inconsistent group, results showed that participants gave a higher PCTRL rating in the controllable condition than in the uncontrollable condition, $t(20) = 8.93$, $p < .001$. However, these participants did not vary their use of PFC and EFC across conditions, $ts(20) = -0.15$ and -1.00 , ns . They tended to use a lot of PFC but a little EFC in both conditions.

In addition, results revealed a significant Controllability \times Gender effect, $F(3, 50) = 3.72$, $p < .05$ (effect size = .18). I used post hoc independent-samples t tests to examine the gender effect in the controllable and the uncontrollable conditions. In the controllable condition, female participants ($M = 3.91$) gave a lower PCTRL rating than did male participants ($M = 4.65$), $t(58) = -2.53$, $p = .05$. No significant gender differences were found in the use of PFC and EFC, $ts(58) < 1.47$, ns . In the uncontrollable condition, there were no significant gender differences in PCTRL, $t(58) = 1.33$, ns . However, female participants ($Ms = 0.90$

and 0.89, respectively) used less PFC but more EFC than did male participants ($M_s = 1.41$ and 0.29 , respectively), $t_s(58) = -2.45$ and 2.60 , $p_s < .05$.

Coping flexibility and self-report coping outcomes. For strategy–situation fit, results showed that the flexible group had a greater degree than did the active–inconsistent group, $t(29) = 4.41$, $p < .001$. For coping effectiveness, results of the mixed-design ANOVA revealed a significant Type of Coping Effectiveness \times Controllability \times Group interaction, $F(3, 56) = 4.10$, $p < .05$, $MSE = 0.58$ (effect size = .27). For EPFC, results of paired t tests showed that all the groups gave higher ratings in the controllable condition (means range from 3.29 to 5.02) than in the uncontrollable condition (means range from 2.00 to 2.37), $t_s > 2.83$, $p_s < .05$. For EEFC, only the flexible group gave higher ratings to the uncontrollable condition ($M = 4.24$) than to the controllable condition ($M = 2.42$), $t(10) = -6.22$, $p < .001$. The other three groups gave low EEFC ratings to both the controllable (means range from 2.13 to 2.52) and the uncontrollable (means range from 1.87 to 3.26) conditions, $t_s < 0.47$, ns .

Coping flexibility and objective measures of coping outcomes. Performance in the controllable task was shown by two behavioral indicators: recall rate (i.e., percentage of correct recall) and response time. Performance in the uncontrollable task was indicated by the number of correct answers. Because no participants could perform the uncontrollable task correctly, only the results concerning recall rate and response time of the controllable task are presented.

For recall rate, the ANOVA results revealed a significant group effect, $F(3, 56) = 6.67$, $p < .01$, $MSE = 2.30$ (effect size = .26). Post hoc Tukey HSD tests showed that the passive–inflexible group had lower recall rates than did the other groups, $p_s < .05$. For response time, the ANOVA results also showed a significant group effect, $F(3, 56) = 6.64$, $p < .01$, $MSE = 5,101.08$ (effect size = .26). Post hoc Tukey HSD tests revealed that the passive–inflexible group had longer response times than did the other groups, $p_s < .01$.

Relationship Between Real-life and Laboratory Data

In this study, two sets of data—the real-life and the laboratory data—were obtained using the CFQ. Each data set comprised five variables: VPCTRL, VPFC, VEFC, EPFC, and EEFC. I performed canonical analysis to examine the degree of convergence between these two data sets. The canonical correlation was .87, representing 75% overlapping variance between the two sets of data, $\chi^2(25, N = 60) = 59.60$, $p < .001$. These results show a considerable degree of convergence between the CFQ data obtained in a real-life transition and those obtained in a laboratory setting.

In summary, in this study, I designed an experiment as an alternative method for assessing coping flexibility. Results show that participants who used problem-focused coping (i.e., the flexible, the active–inflexible, and the active–inconsistent groups) to handle the controllable experimental task had better performances than did those who used emotion-focused coping (i.e., the passive–inflexible group). These results are consistent with the theoretical propositions of coping (e.g., Aldwin, 1994; Lazarus & Folkman, 1984). More important, participants' perception and coping in the experiment were highly consistent with their perception and coping in a real-life stressful transition. Taken together, these results

attest to the internal and external validity of the new experimental paradigm.

Study 3

Although consistent results were found for Studies 1 and 2, the target participants of these studies were confined to a restricted range of age (i.e., young adults between 18 and 24 years) and education level (i.e., university undergraduates and graduates). Studies (e.g., Li, 1997; Palisi & Canning, 1991) have shown that compared with older adults and individuals with lower education levels, younger adults and individuals with higher education levels generally perceive that they have more control over an event outcome and use more problem-focused coping. In this light, the present study extends the previous two studies by broadening the scope of target participants to a group of adults with a wider variety of age and education level. A sample of newlywed individuals in transition to marital life is examined in this study.

Moreover, this study extends previous ones by adopting a longitudinal design to examine the predictive relationships of coping flexibility on marital adjustment. This study comprises two parts. In the first part of the study, participants who responded to an advertisement posted in various local newspapers were asked to take part. Their coping flexibility was assessed in an experiment. On completion of the laboratory tasks, they were asked to leave their contact number, mailing address, and date of marriage if they were interested in participating in the second part of this study. If they indicated interest, the CFQ was then mailed to them. Participants were instructed to report their stressful experiences related to marital adjustment on specified days in their 1st month of marriage. The extent of coping flexibility reflected in the performance of different stressful experimental tasks was compared with that reflected in the actual coping with different real-life stressful life tasks 3 months later.

Method

Participants

Participants in this study were 100 (50 women, 50 men) Hong Kong working adults. They were selected from 337 individuals who responded to the newspaper advertisements posted in May 2000. Those who were recruited (a) would get married in August 2000, (b) were being married for the first time, and (c) had not cohabited before. In the selection process, participants' gender and education level were also considered to maintain a balanced distribution of gender and a broad range of education levels. All participants were paid HK\$200 (about \$25) for taking part. Their average age was 29.28 years ($SD = 3.04$). They had received an average of 12.57 years of formal education ($SD = 2.39$). Forty-three percent were high school graduates, 24% had attained matriculation, and 33% were university graduates.

Measures and Procedures

As in the previous studies, the CFQ was used to assess coping flexibility in both parts of this study. The experimental procedures were identical to those of Study 2.

Results and Discussion

Pearson zero-order correlations among age, education, and various aspects of coping flexibility are shown in Table 7. Consistent

Table 7
Pearson Zero-Order Correlations Between Age, Education, and Aspects of Coping Flexibility for Newhired Individuals ($N = 100$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age	—	-.13	-.31**	.22*	-.25**	.33**	.28**	.23*	-.14	.02	-.33**	.24*	-.32**	.22*	.21*	.33**	-.12	.14
2. Education	—	—	.27**	.28**	.32**	-.30**	-.25**	-.12	.12	.11	.31**	.26*	.27**	-.20*	-.30**	-.11	.15	.14
Real-life setting																		
3. PCTRL			—	-.10	.42***	-.24*	-.35**	-.22*	.23*	.15	.68***	-.12	.24**	-.20*	-.20*	-.18	.18	.19
4. VPCTRL				—	.26*	.22*	.07	.24*	.34**	.25*	-.13	.66***	.23*	.21*	.05	.25*	.21*	.16
5. PFC					—	-.23*	-.43***	-.18	.15	.16	.36**	.22*	.76***	-.30**	-.34**	-.13	.14	.12
6. VPFC						—	.15	.30**	.38***	.19	-.11	.16	-.19	.47***	.15	.32**	.22*	.06
7. EFC							—	.37**	-.12	.13	-.24*	.05	-.36**	.08	.74***	.35**	-.10	.14
8. VEFC								—	.25*	.38***	-.18	.25*	-.16	.29**	.33**	.67***	.26**	.36***
9. EPFC									—	.28**	-.05	.24*	.07	.21*	.02	.12	.50***	.25*
10. EEFC										—	.20	.17	.13	.24*	.13	.30**	.28*	.64***
Laboratory setting																		
11. PCTRL											—	-.21*	.38**	-.26*	-.34***	-.28**	.20	.15
12. VPCTRL												—	.18	.24*	.12	.31**	.29**	.24*
13. PFC													—	-.33**	-.43***	-.16	.15	.13
14. VPFC														—	.22*	.40***	.35***	.20
15. EFC															—	-.21*	-.16	.18
16. VEFC																—	.23*	.32**
17. EPFC																	—	.27**
18. EEFC																		—

Note. PCTRL = perceived controllability; VPCTRL = variability in perceived controllability; PFC = problem-focused coping; VPFC = variability in problem-focused coping; EFC = emotion-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping.

* $p < .05$. ** $p < .01$. *** $p < .001$.

with previous studies, age was inversely related to PCTRL and PFC but positively related to EFC in both real-life and experimental settings. Education level was positively related to PCTRL and PFC but inversely related to EFC in both settings. This study extends previous ones by further revealing that age was positively associated with VPCTRL, VPFC, and VEFC. Education level was positively related to VPCTRL but inversely related to VPFC.

Coping Flexibility in a Laboratory Setting

Identification of types of coping flexibility. The hierarchical clustering procedures were identical to those used in Studies 1 and 2. A five-cluster solution was found. Table 8 (the lower panel) depicts the means and standard deviations of major variables for these groups.

Participants in the flexible group (11 women and 10 men) had a high VPCTRL, VPFC, and VEFC. Those in the active-inflexible group (8 women and 20 men) had a low VPCTRL, VPFC, and VEFC. Those in the passive-inflexible group (16 women and 6 men) had a low VPCTRL, VPFC, and VEFC. Those in the active-inconsistent group (5 women and 5 men) had a high VPCTRL but a low VPFC and VEFC. These four groups were consistent with those of previous studies. Moreover, the present study revealed a

new group, the passive-inconsistent group, in which participants (12 women and 7 men) had a low VPCTRL but a high VPFC and VEFC. They perceived most events as uncontrollable but varied their use of PFC and EFC in different situations.

Individual and gender differences in coping flexibility. Results of the mixed-design MANOVA revealed a significant Controllability \times Group interaction effect, $F(12, 270) = 36.43, p < .001$ (effect size = .62). The same sets of post hoc analyses were conducted to examine this interaction effect.

First, in the controllable condition, the MANOVA results revealed a significant group effect, $F(12, 285) = 23.67, p < .001$ (effect size = .50). Post hoc Tukey HSD tests showed that for PCTRL, the flexible, the active-inflexible, and the active-inconsistent groups ($M_s = 5.13, 5.29$, and 5.33 , respectively) perceived higher levels than did the passive-inflexible and the passive-inconsistent groups ($M_s = 1.97$ and 1.93 , respectively), $p_s < .001$. For PFC, the active-inconsistent group ($M = 2.33$) used the most, followed by the flexible, the active-inflexible, and the passive-inconsistent groups ($M_s = 1.54, 1.56$, and 1.19 , respectively), and then the passive-inflexible group ($M = 0.12$), $p_s < .05$. For EFC, the passive-inflexible group ($M = 1.50$) used the most, followed by the flexible and the passive-inconsistent groups ($M = 0.60$ and 0.97 , respectively), and then the active-

Table 8
Descriptive Statistics of Major Variables for the Five Groups of Newlywed Individuals

Variable	Flexible (<i>n</i> = 21)		Active- inflexible (<i>n</i> = 28)		Passive- inflexible (<i>n</i> = 22)		Active- inconsistent (<i>n</i> = 10)		Passive- inconsistent (<i>n</i> = 19)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	30.29 _b	3.72	27.64 _a	2.06	29.50 _a	2.60	27.60 _a	2.63	31.21 _b	2.62
Education	12.52 _b	2.20	14.18 _b	2.37	11.27 _a	1.67	13.40 _b	2.67	11.32 _a	1.60
Real-life setting										
PCTRL	3.62 _b	0.40	4.95 _c	0.32	2.12 _a	0.36	3.07 _b	0.24	2.42 _a	0.44
VPCTRL	1.47 _b	0.29	0.78 _a	0.14	0.75 _a	0.28	1.64 _b	0.35	0.97 _a	0.38
PFC	2.81 _b	0.61	3.84 _c	0.12	0.15 _a	0.03	3.69 _c	0.29	2.78 _b	0.41
VPFC	0.98 _b	0.40	0.30 _a	0.19	0.37 _a	0.07	0.31 _a	0.20	1.38 _b	0.43
EFC	1.47 _b	0.36	0.06 _a	0.10	1.89 _c	0.66	0.13 _a	0.11	1.18 _b	0.40
VEFC	1.32 _c	0.19	0.14 _a	0.23	0.40 _a	0.32	0.30 _a	0.21	0.92 _b	0.37
EPFC	4.50 _c	0.36	3.26 _b	0.42	2.30 _a	0.66	3.38 _b	0.57	1.83 _a	0.73
EEFC	4.06 _c	0.97	2.26 _a	0.81	2.13 _a	0.27	3.18 _b	0.62	2.26 _a	0.30
SS fit	0.71 _b	0.15					0.50 _a	0.19	0.39 _a	0.18
Laboratory setting										
PCTRL	3.59 _b	0.23	4.92 _d	0.41	1.86 _a	0.37	4.22 _c	0.27	2.00 _a	0.43
VPCTRL	1.81 _c	0.27	0.70 _a	0.34	0.60 _a	0.25	1.37 _b	0.33	0.59 _a	0.19
PFC	1.02 _b	0.44	1.58 _c	0.56	0.11 _a	0.13	2.20 _d	0.30	0.96 _b	0.40
VPFC	0.87 _b	0.21	0.37 _a	0.37	0.22 _a	0.22	0.63 _b	0.16	0.68 _b	0.17
EFC	1.21 _c	0.44	0.04 _a	0.07	1.49 _d	0.46	0.15 _b	0.12	0.76 _b	0.26
VEFC	0.99 _c	0.31	0.10 _a	0.18	0.36 _a	0.34	0.31 _a	0.22	0.65 _b	0.20
EPFC	4.62 _c	0.57	4.48 _c	0.73	3.05 _a	0.62	4.45 _c	0.55	3.61 _b	0.64
EEFC	3.43 _c	0.55	1.64 _a	0.45	1.77 _a	0.43	1.80 _a	0.63	2.47 _b	0.66
SS fit	0.72 _b	0.13					0.52 _a	0.06	0.48 _a	0.10

Note. Within each row, means that do not share a common subscript differ from each other, according to the post hoc Tukey honestly significant difference tests, at $p < .05$. PCTRL = perceived controllability; VPCTRL = variability in perceived controllability; PFC = problem-focused coping; VPFC = variability in problem-focused coping; EFC = emotion-focused coping; VEFC = variability in emotion-focused coping; EPFC = effectiveness of problem-focused coping; EEFC = effectiveness of emotion-focused coping; SS fit = strategy-situation fit.

inflexible and the active-inconsistent groups ($M_s = 0.02$ and 0.20 , respectively), $ps < .01$.

In the uncontrollable condition, results also showed a significant group effect, $F(12, 285) = 29.70$, $p < .001$ (effect size = .56). Post hoc Tukey HSD tests revealed that for PCTRL, the active-inflexible group ($M = 4.55$) perceived the greatest level, followed by the active-inconsistent group ($M = 3.10$), and then the flexible, the passive-inflexible, and the passive-inconsistent groups ($M_s = 2.05$, 1.74 , and 2.07 , respectively), $ps < .001$. For PFC, the active-inflexible and the active-inconsistent groups ($M_s = 1.60$ and 2.07 , respectively) used more than did the flexible and the passive-inconsistent groups ($M_s = 0.51$ and 0.84 , respectively), which used more than did the passive-inflexible group ($M = 0.09$), $ps < .001$. For EFC, the flexible group ($M = 1.81$) used the most, followed by the passive-inflexible group ($M = 1.49$), the passive-inconsistent group ($M = 0.56$), and the active-inflexible and the active-inconsistent groups ($M_s = 0.06$ and 0.10 , respectively), $ps < .05$.

Second, I conducted paired t tests for each group across conditions of different controllability. For the flexible group, results revealed that participants gave a higher PCTRL rating in the controllable condition than in the uncontrollable condition, $t(20) = 31.64$, $p < .001$. They used more PFC in the controllable condition than in the uncontrollable condition, $t(20) = 7.38$, $p < .001$. They used less EFC in the controllable condition than in the uncontrollable condition, $t(20) = -8.35$, $p < .001$.

For the active-inflexible group, results showed that participants gave a higher PCTRL rating in the controllable than in the uncontrollable conditions, $t(27) = 6.01$, $p < .001$. In both conditions, these participants used a lot of PFC but a little EFC, $ts(27) = -0.46$ and -1.14 , ns .

For the passive-inflexible group, participants gave a low PCTRL rating in both the controllable and the uncontrollable conditions, $t(21) = 2.16$, ns . Participants in this group used a little PFC but a lot of EFC, regardless of the controllability of conditions, $ts(21) = 0.53$ and 0.17 , ns .

For the active-inconsistent group, results showed that participants gave a higher PCTRL rating in the controllable than in the uncontrollable condition, $t(9) = 11.22$, $p < .001$. These participants used a lot of PFC but a little EFC in both conditions, $ts(9) = 1.39$ and 1.41 , ns .

For the passive-inconsistent group, participants gave a low PCTRL rating in both the controllable and the uncontrollable conditions, $t(18) = -1.51$, ns . These participants did not differ in their use of PFC, $t(18) = 1.68$, ns . However, they used more EFC in the controllable condition than in the uncontrollable condition, $t(18) = 2.77$, $p < .05$.

Moreover, results also revealed a significant main effect of gender, $F(3, 88) = 2.86$, $p < .05$ (effect size = .08). Compared with their male counterparts ($M_s = 4.38$ and 3.25 , respectively), female participants ($M_s = 3.44$ and 2.37 , respectively) gave a lower PCTRL rating in both controllable and uncontrollable conditions, $ts(98) = -2.87$ and -3.79 , $ps < .01$. Female participants ($M_s = 0.84$ and 1.02 , respectively) used more EFC in both the controllable and uncontrollable conditions than did male participants ($M_s = 0.48$ and 0.65 , respectively), $ts(98) = 2.66$ and 2.36 , $ps < .05$. Although female participants ($M_s = 1.10$ and 0.82 , respectively) tended to use less PFC in both controllable and uncontrollable conditions than did male participants ($M_s = 1.36$

and 1.07 , respectively), the trends were nonsignificant, $ts(98) = -1.57$ and -1.53 , ns .

Coping flexibility and coping outcomes. For strategy-situation fit, the ANOVA results revealed a significant group effect, $F(2, 47) = 36.45$, $p < .001$ (effect size = .61). Post hoc Tukey HSD test showed that the flexible group had a greater extent of strategy-situation fit than did the active-inconsistent and the passive-inconsistent groups, $ps < .001$.

The mixed-design MANOVA results revealed a significant Type of Coping Effectiveness \times Controllability \times Group interaction effect, $F(4, 90) = 41.17$, $p < .001$ (effect size = .65). For EPFC, post hoc Tukey HSD tests revealed that the flexible, the active-inflexible, and the active-inconsistent groups ($M_s = 5.24$, 5.25 , and 5.50 , respectively) gave higher ratings than did the passive-inflexible and the passive-inconsistent groups ($M_s = 4.00$ and 3.79 , respectively) in the controllable condition, $ps < .001$. However, all the groups gave low ratings in the uncontrollable condition (means ranged from 2.00 to 3.71). For EEFC, the flexible and the passive-inconsistent groups ($M_s = 2.48$ and 2.95 , respectively) gave higher ratings than did the other three groups ($M_s = 1.68$, 2.00 , and 1.90 , respectively) in the controllable condition, $ps < .01$. The flexible group ($M = 4.38$) gave higher ratings than did all the other groups (means ranged from 1.55 to 2.00) in the uncontrollable condition, $ps < .001$.

Coping Flexibility in a Real-Life Setting

Individual and gender differences in coping flexibility. The MANOVA results revealed a significant group effect, $F(24, 352) = 60.16$, $p < .001$ (effect size = .80). I used a post hoc Tukey HSD test to examine this significant group effect. For PCTRL, the active-inflexible group had the highest level, followed by the flexible and the active-inconsistent groups, and then the passive-inflexible and the passive-inconsistent groups, $ps < .01$. For PFC, the active-inflexible and the active-inconsistent groups used more than did the flexible and the passive-inconsistent groups, which used more than did the passive-inflexible group, $ps < .001$. For EFC, the passive-inflexible group used more than did the flexible and the passive-inconsistent groups, which used more than did the active-inflexible and the active-inconsistent groups, $ps < .01$. For VPCTRL, the flexible and the active-inconsistent groups had higher levels than did the active-inflexible, the passive-inflexible, and the passive-inconsistent groups, $ps < .001$. For both VPFC and VEFC, the flexible and the passive-inconsistent groups had higher levels than did the active-inflexible, the passive-inflexible, and the active-inconsistent groups, $ps < .01$.

Moreover, results also revealed a significant main effect of gender, $F(6, 85) = 6.65$, $p < .001$ (effect size = .32). Female participants ($M = 3.01$) gave a lower PCTRL rating than did male participants ($M = 3.78$), $t(98) = -3.46$, $p < .01$. Compared with their male counterparts ($M_s = 3.15$ and 0.73), female participants used less PFC and more EFC ($M_s = 2.08$ and 1.20), $ts(98) = -4.05$ and 2.90 , $ps < .01$. For VPCTRL, VPFC, and VEFC, female participants ($M_s = 1.13$, 0.78 , and 0.71 , respectively) had higher levels than did male participants ($M_s = 0.95$, 0.53 , and 0.50 , respectively), $ts(98) > 2.07$, $ps < .05$.

Coping flexibility and coping outcomes. For strategy-situation fit, the ANOVA results revealed a significant group effect, $F(2, 47) = 17.34$, $p < .001$ (effect size = .43). A post hoc Tukey HSD

test showed that the flexible group had a greater extent of strategy-situation fit than did the active-inconsistent and the passive-inconsistent groups, $ps < .01$.

For coping effectiveness, the MANOVA results showed a significant Type of Coping Effectiveness \times Group effect, $F(4, 90) = 5.28, p < .01$ (effect size = .23). For EPFC, post hoc paired t tests revealed that the five groups similarly gave higher ratings in the controllable condition (means ranged from 4.00 to 5.50) than in the uncontrollable condition (means ranged from 2.09 to 3.17), $ts > 7.58, ps < .001$. For EEFC, the flexible group gave higher ratings to the uncontrollable condition ($M = 4.38$) than to the controllable condition ($M = 2.48$), $t(20) = -6.52, p < .001$. The other groups did not differ in their EEFC ratings in the controllable (means ranged from 1.68 to 2.00) and the uncontrollable (means ranged from 1.55 to 1.70) conditions, $ts < 1.00, ns$.

Relationship Between Real-Life and Laboratory Data

As in Study 2, I performed canonical analysis to examine the degree of convergence between the experiment and the real-life data sets. The canonical correlation was .85, representing 70% overlapping variance between the two sets of data, $\chi^2(25, N = 100) = 49.78, p < .001$. These results show a considerable degree of convergence between the coping flexibility data obtained in a laboratory setting and those obtained in a real-life transition 3 months later.

In summary, this study extends previous ones by examining coping flexibility in a more heterogeneous sample. Results reveal age and education differences in variability in perceptual and coping patterns. In addition to the four groups of coping flexibility that I found previously, this study further reveals a new group of participants, who are characterized by a consistent perceptual pattern of uncontrollability and a variable coping pattern across situations. Such findings imply that the target participants of research on coping flexibility should not be confined to university samples but should be extended to samples with a greater diversity of age and education background.

General Discussion

As a first attempt to explore individual differences in coping flexibility using a multimethod approach, the present research extends previous work in certain ways. At the conceptual level, the present research provides a theoretically based conceptualization of coping flexibility. Most studies have operationalized coping flexibility as variability in coping patterns across situations. This research supplements the existing body of research by examining both strategy-situation fit and subjective appraisals of goal attainment. As this research shows, the flexible, the active-inconsistent, and the passive-inconsistent groups exhibited variable patterns across situations. However, these groups differed in three major ways. First, the flexible group varied both perceptual and coping patterns. However, the active-inconsistent group varied only their perceptual patterns, and the passive-inconsistent group varied only their coping patterns. Second, the variable pattern of the flexible group had a greater degree of strategy-situation fit than that of the two groups. Third, compared with the other groups, the flexible group reported greater effectiveness in the use of both problem-focused and emotion-focused coping strategies in achieving de-

sired goals. Taken together, the present research highlights the situation-appropriate aspect of coping flexibility, which is reflected by both strategy-situation fit and goal attainment.

The present research also extends the existing literature by shedding light on some methodological issues. This research adopted a multimethod approach that uses both self-report and experimental methods in assessing coping flexibility. Results show that participants' cognitive and coping patterns for stressful laboratory tasks and for stressful real-life situations were largely consistent. This consistency in results may have significant implications for coping research. Previous research on coping has relied exclusively on participants' subjective appraisals of the amount of control they had. The use of experiments can supplement these studies by providing a controlled setting with objectively controllable and uncontrollable events. In the present experiment, some stressful tasks were clearly controllable (i.e., improvement is possible with practice), but others were clearly uncontrollable (i.e., improvement is impossible under all circumstances). Results show that those participants whose perception of controllability did not match the actual controllability of events had poorer performance on stressful tasks. These results imply that coping adaptiveness may depend not only on the amount of control a person perceives but largely on whether the perception of control and the coping responses match the actual characteristics of stressful situations. A multimethod approach thus enables researchers to examine the degree of fit between participants' perception of control and the objective controllability of stressors.

Moreover, the present research attests to the potential utility of the clustering approach (see, e.g., Shoda, Mischel, & Wright, 1993a, 1993b, 1994; Vansteelandt & Mechelen, 1997) in identifying patterns of coping flexibility. This approach allows researchers to identify different groups of coping flexibility on empirical grounds, with each empirical group displaying a unique pattern of cognitive and coping flexibility across situations. In this research, the clustering groups derived from the clustering approach are meaningful and stable. More important, group membership identified by this method is consistent with the existing theories and empirical findings. In short, this assessment approach extends the social-cognitive conceptualization of personality (Mischel & Shoda, 1995, 1998), which locates individual differences in a stable pattern of discriminative responses, to the realm of coping.

Several caveats for this research are noteworthy. First, it is important to note that participants in the present research were all ethnically Chinese. The generalizability of the present findings to Western populations remains to be explored. Cross-cultural studies (e.g., Fiske, Kitayama, Markus, & Nisbett, 1998; Peng & Nisbett, 1999) have revealed differences in the perceptual style between Chinese and American students. When making decisions and attributions, American students tend to focus on internal factors, whereas Chinese students tend to focus on situational factors. It is possible that the Chinese may be more sensitive to situational changes and more flexible in their perceptual patterns than their American counterparts are (see Cheng, Lee, & Chiu, 1999, for a discussion). Other findings (e.g., McCarty et al., 1999; Rokach, 1999) have shown cultural differences in the use of coping strategies. Whereas Americans tend to use more behavioral coping, Asians tend to use more cognitive coping. Taken together, the cognitive and coping patterns as found in this research may be different for Western samples.

Second, although the construct of coping flexibility has been assessed in different contexts with participants of distinct characteristics, it is noteworthy that participants in this research experienced a number of stressful events in a life transition. One should take caution when attempting to generalize the present results to other populations, especially those who have not encountered a life transition. It is possible that the coping pattern is different for people in general, especially for those who experience few stressful events. In light of the consistency between the real-life and the laboratory data on coping flexibility, it is possible to infer how people will cope with real-life stressors from their behavior in the laboratory. Further studies may broaden the scope of the present research by examining coping flexibility in these populations with the use of experiments designed in this research.

Third, the present research examines how participants differ when handling a variety of stressful events in a life transition. How stable are such individual differences over time? For instance, will freshmen who exhibit a flexible coping pattern when adjusting to university life display a similar degree of coping flexibility when adjusting to other life transitions, such as their first full-time job after graduation? Furthermore, in light of the proposition that experts may tend to use situational information rather than relying on stereotypes and heuristics (cf. Cantor & Kihlstrom, 1987, 1989), the accumulation of relevant experience may also influence coping flexibility. For instance, is it possible for freshmen with a relatively inflexible coping pattern in their 1st month of university life to display a more flexible coping pattern 1 year later? Longitudinal studies are needed to address this unknown issue of stability in coping flexibility by examining within-subject differences in coping flexibility over a longer time span.

In conclusion, this research conceptualizes coping flexibility as (a) variability in perceptual and behavioral patterns across situations, (b) a good fit between the nature of coping strategies and the characteristics of stressful situations, and (c) perceived effectiveness in attaining the copers' goals. Consistent with both the transactional theories of coping and the Person \times Situation interactionist theories, the present findings highlight the dynamic nature of situationally appropriate coping across different stressful situations.

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(Appendix follows)

Appendix

Study on Coping With Daily Stress

We are interested in understanding how people respond when they encounter stressful events in their lives. There are plenty of possible ways to handle stressful events, and each person may have her or his unique ways of handling stress. Please tell us what you have thought or done when you have experienced several stressful events within a specific period.

This questionnaire consists of six daily logs. You are required to complete each log on the specified night highlighted on the monthly calendar (see below). Please complete each log on every specified night. If you are too busy or have forgotten to fill in the daily log on a particular night, please complete the daily log on the next night. Please report the stressful experience and how you handle it on the day you complete the log (rather than the specified day) and write the date on which you complete it. Do not skip any of the log because missing data can affect the findings of our study.

Before you complete the daily log, please note the following important points:

1. As mentioned earlier, you are required to complete a total of six events on six specified days respectively. Please treat each event as an *independent* event unrelated to the other five events. DO NOT recall and use your previous answers as a guidance to your answers in subsequent logs.
2. We would like to know what *you* have *actually* thought or done during this stressful event. DO NOT report what you would like to think or do, what you should have thought or done, or what most people would think or do in that situation.
3. People with different personalities may have different ways to evaluate and handle the same event, and so there are *no right or wrong answers* for any parts of this questionnaire. We ask that you give answers that are considered applicable only to yourself.

Please go through the daily log now and clarify any questions with the research assistant. If you have further questions when completing the daily logs at home, please contact the research assistant [name] at [phone number] on weekdays during office hours from 9 AM to 5:30 PM, or at [e-mail address] via the internet.

Your cooperation is of utmost importance to the completeness of our study and accuracy of the data. Thank you for your attention.

Date: _____

Section 1

Describe in a sentence or two the most stressful or irritating event you experienced *today*. This event should (a) demand considerable effort from you to handle it, (b) influence your well-being and/or your relationship with others, or both (a) and (b).

Have you experienced this event before? _____ Yes _____ No

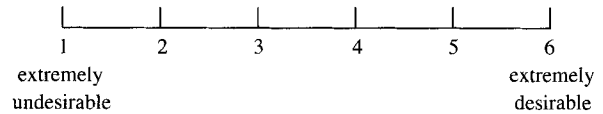
How would you evaluate this event? Before rating the following items, please familiarize yourself with each of the rating guidelines.

1. How *desirable* do you think this event has been to you?

Rating guidelines: The extent of desirability depends on the amount of important and desirable (i.e., that you wish for) or important but undesirable (i.e., that you do not wish for) outcomes of the event:

- If you considered the event has elicited *a lot of* important outcomes that you *wish for*, please circle the number 6.
- If you considered the event has elicited *some* important outcomes that you *wish for*, please circle the number 5.
- If you considered the event has elicited *a few* important outcomes that you *wish for*, please circle the number 4.
- If you considered the event has elicited *a few* important outcomes that you *do not wish for*, please circle the number 3.

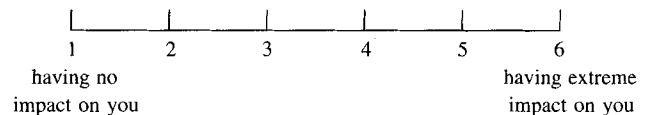
- If you considered the event has elicited *some* important outcomes that you *do not wish for*, please circle the number 2.
- If you considered the event has elicited *a lot of* important outcomes that you *do not wish for*, please circle the number 1.



2. How much *impact* do you think the event has had on you?

Rating guidelines: The extent of impact depends on the amount of influence you considered the event has had on you, such as your physical well-being, your psychological well-being, and your relationship with others.

- If you considered the event had *extreme* impact on you, please circle the number 6.
- If you considered the event had *great* impact on you, please circle the number 5.
- If you considered the event had *big* impact on you, please circle the number 4.
- If you considered the event had *some* impact on you, please circle the number 3.
- If you considered the event had *little* impact on you, please circle the number 2.
- If you considered the event had *no* impact on you, please circle the number 1.

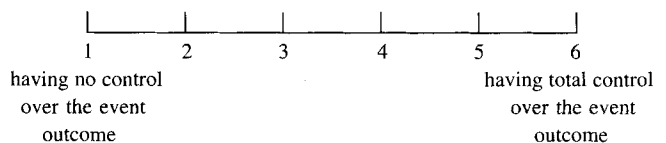


3. How much *control* do you think you have had over this event?

Rating guidelines: Usually a stressful event consists of several aspects, and sometimes you can change some of its aspects but cannot change others. The extent of control depends on the amount of aspects you considered you could change in this event:

- If you considered you had *total* control that could change the entire event, please circle the number 6.
- If you considered you had *a lot of* control that could change about 80% of the aspects of the event, please circle the number 5.
- If you considered you had *quite a lot of* control that could change about 60% of the aspects of the event, please circle the number 4.
- If you considered you had *some* control that could change about 40% of the aspects of the event, please circle the number 3.
- If you considered you had *little* control that could change about 20% of the aspects of the event, please circle the number 2.
- If you considered you had *no* control and could not change any aspects of the event, please circle the number 1.

Note: These percentages are just listed for guiding your ratings. There is no need to calculate the exact percentages. Just roughly estimating the amount of control and changes you have had on the event will be fine.



4. If you find it difficult to evaluate the event in any of the above dimensions, please evaluate it using your own dimension and give a rating to it. Your valuable input may be beneficial in creating a new rating scale when we revise this questionnaire.



Section 2

Describe in a few words your coping strategies, that is, the *thoughts or behaviors* you have used to manage (e.g., master, tolerate, reduce, minimize) the stress associated with this event. We would like to know all your *actual efforts* made, and such thoughts or behaviors NEED NOT be completed or successful.

Please limit each page for the report of ONE coping strategy. If you have used more than one strategy, please use the supplementary forms attached to this package.

- (a) What was your primary goal in using this strategy?

Rating guidelines: By *goal*, we mean any valued state, activity, or object that you would like to attain or maintain. Words such as *wish, hope, want, need, decide, going to do, try to do*, and *must do* reflect your goal toward this event. You may have more than one goal for this event, but please refer to the *most important or urgent* one.

When using this strategy, your primary goal was (please check the appropriate option):

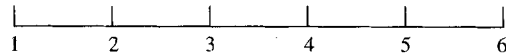
- _____ to directly handle the demands/problems associated with the event in order to improve its effect on you

- _____ to reduce or manage your distress or uncomfortable feelings associated with the event

- (b) How effective did you find this strategy was?

Rating guidelines: The extent of effectiveness depends on the extent to which the strategy is considered successful/unsuccessful in attaining or maintaining your goal described in (a).

- If you considered the strategy was *extremely successful* in bringing about your primary goal, please circle the number 6.
- If you considered the strategy was *successful* in bringing about your primary goal, please circle the number 5.
- If you considered the strategy was *somewhat successful* in bringing about your primary goal, please circle the number 4.
- If you considered the strategy was *somewhat unsuccessful* in bringing about your primary goal, please circle the number 3.
- If you considered the strategy was *unsuccessful* in bringing about your primary goal, please circle the number 2.
- If you considered the strategy was *extremely unsuccessful* in bringing about your primary goal, please circle the number 1.



very ineffective
in bringing about
the primary goal

very effective
in bringing about
the primary goal

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