THE DEVELOPMENT AND VALIDATION OF PROACTIVE COPING

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Dedication

This dissertation is dedicated to my mother, Chen, Bao-zhen, my father, Tian, Mi-shu, and my partner, Vinay Sandeep Kumar Guntu. Thank you for always being there for me. I love you all.

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I guess it is quite common to feel both joyful and sentimental when I am about to finish my incredible journey of pursing a Ph.D. in Counseling Psychology. It is a decision that I made early in my life, probably in high school, even I did not exactly know what it actually means then. While I may regret about it a couple of times during the pursing process, I am definitely grateful now as I retrospect the whole experience and all the great people that I came across over these years. I appreciated all the fun times that we spent together and their encouragement and dedication which helped me go this far.

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ABSTRACT

Since most of the research has focused on how people cope with events that occurred in the past (Folkman & Moskowitz, 2004), the current study intends to expand our understanding of coping by examining how people deal with potential stressful situations that may happen in the future; that is, proactive coping. Specifically, using multiple methods including individual interviews, a research team, and literature review, this study reports the development of a Proactive Coping Inventory (PCI) and the examination of its reliabilities and validities. Following recent claims of the importance of taking cultural context into consideration when examining coping process, this study focused on Chinese college students' proactive coping and integrated Chinese cultural values into the development of the inventory as well as the explanation of the results. Data consisted of two samples of Chinese college students living in China (N = 459). The results suggested the viability and stability of an 18-item four-factor model: Active Preparation for Potential Stressors, Acquiring Knowledge for Potential Stressors, Consideration of Proactive Actions, and Avoiding Proactive Actions. The PCI evidenced strong psychometric properties. Several concurrent, construct, and incremental validity estimates suggested the PCI is positively related to: (a) reactive coping, (b) life satisfaction, negatively related to: (c) trait anxiety, (d) procrastination, and has no correlations with temporary psychological adjustment. The implications and limitations of the findings are also discussed.

Chapter I: Introduction

"Luck is What Happens When Preparation Meets Opportunity"

---Elmer Letterman

Coping has been the focus of a prodigious amount of research over the past two decades (Somerfield & McCrae, 2000), and across many disciplines, such as social and behavioral science, medicine, public health, and nursing (Folkman & Moskowitz, 2004). Researchers' enthusiasm toward understanding coping process associates with their hopes to explain why some individuals fare better than others do when encountering stress in their lives (Folkman & Moskowitz, 2004) and develop intervention to help people cope with stressful situations more effectively.

Although a substantial knowledge base has been gained through numerous studies, one observation in coping area is that most of the research has focused on coping from a reactive point of view; that is, how people cope with events that occurred in the past or that are occurring in the present (Folkman & Moskowitz, 2004). Although this is an important part of research in coping, only focusing on coping behaviors with present events may miss some important dimensions in understanding how people cope with stressful situations and how coping is associated with stress and well-being. Therefore, proactive coping, which focuses on efforts undertaken in advance of a potentially stressful event to prevent it or to modify its form before it occurs (Aspinwall & Taylor, 1997), deserves attention (Folkman & Moskowitz, 2004).

Understanding proactive coping has some important potential benefits (Aspinwall & Taylor, 1997). First, proactive coping has expanded the boundaries of coping beyond reactions towards current or previous stressors to include multiple positive functions of

coping, such as developing or acquiring resources to prepare for potential stressors, initiating actions to eliminate possible future stressful situations (Aspinwall & Taylor, 1997), and developing future goals and setting the stage to achieve them (Schwarzer & Knoll, 2003). It reflects a different mindset from reactive coping. The focus of proactive coping shifts from current situation to the future and suggests an optimistic belief about human agency.

Second, proactive coping has merits for helping a broad range of people to adjust to stressful situations and obtain positive outcome. It may minimize the degree of stress experienced during a stressful encounter (Hobfoll, 1989). When a stressful event is a possibility rather than an actuality, its full impact may be lessened or averted by proactive efforts, and thus never be fully felt (Aspinwall & Taylor, 1997). The options and resources (e.g., time) could be relatively plentiful before the stressful situation occurs; after the stressor has occurred or has developed, options may be more constrained (Aspinwall & Taylor, 1997). Moreover, the amounts of resources consumed for resolving the potential stressful situation could be much less when the problem has not begun to manifest itself and the outcome could be better. Consequently, proactive coping may be a particularly good candidate for inclusion in cognitive-behavioral or psycho-educational interventions (Folkman & Moskowitz, 2004).

Third, in many life domains people experience good outcomes or avoid bad ones because of their proactive efforts (Aspinwall & Taylor, 1997). Proactive coping efforts that are implemented before a stressful situation have the potential to prevent a potential stressful situation from happening or at least reduce stress associated with that problem. In other words, proactive coping could potentially have a huge influence on a stressful

situation that could happen later. Therefore, how people cope with a presenting stressful situation has not only to do with his/her reactive coping, but also could be linked to his/her proactive coping. Understanding proactive coping is important for obtaining a more comprehensive picture of an individual's coping process.

Despite the potential knowledge that could be gained from researching proactive coping, the current status of proactive coping research does not fit its importance. So far, only two models have been proposed to describe proactive coping in the current literature (Aspinwall & Taylor, 1997; Schwarzer & Knoll, 2003). Although both of them provided important conceptualizations of proactive coping, there are critical limitations associated with both of them. The limitations include the exclusion of some forms of proactive coping, blurring distinctions between proactive coping and reactive coping, and simplistic conceptualizations of proactive coping as a linear process given the advance in understanding the complexities of information processing (e.g., Anderson, 1983). Given these significant limitations, a broader model is needed in order to provide a clearer conceptualization of proactive coping.

The current status of assessment instruments to measure proactive coping has also limited the development of proactive coping research. Only five instruments exist to measure the construct of proactive coping, and all of them have some critical flaws, including the lack of a good model to guide the item development, unclear item selection process, and the lack of empirical validation of the construct of proactive coping. In addition, some confusion of critical conceptual issues within proactive coping appears in the measurements. For example, even though Greenglass, Schwarzer, Jakubiec, Fiksenbaum, and Taubert (1999) conceptualized proactive coping as a multidimensional

concept, their Proactive Coping Inventory was operationalized as a unidimensional construct. Moreover, developing a measure to fully assess proactive coping is also critical in deepening the understanding of the construct. Therefore, a new inventory that measures proactive coping based on more a comprehensive model of proactive coping is needed.

Considering the lack of a well-developed model of proactive coping and corresponding instruments to measure it, the purpose of the research is twofold: (1) to develop a broader multidimensional conceptual model of proactive coping and subsequently develop an inventory to adequately measure it, and (2) to examine its psychometric properties and utility of such an inventory in relation to psychological adjustment and well-being.

The new proactive coping inventory and its psychometric properties will be examined among Chinese college students. Recently, the cultural context has been emphasized as playing an essential role in individual's coping process (e.g., Heppner et al., 2006; Wong, Wong, & Lonner, 2006). More research is needed with non-White samples to extend our knowledge about coping in diverse populations (Heppner et al., 2006). Conducting this type of research in China may be especially promising and important given that China comprises 20% of the world's population (Population Reference Bureau, 2007). Moreover, traditional Chinese culture contains proactive coping activities and sayings that could help to conceptualize and operationalize proactive coping (e.g., repair the house before it rains; remedy before the disease occurs).

Lee and Lim (2008) described seven steps in scale construction: (1) conceptualizing and operationalizing the construct of interest; (2) conducting the

literature review; (3) generating the items, indicators, and response formats; (4) conducting content analysis and pilot testing, revising, and administering the items; (5) sampling and data collection; (6) translating and back-translating the scale, if necessary; and (7) performing factor analyses, finalizing items, and testing the psychometric properties of the scale. In order to establish a comprehensive proactive coping inventory, this procedure will be used the inventory. Four distinct sources will be examined and combined to conceptualize and operationalize proactive coping, as well as subsequently guide the development of the inventory. These sources include the review of the measurements of reactive coping, the existing literature on proactive coping, other written documents in both Chinese and English which describe proactive coping (e.g., old sayings), and suggestions from content experts on proactive coping. In addition, individual interviews with Chinese college students will be used to help identify the dimensions of the construct.

Chapter II: Literature Review

This chapter provides an overview of the literature relevant to a newly developed construct in coping labeled proactive coping. First, the brief history of coping and some challenge issues that the area face is introduced to provide a broader context as well as the status of proactive coping in the coping literature. Second, the transition from reactive coping toward proactive coping is introduced to provide a historical context as well as the status of proactive coping in the coping literature. Third, an introduction of existing models and measures of proactive coping will provide a preliminary conceptual foundation of proactive coping and an understanding of the current situation of assessing proactive coping. Fourth, a preliminary conceptualization of proactive coping based on existing models and current coping research and conceptualizations are provided to identify initial content parameters and criteria for developing the new proactive coping inventory.

Brief History of Coping

From psychological defense to contextual cognitive model. Coping has been the focus of a prodigious amount of research in psychology over the past two decades (Somerfield & McCrae, 2000), and across many disciplines, such as social and behavioral science, medicine, public health, and nursing (Folkman & Moskowitz, 2004). In general, researchers have agreed that the study of coping is fundamental to an understanding of how stress affects people, for better and for worse (Skinner, Edge, Altman, & Sherwood, 2003).

Historically, the early research on coping had been couched in the framework of ego-psychology and the concept of defense, as exemplified by the work of Haan (1963)

and Menninger (1963). In this line of research, coping was conceptualized primarily as a psychological defense, often concerning with pathology and depending on the evaluation of unconscious processes (Folkman & Moskowitz, 2004). Although this conceptualization of coping has some useful aspects, one important criticism is that it provided a relatively narrow view of coping by only emphasizing on pathology and defense mechanisms (Folkman & Moskowitz, 2004).

A major advance in the conceptualization of coping was proposed by Lazarus and Folkman (1984). Their model expanded the boundaries of coping to include a much wider range of cognitive and behavioral responses that ordinary people use to manage distress and address the problems of daily life causing the distress (Folkman & Moskowitz, 2004). Specifically, coping was defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazurus & Folkman, 1984, p. 141). Various factors that may play a role in an individual's coping process were explored to understand the role of individual differences in responding to stressful situations, such as personality (e.g., Bolger, 1990; Connor-Smith & Flachsbart, 2007; Millon, 1982), individual and social resources (e.g., Adler, Epel, Castellazzo, & Ickovics, 2000; Repetti, Taylor, & Seeman, 2002), characteristics of stressful situations (e.g., Folkman & Moskowitz, 2004; Heppner & Krauskopf, 1987; Pearlin & Schooler, 1978), an individual's appraisal of stressful situations (e.g., Lazarus & Folkman, 1984), an individual's appraisal of his or her problem-solving capacity (e.g., Heppner & Petersen, 1982; Heppner, Witty, & Dixon, 2004), and the cultural context (e.g., Heppner, et al., 2006; Wong, et al., 2006). Coping has been shown to be a complex, multidimensional

process that is sensitive both to the environment, and its demands and resources, and to personality dispositions that influence the appraisal of stress and resources for coping (Folkman & Moskowitz, 2004).

Methodological and conceptual issues in coping. Although the importance of coping is fully recognized and much is known about coping and stress, much disagreement exists on how it should be measured (Aldwin, 2007). Some major debates on the measurements of coping include: (a) should we assess coping styles or coping process; (b) should the content of items be general enough to apply to a variety of situations, or should they be specific to particular situation; (c) should we use ratings for scale items that assess coping efforts or simply dichotomous items to indicate whether or not a particular coping strategy was used. These and other methodological issues have subsequently hindered the conceptualization of coping. As a result, a number of scholars have called for both methodological innovations as well as conceptual advances within the coping literature (e.g., Folkman & Moskowitz, 2004; Lazarus, 2000; Somerfield & McCrae, 2000; Wong, et al., 2006).

From Reactive Coping to Proactive Coping. Despite the substantial knowledge base that exists in terms of understanding coping, one commonality of most research in contemporary coping research may limit the scope of coping area. That is, coping has mainly been researched from a reactive point of view, through studies that examine the way people respond to present or past stressors that pose a threat to personal goals (Ouwehand, de Ridder, & Bensing, 2008). It is equally important, however, to study an individual's proactive coping that happens before stressful situations occur (Aspinwall & Taylor, 1997; Greenglass, 2002; Ouwehand, et al., 2008; Schwarzer & Knoll, 2003).

The initial distinction between reactive coping and future-oriented proactive coping was the notion of anticipatory coping, which involved preparation for stressful consequences of an upcoming event whose occurrence is likely or certain (Breznitz, 1983; Folkman & Lazarus, 1985). Later, Beehr and McGrath (1996) distinguished five types of coping, based primarily around a particular temporal context: (a) preventive coping, which occurs long before a stressful event occurs or might occur (e.g., a smoker might quit well in time to avoid the risk of lung cancer); (b) anticipatory coping, which occurs when the event is expected soon (e.g., someone might take a tranquillizer while waiting for surgery); (c) dynamic coping, which occurs while stressors are ongoing (e.g., diverting attention to reduce chronic pain); (d) reactive coping, which occurs after the stressor has happened (for example, changing one's life after a limb has been amputated); and (e) residual coping, which occurs long after the stressor by contending with long-term effects (e.g., controlling one's intrusive thoughts years after a traumatic accident has happened). In essence, in this model coping efforts were categorized into five categories in terms of their relation to the time of the stressor. Although Beehr and McGrath (1996) identified preventive and anticipatory coping, no further description of the characteristics of coping efforts in each category and their differences was provided in the model.

Proactive Coping

Definition and assumption of proactive coping. Aspinwall and Taylor (1997) defined proactive coping as general "efforts undertaken in advance of a potentially stressful event to prevent it or to modify its form before it occurs" (p. 417). This new view of coping has expanded the boundaries of coping beyond reactions towards current or previous stressors to include multiple positive functions of coping, such as developing

or acquiring resources to prepare for potential stressors, initiating actions to eliminate possible future stressful situations (Aspinwall & Taylor, 1997), and developing future goals and setting the stage to achieve them (Schwarzer & Knoll, 2003). This new development in coping reflects a different mindset from reactive coping. First, the focus shifts from the current situation to the future. Along with the shifting focus, the underlining assumption is a belief stated by Daoism that "luck and misfortune comes in turn". Such a perspective suggests that people should prepare for and be cautious about potentially stressful situations even when they are in good status. Second, this perspective suggests an optimistic belief about human agency. That is, people have the capacity to prevent potentially stressful situations or at least reduce the stress associated with potentially stressful situation before it happens. Additionally, it also contains an existential belief that things will work out not because of luck or other uncontrollable factors, but because the individual takes responsibility for outcomes (Greenglass, et al., 1999). Moreover, such perspectives about coping suggest a wide array of preventive interventions that may be very promising to reduce a range of societal problems.

Existing models of proactive coping. Currently only two models have been proposed to describe proactive coping. Aspinwall and Taylor (1997)'s model focuses on the process of how proactive coping develops overtime and various factors that may facilitate effective proactive coping. Schwarzer and Knoll (2003) stressed the importance of differentiating different coping concepts according to the time perspective of the stressful situation and the subjective certainty of the events.

Aspinwall and Talyor's (1997) five-stage model. Aspinwall and Taylor (1997) proposed a five-stage model of proactive coping. Figure 1 describes the critical tasks

undertaken at each of the five stages of proactive coping and the interrelation and feedback among the stages.

The first stage is the Resource Accumulation: The maintenance and Acquisition of Resources. This stage refers to the preservation and accumulation of resources and skills in advance of any specific anticipated stressor. Aspinwall and Taylor (1997) summarized six kinds of resources that may be important for proactive coping, including time and associated factors, financial resources, organizational and planning skills, opportunity to learn proactive coping skills, social network of family and friends, and attention. People without those resources will be less able or likely to exert proactive efforts than their more resource-wealthy counterparts.

The second stage is the Recognition: Attention and Detection of Potential Stressors. This stage involves the ability to screen the environment as well as to be sensitive to internal cues that something might possibly go wrong. Aspinwall and Taylor (1997) identified several factors that facilitate the recognition of negative information, which are important in this stage of proactive coping. One of such factors is temporal orientation (e.g., Jones, 1994; Zimbardo & Gonzalez, 1984), which refers to the degree to which people think about and plan for their futures or use information about future outcomes in judging current outcomes (e.g., Strathman, Gleicher, Boninger, & Edwards, 1994). A second factor includes activities such as vigilance, sensitization, and monitoring, which refer to tendencies to scan the environment for potentially meaningful threatening information. For example, research suggests that individuals who respond to the possibility of threat by seeking information are more likely to approach and intellectualize threatening experiences than those who avoid information (e.g., Davidson

& Bobey, 1970; Goldstein, Jones, Clemens, Flagg, & Alexander, 1965). The third factor refers to an optimistic disposition. Several empirical studies suggest that optimistic beliefs may facilitate attention to negative information (e.g., Aspinwall & Brunhart, 1996; Trope & Neter, 1994). Positive expectations or experiences may bolster people's ability to cope with the emotional effects of negative feedback, such that these expectations enhance rather than reduce attention to negative information (Baumeister & Cairns, 1992). The fourth factor pertains to one's social network. A person may be alerted to the likelihood of a possible stressor by others in his or her network or the person may use the support network to try to determine whether a potential stressor exists.

The third stage is the Initial Appraisals of Emerging Stressors. According to Aspinwall and Taylor (1997), the task of initial appraisal consists of two interrelated tasks: definition of the problem and regulation of arousal. Several factors, such as cognitive schemas, mental simulation, individual differences in appraisals, and the use of social information are proposed to affect how an individual define the problem and their regulation of arousal.

The fourth stage is the Preliminary Coping Efforts. This stage described the preliminary coping efforts that people engage in, which depends heavily on the initial definition of the stressful event. The authors described the kinds of initial appraisals which facilitate proactive coping, and some general rules that may determine the kinds of action sequences that people will undertake with respect to problems in their preliminary stage.

The last stage is the Elicitation and Use of Feedback: Modification of Preliminary Coping Efforts. Aspinwall and Taylor (1997) maintained that the initial coping effects reflect an educated guess about the nature of a potential stressor and the strategies that will offset it. Therefore, they suggested that the elicitation and use of feedback regarding how successful preliminary coping efforts have been are critical to both the effective ongoing management of the potential stressors and the conservation of resources.

Aspinwall and Taylor (1997)'s model depicted many important aspects of proactive coping. The temporal context and the purpose of proactive coping described in the definition seem very important in the conceptualization of proactive coping. It also describes the extent of the impact that proactive coping behaviors could have on a potential stressful event, varying from preventing it to modifying its form. The five-stage proactive coping model described some relevant components of proactive coping and various factors that may influence the effectiveness of proactive coping.

However, despite the conceptual contribution of the model on proactive coping, some critical limitations exist in the model as well. First, this model requires some degrees of certainty of the potential stressful events, especially some certainty of the form and content of a potential stressful event. Otherwise, it would be impossible for individuals to recognize any potential stressors, and subsequently initiate the following stages descried in Aspinwall and Taylor's (1997) model. However, proactive coping could initiate without recognizing any particular potential stressors. There can be a vague wariness that "something" might happen, which motivates a person to be prepared for "anything" (Schwarzer & Knoll, 2003). This vague wariness comes from the belief that people should prepare for and cautious about potentially stressful situations even when

they are in good status, which is consistent with Daoism's saying "luck and misfortune comes in turn". Therefore, Aspinwall and Taylor's (1997) model might exclude some forms of proactive coping and thus does not fully describe the comprehensive picture of proactive coping.

Moreover, this model described the recognition of potential stressors as a critical component of proactive coping and defined it as the interpretation of warning signs that come from the environment or one's internal processes of reflection. However, this conceptualization blurs the differences between proactive coping, anticipatory coping, and reactive coping. In both reactive coping and anticipatory coping, the recognition of the stressor is the first critical step of the coping process. Individuals need to recognize a possible stressor and appraise it as stressful at first and then other coping steps will be initiated. Therefore, the only differences among proactive coping, anticipatory coping and reactive coping are in terms of the recognition of stressors. If the recognition of a possible stressor happens before the stressful event happens, it should belong to proactive coping. However, sometimes the time difference might not be discernable. A stressful situation is not only an instance but also a process. Over time, it could develop from very mild stress into more severe stress. Therefore, when an individual is able to identify some cues associated with a stressor, it is hard to argue whether it is a presenting problem which is in its very early stage (reactive coping) or it is a potential problem which might happen later (proactive coping).

Third, this model describes the proactive coping process as a linear process with feedback loops among the stages. The notion of treating the coping process as a stage-sequential process used to be popular in the literature of applied problem-solving (e.g.,

D'Zurilla & Goldfried, 1971), an area largely overlapping with coping. However, advances in understanding the complexities of information processing (e.g., Anderson, 1983) spawned the development of dynamic and nonlinear models of applied problem solving and further identified the role of individual differences as key constructs in applied problem solving (See Heppner & Krauskopf, 1987). In other words, the coping process is more complex than a stage-sequential process and should be considered as a dynamic process which consists of different coping activities.

In addition, in each stage Aspinwall and Taylor (1997) described many factors that might either impede or promote proactive coping, but the actual activities associated with the construct of proactive coping is not fully addressed in their model. For example, when describing the stage of resource accumulation, the authors listed elements such as time and associated factors, or establishment of a social network and social support, and delineated them as factors that may affect proactive coping efforts. However, specific proactive coping activities were not delineated in this stage. It seems that the authors conceptualized the stage of resource accumulation as a precondition of proactive coping rather than as a complex process within proactive coping.

Schwarzer and Knoll's (2003) model. Schwarzer and Knoll (2003) proposed a slightly different model of proactive coping. Depending on the time perspective of the stressful situation and the subjective certainty of the events, they identified four types of coping: reactive, anticipatory, preventive, and proactive coping. Reactive coping refers to an effort to deal with a past or present stressful encounter, or to compensate for, or accept harm or loss. Anticipatory coping is used to deal with a pending threat that is certain or fairly certain to occur in the near future; such coping is considered to be a

short-term engagement with high-certainty events. Preventive coping is defined as an effort to prepare for uncertain events in the long run. The aim of preventive coping is to accrue resources that result in less strain in the future by minimizing the severity of the impact of future stressors. This conceptualization of preventive coping is similar to Aspinwall and Taylor's (1997) conceptualization of proactive coping. In Schwarzer and Knoll's (2003) model, however, proactive coping reflects efforts to accrue resources that help attain challenging goals and personal growth. Preventive coping and proactive coping are partly manifested in the same kinds of overt behaviors, such as skill development, resource accumulation, and long-term planning. However, the difference between preventive coping and proactive coping, as stated by Schwarzer and Knoll (2003), is that the former appraise potential demanding situations as personal challenges while the latter see them as potential threat, harm, or loss. Depending on different appraisals, the worry levels associated with preventive coping is higher than proactive coping.

Compared with Aspinwall and Taylor's (1997) model, Schewarzer and Knoll (2003) add new dimensions of conceptualization to proactive coping. Their model not only described the temporal context of proactive coping, but also stressed the importance of subjective certainty of the events to proactive coping and the effect of its interaction with temporal context on proactive coping. However, while the separation of preventive coping and proactive coping makes sense, the difference blurs when careful consideration is given to it. First, the critical distinction between preventive coping and proactive coping is whether individuals appraise a potential event positively or negatively. However, in reality, many events could be and are often appraised as associating with

both threat and challenge at the same time. For example, when an individual thinks of learning a new technique for his/her work, he/she could appraise the event both as a higher goal he/she would like to achieve and a threat that he/she could loss his/her job if he/she does not learn. Second, Schewarzer and Knoll (2003) maintained that the motivation emanates from threat or challenge appraisals would make a difference because worry levels are higher in the former and lower in the latter. However, it may not be the case. The anxiety level has not only to do with whether a potential event is appraised as a threat or challenge, but also is associated with the objective difficulty of the event. The anxiety level related to achieve a difficult goal could be higher than it associated to solve an easy threat.

In sum, while the two existing models provided some useful conceptualization of proactive coping, some critical limitations also exist in the models. They either excluded some important aspects of proactive coping and thus do not provide a comprehensive picture of proactive coping, or created some confusion of the conceptualization of proactive coping. Therefore, a revised model is needed in order to provide clearer conceptualization of proactive coping.

Existing Measurements of proactive coping. Although the literature nicely describes the importance of proactive coping, only a few instruments have been developed to measure proactive coping. Three strategies were used to measure proactive coping in the existing literature. The first strategy was to develop an inventory derived from existing proactive coping literature (e.g., Schwarzer's Proactive Coping Theory, 1999). The second strategy was to combine items generated from proactive coping inventories and items from other concepts (e.g., Self-Management Ability Scale). The

third strategy was to select some subscales derived from reactive coping (e.g., COPE scale) and revised them to fit more appropriately within a proactive coping context (Ouwehand, De Ridder, & Bensing, 2006).

Proactive Coping Inventory. Greenglass et al. (1999) developed the Proactive Coping Inventory (PCI), which is a 52-item multidimensional coping inventory that allows assessment of the different aspects of coping used by individuals during stressful times as well as in anticipation of stress and difficult situations ahead; the inventory used 4-point Likert scale (1=*not at all true*, 4=*completely true*). The inventory consists of six subscales: (a) Proactive Coping (14 items), which combines autonomous goal setting with self-regulatory goal attainment cognition and behavior; (b) Reflective Coping (11 items), which describes simulation and contemplation about a variety of possible behavioral alternatives by comparing their imagined effectiveness, and includes brainstorming, analyzing problem and resources, and generating hypothetical plans of action; (c) Strategic Planning (4 items), which focuses on the process of generating a goal-oriented schedule of action in which extensive tasks are broken down into manageable components; (d) Preventive Coping (10 items), which deals with anticipation of potential stressors and the initiation of preparation before these stressors develop fully; (e) Instrumental Support Seeking (8 items), which focuses on obtaining advice, information and feedback from people in one's social network when dealing with stressors; and (f) Emotional Support Seeking (5 items), which is aimed at regulating temporary emotional distress by disclosing feelings to others, evoking empathy and seeking companionship from one's social network. The earliest version of the instrument also included an Avoidance Coping subscale. However, this subscale was excluded in

the later version. Greenglass et al., (1999) reported internal consistency with alpha coefficients ranging from .71 to .85 for Canadian student sample and from .64 to .84 for Polish-Canadian sample. It was found that proactive coping was associated with less functional disability, less depression, and greater perceived social support in a study of community-dwelling seniors (Greenglass, Fiksenbaum, & Eaton, 2006). In another study with Canadian-Turkish immigrants, proactive coping was associated with greater optimism, greater life satisfaction, and less depression (Uskul & Greenglass, 2005). In addition, it was found that proactive coping negatively correlated with job burnout and positively correlated with professional efficacy, life satisfaction (Greenglass, 2000). Gan, Yang, Zhou, and Zhang (2007) translated two subscales of the Proactive Coping Inventory, namely the proactive coping and the preventive coping, into Chinese and examined their constructs in Chinese college student sample using exploratory and confirmatory factor analysis. The results indicated a similar two-dimension construct that was labeled as proactive coping and preventive coping, respectively. The correlation between proactive coping and preventive coping was .35.

Despite some studies providing relatively good psychometric properties of the Proactive Coping Inventory, there are flaws in the operationalization and the development process of the Proactive Coping Inventory that should not be ignored. First, even though Greenglass et al. (1999) claimed that the instrument is measuring individual's proactive coping, the questions they used to guide item development did not reflect any flavor of proactive coping. More specifically, the original item pool of the Proactive Coping Inventory was generated according to the following questions: (a) think back to problems you have had in the last six months, what specifically did you do to try

to solve them? It may be help to think specifically of one problem; (b) Did your efforts help? (c) Describe how you felt at the time. Even later authors used framework from Schwarzer's Proactive Coping Theory (Schwarzer, 1999) to divide all the items into 18 subscales and five dimensions, and labeled every dimension with a "proactive" in it (e.g., proactive emotional coping), there are a considered amount of items that are overlapping with items that measuring reactive coping (e.g., "I often find ways to break down difficult problems into manageable components.").

Second, the process of finalizing the inventory was not clear. The authors only stated that six new scales consisting of a total of 52 items developed from the original 137 items set using statistical techniques such as Pearson product-moment correlation, factor analysis, principle component analysis, and reliability procedures. No additional information was provided in terms of the process of reducing items. It is confusing in that no information was offered whether the six new subscales was derived from the original 137 items directly or from 18 subscales mentioned earlier. Moreover, factor analysis and principle component analysis are two different statistical procedures with similar functions. It is also confusing in that how authors could use them at the same time. In addition, no information such as factor loadings, fit indexes were provided in Greenglass et al. (1999)'s paper.

Third, the names of the subscales are confusing. Although the whole inventory was described as the proactive coping inventory, there are also two subscales labeled as proactive coping and another as preventive coping. Moreover, the subsequent research that uses this inventory all selected one or two of these two subscales to represent the concept of proactive coping rather than the whole inventory (Gan et al., 2007).

Therefore, the subsequent research treated proactive coping as a unidimensional concept which was measured by the proactive coping subscale. However, such a strategy contradicts previous conceptualizations of proactive coping as a multidimensional concept (Aspinwall & Taylor, 1997; Greenglass et al., 1999).

Proactive Coping Scale. The second inventory developed was the Proactive Coping Scale established by Kelly and Aldwin (2001). This is a 30-item inventory measuring various proactive coping behaviors in the area of finance, health, work, and daily life, using 6-point Likert scale (0=*Not Applicable*, 1=*Never*, 5=*Always*). Some sample items are: "I am saving toward a major purchase like a house or college tuition", "I find it difficult to set aside money for emergencies", and "I get my work done well ahead of time" etc. Most items in the Proactive Coping Scale focus on specific situation of individual's life, such as money management, health maintenance etc. Although Schwarzer and Knoll (2003) believed that it may be an advantage to select more situation-specific items to describe proactive coping, such a strategy may face a critical limitation in describing proactive coping. That is, it is impossible to exhaust all the situations in individual's life. Moreover, even within one situation, individual's proactive coping responses may be too many to include them all. For example, in the Proactive Coping Scale, several items described proactive responses toward health maintenance, including "I have annual physical exams", "I get my teeth cleaned" and "I exercise" etc. However, many more responses could reflect individual's proactive responses to maintain health, such as "I keep a healthy diet" or "I never smoke to prevent illness when I'm older" etc. Being unable to include all the proactive responses to health maintenance may lead to wrong interpretation of an individual's proactive coping ability.

Bode, Ridder and Bensing's proactive coping scale. Bode, Ridder and Bensing (2006) measured proactive coping in their research of preparing for aging. They conceptualized the proactive coping as consisting of three dimensions. Proactive orientation was measured with the subscale "Preventive Coping Scale" of the Proactive Coping Inventory (Greenglass et al., 1990). The behavior component of proactive coping was measured with two subscales (Taking Initiatives and Investment Behavior) of the Self-Management Ability Scale. These scales ask for the amount of activities people perform in order to attain personal goals. A sample item for the subscale of Taking Initiatives is: "How often do you take the initiative to get in touch with people who are dear to you". The subscale of Investment Behavior contains items such as "Do you ensure that you have enough interests on a regular basis to keep you active". The described scales were rated on a 6-point frequency response format (1=*I never do so*, 6=*I do so very often*). In addition, Bode et al. (2006) developed the Proactive Competence Inventory, which mainly reflects the competencies formulated in the process model of proactive coping (Aspinwall & Taylor, 1997). In this 22-item scale, participants report whether they are able to recognize first signals of undesired changes, to see their own possibilities and opportunities, to translate wishes in plans, to think about alternatives if one solution does not work, to ask for social support, to learn from setbacks, and to reward themselves. The scale ranges from "1=*not at all able*" to "4=*very able*". In Bode et al. (2006)'s conceptualization, proactive coping is multidimensional and consist of three aspects that need to be assessed separately. However, the inventory development process did not provide any empirical evidence that proactive coping consisted of the three subscales described in their inventory. Even the scales used to measure the three

dimensions of proactive coping in their inventory are different in the description and range. The lack of empirical evidence of the constructs of the inventory and inconsistence of the measurement scale may lead people to question whether the whole inventory measures one integrated concept rather than several.

Aspinwall, Sechrist and Jones's proactive coping scale. Another brief measure was developed by Aspinwall, Sechrist and Jones (2005) in researching the Y2K Problem. It was used to assess the preference for planning for adverse events and expending resources to prevent them or to reduce their impact. This inventory combined items from various sources. Three items were taken from Greenglass et al.'s (1999) Proactive Coping Inventory: "I prepare for adverse events", "I try to let things work out on their own", and "Rather than spending every cent I make, I like to save for a rainy day". One item ("I like to plan ahead") was taken from the Planfulness scale of the International Personality Item Pool (2001). Another item ("Planning only makes a person unhappy, since plans hardly ever work out") was taken from Olmstead, Guy, O'Malley, and Bentler's (1991) study of fatalism in young adults. Three additional items were written for the present study: "I would rather wait to see if something is going to be a problem before spending time, energy, or money trying to fix it", "I'm willing to spend time, energy or money now to save a greater amount of time, energy, or money later", and "I try to take care of little problems before they become big problems". Items were measured with a 5-point response scale, ranging from "1=*strongly disagree*" to "5=*strongly agree*". Although the items were intended to indicate a single construct, an exploratory factor analysis was conducted to examine the factor structure of the eight items. Six items loaded on the Proactivity Scale with adequate internal consistency

(α=.74). Higher scores indicate a greater preference for planning ahead, preparing for adverse events, and trying to take care of little problems before they become big ones.

Ouwehand, Ridder and Bensing's proactive coping inventory. Ouwehand et al., (2008) proposed a proactive coping scale by selecting items from four COPE subscales (Carver, Scheier, & Weintraub, 1989) and revising them to assess a proactive coping context. For example, the item "I take direct action to get around the problem" of the subscale Active Coping was altered into "I take direct action to prevent this potential problem". The scale was measured with a 4-point Likert scale, ranging from certainly no to certainly yes. The four subscales are: (a) Active Coping (4 items), which involves actions to prevent the stressor or its consequences occurring, (b) Planning (4 items), which represents thinking about how to handle the stressor (Carver et al., 1989), (c) Suppression of Competing Activities (4 items), which means putting other activities aside in order to concentrate on the problem, and (d) Seeking Social Support for Instrumental Reasons (4 items), which involves seeking information or advice (Carver et al., 1989). Given that Ouwehand et al. (2008) considered proactive coping is related to different situations, participants responded to the whole inventory according to different concrete vignettes in three major life domains, namely health, social relationships, and personal finance. It seems that Ouwehand et al. (2008) considered proactive coping as having the similar content and construct with reactive coping. In such a conceptualization, the only difference between proactive coping and reactive coping would be a temporal context of stressful situation.

In sum, as proactive coping is a newly developed focus in the area of coping, there are only few inventories to assess the construct using a checklist of attitudes,

thoughts and behaviors that people believe may prevent or modify potential stressful situation. Answers to the instruments were all scored on Likert scales. Although the existing scales are consistent in their format, some critical differences were found among these scales. Different strategies were used to develop the item pool for the proactive coping checklist, including the generation of items based on existing model of proactive coping, borrowing items from other constructs which authors think should be included in proactive coping, and revising items from reactive coping to fit the proactive context. The differences in the development of proactive coping scale may reflect different conceptualizations of proactive coping, namely: (a) whether proactive coping is situation-specific or a dispositional construct, (b) a multidimensional or unidimensional construct, (c) the relationship between reactive coping and proactive coping. According to previous analyses of each proactive coping scale, each of them has some critical flaws either related to their conceptualization of proactive coping or how the inventory was developed. It seems that a critical measurement issue pertains to the conceptualization of the construct of proactive coping. Therefore, it is critical that a new inventory which assesses proactive coping should be based on a comprehensive model of proactive coping.

Preliminary Conceptualization of Proactive Coping

Definition of Proactive Coping. In the current study, proactive coping is defined as cognitive or behavioral actions aiming at preventing, intervening with, or preparing for potential stressors which undertaken in advance of their occurrence. Proactive coping consists of four components of interrelated cognitive or behavioral actions, which are: (a) proactive appraisal, (b) target anticipation, (c) resource accumulation, and (d) behavioral

regulation. In the following paragraphs, the definition of proactive coping will first be explained in detail. Subsequently, the four components of proactive coping will be discussed in the following section (Construct of Proactive Coping).

First, proactive coping is future-oriented (Aspinwall & Taylor, 1997; Greenglass, 2002; Schwarzer & Knoll, 2003). It addresses potential stressors or future goals that may or may not happen in the future. Second, it is intentional actions which aim at preventing, intervening, or preparing for potential stressors (Aspinwall & Taylor, 1997) or future goals (Schwarzer & Knoll, 2003). While there could be some unintentional actions (e.g., habitual behaviors) that have the same effect as proactive coping actions, these actions will not be covered in the current conceptualization. In other words, the current study conceptualize proactive coping as a purposeful action which intends to influence oneself, or one's environment to maintain a good status or attain a better status in the future.

Third, proactive coping is a multidimensional construct. It consists of at least four distinctive but correlated components of activities. While this conceptualization is consistent with previous literature in that the construct of proactive coping consists of more than one category (Aspinwall & Taylor, 1997; Greenglass et al., 1999), it is also distinctively different from Aspinwall and Taylor's (1997) stage-sequential model. In current study, the relationships of four components of proactive coping were conceptualized as complementing and facilitating each other in order to accomplish the purpose of proactive coping rather than a sequential of stages which one stages happen before another. For example, the identification of any potential stressor or goal (e.g., possible disease) could help individual to regulate his/her behavior (e.g., keep a healthy

diet) in order to avoid the disease. It also could help individuals to prioritize the resources he/she would like to accumulate (e.g., information about nutrition). Also, the accumulation of resources (e.g. information about a potential disease) could facilitate the identification of potential stressors. In addition, individual with plentiful resources (e.g. planning skills) are more capable to manage his/her behaviors (planning ahead to avoid potential stressor).

Fourth, potential stressors and future goals are interchangeable and considered as having the same meaning as proactive coping actions. It is different from previous conceptualization in Schwarzer and Knoll's (2003) model. Schwarzer and Knoll's model differentiated preventive coping and proactive coping based on whether individuals intend to deal with potential stressors or achieve future goals. While admitting preventive coping and proactive coping are partly manifested in the same kinds of overt behaviors, such as skill development, resource accumulation, and long-term planning, they argued that the former appraise potential demanding situations as personal challenges while the latter see them as potential threat, harm, or loss. Therefore, depending on different appraisals, the worry levels associated with preventive coping is higher than proactive coping.

While this separation seems to make sense first, the differences between these two blurs when given careful consideration. First, in Schwarzer and Knoll's conceptualization, the critical distinction between preventive coping and proactive coping is whether individuals appraise a potential event positively or negatively. However, in reality, many events could be and are often appraised as associating with both threat and challenge at the same time. For example, when an individual thinks of learning a new

technique for his/her work, he/she could appraise the event both as a higher goal he/she would like to achieve and a threat that he/she could loss his/her job if he/she does not learn. Second, Schewarzer and Knoll (2003) maintained that the motivation emanates from threat or challenge appraisals would make a difference because worry levels are higher in the former and lower in the latter. However, it may not be the case. The anxiety level has not only to do with whether a potential event is appraised as a threat or challenge, but also is associated with the objective difficulty of the event. The anxiety level related to achieve a difficult goal could be higher than it associated to solve an easy threat. Therefore, it may have no use to separate potential stressors and goals as any particular event or situation could be interpreted as either stressors or goals depending on individual person. Consequently, in current study, potential stressors and future goals are considered to be interchangeable and considered as having same meaning for proactive coping actions

Fifth, proactive coping actions are described with general coping statements which could happen in any given potential stressful situations. There is two reasons to operationalize proactive coping in this manner. First, the purpose of the current study is to develop an inventory which provides a comprehensive list of proactive coping efforts to cover actions in different situations. Therefore, although people may use different proactive coping actions in different situations, the current study intends to include all the actions despite of situations. Second, some proactive coping actions could be generalized in different potential stressful situations, especially when potential stressors are too vague to anticipate. When people cope proactively, accurate recognition of potential stressors become harder or even impossible because of the inherent ambiguity of potential stressor

(Aspinwall & Taylor, 1997). The uncertain nature of potential stressors reduces an individual's chance to identify them. Consequently, it is less likely that people could respond according to specific stressors. In this situation, another possible strategy would be choosing proactive coping actions which are more likely to succeed in general. For example, collecting resource (e.g., money) is a proactive coping strategy that could be beneficial for many potential stressors.

Sixth, given the current study aimed at measuring Chinese college students' proactive coping actions, the conceptualization of proactive coping must also take the Chinese cultural context into consideration. Specific Chinese cultural values which are relevant will be integrated into the conceptualization of proactive coping, which will be articulated in the following paragraphs.

Conceptualizing the Construct of Proactive Coping in Chinese culture. Proactive coping consists of four components of interrelated cognitive or behavioral actions, which are: (a) Proactive Appraisal, (b) Target Anticipation, (c) Resource Accumulation, and (d) Behavioral Regulation. Proactive Appraisal is defined as cognitive activities which evaluate characteristics of potential stressors and possible proactive coping activities to decide following proactive coping activities. While the cognitive actions do not directly deal with potential stressors, it is an important component in preparing for or intervening with potential stressors, especially in Chinese cultural context. Chinese culture is featured as a collectivistic high-context culture in which people need to gather a lot of contextual information and take fully consideration of whole situation, especially interpersonal relationships that involved, in order to cope effectively in most of stressful situations. Chinese saying such as "think three times

before act" describes the importance of cognitive appraisals before actions. Moreover, in proactive coping situations, since the potential stressful situations has not happen yet, one still have a choice to make: to decide whether he or she will do something about the potential stressful situations or not. In this case, the cognitive appraisal is of significance because it decides individual's following proactive actions or non-action. Therefore, proactive appraisal is conceptualized as one important component of proactive coping.

Proactive appraisal consists of two parts: (a) evaluating potential stressors, and (b) evaluating the utility of relevant coping strategies. The first part is to evaluate the current and potential status of potential stressors (Aspinwall & Taylor, 1997) and various characteristics of potential stressors. Individuals would evaluate several characteristics of a potential stressor based on knowledge they learned from previous situations, including how likely a potential stressor could happen, when could it happens, how impactful it is, and how urgent it is.

The second part is to evaluate possible proactive coping activities; there seems to be at least three activities in such evaluation. First, according to the evaluation of potential stressors and one's current resources, it is important to evaluate whether following proactive coping activities are necessary, and if necessary, what these proactive coping activities are and when they should be conducted. In Aspinwall and Taylor's model (1997), this component is conceptualized as initial appraisal which consists of preliminary assessments or the current and potential status of the potential stressor as well as related assessments. Second is to evaluate effectiveness of previous proactive coping activities. In proactive coping, since potential stressors have not happened yet, it is very likely that proactive coping activities may last for a period of time. During this

period of time, evaluating initial proactive coping activities and then deciding following proactive coping activities according are of significant importance. While it seems that Aspinwall and Taylor's model (1997) has a similar component in their conceptualization called elicitation and use of feedback, there are significant differences. Aspinwall and Taylor conceptualized elicitation and use of feedback as centering around the acquisition and use of feedback about the development of the stressful event itself, the efforts one's preliminary efforts have had so far on the stressful event, and whether the event requires additional coping efforts. However, since the stressful event has not happen yet, this conceptualization is confusing in that it centered around the development of the stressful event and the impact of preliminary efforts on it. In contrast, in the current conceptualization, the evaluation of initial proactive coping activities is simply based on previous experiences. Third, it is also important to evaluate those proactive coping activities that do not aim at any particular potential stressors, which has not conceptualized in previous literature. In proactive coping situation, it is possible people would evaluate a certain proactive coping activity without a certain potential stressor in their mind. For example, a person may need to decide whether to prepare some cash when he/she goes out without thinking of any particular stressful situations in which he/she may need to use the cash.

Target Anticipation is the second component of proactive coping. Different from Aspinwall and Taylor's (1997) conceptualization, this component was defined as anticipating potential stressor or goal through the usage of previous resources. Identifying problems has been conceptualized as an essential component of reactive coping (D'zurilla & Goldfried, 1971). While it may be more difficult in a proactive

situation due to the inherited ambiguity of the situation, the ability to accurately anticipate potential stressful situations is more of significance and should be considered as another essential component of proactive coping. Aspinwall and Taylor (1997) defines the recognition of potential stressors as the interpretation of warning signs that come from the environment or one's internal process of reflection. As discussed earlier, this definition may blur the difference among reactive coping, anticipatory coping, and proactive coping. In order to obtain a clear conceptual distinction between reactive coping and proactive coping, anticipating a potential stressor or goal is defined as using resources in the past to anticipate a potential stressor rather than recognizing any cues from outside or inside of individual's current situation to identify a potential stressor. For example, an individual could anticipate a potential disease from reading a book or attending a lecture, which is considered as a part of proactive coping. However, if he/she recognizes a disease from his discomfort, it might mean the disease has already occurred, at least in its early stage. Therefore, the latter should not be considered as a proactive coping situation. The anticipation of potential stressors could range from being impossible to having a vague sense that something might go wrong to having a clear picture of a potential stressful situation. In short, the target anticipation consists of anticipating a potential stressor by analyzing existing information from various sources, such as books, lectures, or one's social network (Aspinwall & Taylor, 1997). Given the emphasis of interpersonal relationship and interdependency in Chinese culture, it may be of significant importance and prevalent for Chinese to use their social resources (e.g., other's suggestions or experiences) to anticipate potential stressful situations. In addition, self-reflection, as a part of self-cultivation which is essential in Chinese culture,

is considered as a virtue that individual practices on daily basis (e.g., "I examine myself multiple times every day"). It was a major way that Chinese learn from one's past experiences and improve themselves to avoid similar mistakes in the future. Therefore, it should be another source for Chinese to anticipate potential stressful situations. In another word, another approach for Chinese to anticipate potential stressful situations is to reflect on one's previous mistakes and learn from them.

The third component of proactive coping is Resource Accumulation. Similar with Aspinwall and Taylor's (1997) definition, this component describes the behaviors associated with preserving and accumulating various resources to prepare for potential stressors. As Hobfoll (1989) noted, individuals who have a surplus of resources and who are not responding to immediate challenges can use them preventively to offset future net losses of resource. In proactive coping situation, the resources that an individual accumulates could involve material resources (e.g., money), skills (e.g., planning and managing skills), and social connections (Aspinwall & Taylor, 1997; Schwarzer & Knoll, 2003). In particular, social connections may be of more significance for Chinese people given the heavily emphasis on interpersonal relationship and interdependency in Chinese culture context. The motivation for individuals to accumulate resources could come from several sources. It could come from identifying a particular stressor which is apprised as more or less threatening. It could come from identifying a particular goal that an individual wants to accomplish. Moreover, it also could come from only a vague wariness that "something" might happen so that a person needs to be prepared.

The fourth component of proactive coping pertains to both short and long-term Behavior Regulation. This component refers to an individual's self-regulated efforts to

prevent, intervene, or prepare for potential stressors or goals. Behavior regulation in proactive coping has a flavor of initiation; that is, individuals take initiative in maintaining, improving current circumstances or creating new ones (Crant, 2000). This component consists of a wide array of primary and secondary control behaviors, such as using one's available resources to avoid or prepare for potential stressors, planning for future stressors, managing one's behaviors to avoid potential stressors, or changing one's perspectives to mentally prepare for potential negative outcomes. One point should be emphasized about this component is that not all the self-regulation behaviors are included in proactive coping. Rather, the self-regulation behaviors that aim at potential stressful situations and could lead to the best possibility of success in preventing a potential stressor are included in the component.

Although all the behaviors described above can be observed in the Chinese cultural context, self-restraint behaviors share more salient importance for Chinese people because they are the central elements of the self-cultivation process which Confucian proposed in order to achieve and maintain social order and harmony (Yang, 2006).

Chapter III: Methodology

Participants

Participants were 459 Chinese college students from eight Chinese universities (Nanjing University of Aeronautics and Astronautics, China Women's University, Capital Normal University, Hohai University, Hebei University of Science and Technology, Hangzhou Dianzi University, Gansu Agricultural University, and Capital University of Economics and Business) in five locations (Beijing, Nanjing, Hangzhou, Shijiazhuang, Lanzhou). 224 (48.8%) were females, 230 (50.1%) were males, and 5 (1%) unknown. Participants ranged in age from 17 to 24 (M = 19.74, SD = 1.5). All participants were undergraduate students, including 310 (67.5%) freshman, 117 (25.5%) sophomore, 29 (6.3%) juniors, and 3 (.7%) seniors.

Scale Development

Following the seven-step scale construction procedure (Lee & Lim, 2008), the development of the Proactive Coping Inventory used several methods, including examining the existing literature, individual interviews with Chinese college students, and a research team.

The researcher conducted one-hour individual interview with 6 Chinese college students from three universities to gather their understandings of proactive coping. First, students were introduced to a general idea of proactive coping. Subsequently, a list of questions regarding participants' cognitive process and behavioral actions related to potential future stressors were asked to understand their proactive coping efforts (See Appendix C). The information gathered in the interviews was used to establish the

conceptual framework of proactive coping, which was described earlier (Conceptualizing the construct of Proactive Coping in Chinese Culture).

Subsequently, a research team was formed to assist the development of the conceptual framework of proactive coping and items. The research team consists of the primary researcher, one counseling psychology master student who originally came from the Mainland China and one counseling psychology doctoral student who originally came from Taiwan, and one Asian American counseling psychology doctoral student. All the research team members have some expertise in the area of coping. The research team met multiple times over a semester to discuss the conceptual framework of proactive coping and generate item pool for proactive coping.

The conceptual framework of proactive coping was drafted by the researcher, and integrated various sources of knowledge including literature review, individual interviews, and research team member's perspective. The conceptual framework was revised multiple times through multiple discussions within the research team. Subsequently, the finalized conceptual framework of proactive coping was used as a guideline to develop the proactive coping item pool. In addition, items from existing proactive coping inventories were also reviewed and selected if they fit the conceptual framework of proactive coping. In the end, 39 items were finalized as the initial item pool of proactive coping inventory after several drafts of revisions. The proactive coping inventory employed a 5-point Likert-type response format ranging from *1 = completely unlike me,* to *5 = completely like me*. In the instruction, participants were asked to select the option which described them the best.

Pilot Testing

To ensure the readability and clarity of the initial item pool of proactive coping inventory, a pilot testing with 10 Chinese international students (4 graduate students and 6 undergraduate students) was conducted. All participants were asked not only to respond to the items as if they were participants, but also to identify unclear, inappropriate, or ambiguous items while they respond to the items. They were asked to circle those items and note their reasons. Subsequently, four small groups of discussions with 2-3 participants in each group were conducted. During the discussion, participants shared their thoughts on items and exchanged their opinions with each other. They were also asked to assist in developing alternative wording to enhance the items. When there were conflicted opinions on wording of certain item, the investigator made the decision after hearing reasons from different perspectives. The final revision of the item pool was completed after finishing all group discussions.

Procedure

All the data for current research were collected through the qualtrics online survey software. Within each university, the researcher contacted a main person, either a faculty member or a staff, and sent them a document including brief research description, requirement for recruiting participants, procedure of collecting data, as well as materials needed in the process (see Appendix B). Then, this main person who was in charge of collecting data in that university contacted several instructors in their universities who teach at least one course in the universities and invited them to assist in recruiting participants for current research.

Instructors who agreed to assist collecting data selected one of his/her class and informed his/her students the current research. Instructors notified students: (a) the

purpose of current research, (b) the procedure of participating research and time will be spent, (c) participants' responsibilities and benefits, as well as (d) anonymity and voluntary. Students who were interested in participating in current research wrote down their names and email contact on a sign-up sheet. Also, students were informed that the names that instructors collected is just for the purpose of distributing gifts and were not disclosed to the researcher. After instructors collected email contacts of all the students who are interested in participating, they sent an email to the researcher with only email contacts in their emails.

Subsequently, participants from each university were randomly assigned to complete either battery A or battery B. In the email that the researcher sent to students, students received their school code, which battery they need to take (either A or B), as well as the link to the survey package. Investigator used qualtrics to send out these emails to students so that she was able to track who complete their survey and who did not complete yet. A week after these emails have been sent out, the researcher sent out a reminder to those participants who have yet completed the survey. Four reminders have been sent out to remind participants to complete their surveys. Participants who did not complete the survey after four reminders were considered to be not interested in the research anymore.

In the survey package, participants were presented a written consent form with information including the purpose of current research, the procedure of participating research and time will be spent, participants' responsibilities and benefits, potential risk and corresponding coping strategies, as well as anonymity and voluntary. Participants who agreed with the informed consent (agreement was indicated by clicking on the "yes"

option at the bottom of the informed consent) were given the survey package. At the end of the survey package, participants were asked to select one of the two options (receiving a small gift or entering in a lottery in which each of 20 winners will receive $20) as their reward for completing the survey package.

Other Measures

Chinese Problem Solving Appraisal. The Chinese Problem Solving Inventory (PSI-CN; Tian, Heppner, & Hou, 2014) is a 18-item Chinese version of the Problem Solving Inventory (PSI, form B; Heppner, 1988) which measures one's perception or appraisal of his/her problem solving ability; participants use a 6-point Likert scale (*1 = strongly agree*, *6 = strong disagree*). Lower scores indicate a more positive appraisal of one's problem-solving ability. The PSI-CN consists of three subscales: (a) Problem Solving Confidence (PSC), (b) Reflective Thinking (RT), and (c) Emotional Control (EC). The alpha coefficients of each of the three factors (PSC, RT, and EC) and the overall total PSI-CN were .80, .68, .67, and .80, respectively (Tian et al., 2014). The Cronbach alphas of PSC, RT, EC and total PSI-CN in the present study were .77, .77, .65, and .83, respectively. The construct validity of the PSI-CN has been supported through its negative association with career indecision as well as a positive association with psychological adjustment (Tian, et al., 2014). The alpha coefficients of each of the three factors (PSC, RT, and EC) and the overall total PSI-CN for current study were .82, .77, .80, and .83, respectively.

Psychological Distress. The Brief Symptom Inventory-18 (BSI-18; Derogatis, 2000) is a psychological distress assessment instrument designed to screen for elevation on depressive, anxious, and somatic symptom dimensions. It consists of 18 items that

ask the respondents to rate how often they have experienced anxiety, somatization, and depressive symptoms within the past 7 days on a 5-point Likert scale ranging from"*1 = not at all*" to "*5 = extremely*". Scores can be obtained for the anxiety, depression, and somatization dimensions in addition to the Global Severity Index (GSI) score. The subscale and overall scores from the BSI-18 have been shown to be highly correlated with corresponding subscales from the SCL-90-R (*r*s ranged from 0.91 to 0.96), which has a more extensive history of empirical support for its validity and reliability (Derogatis, 2000). On the basis of the same community sample, the BSI-18 has shown adequate to good internal consistency (α= .74, .84, .79, and .89, for somatization, depression, anxiety, and GSI, respectively; Derogatis, 2000). The GSI is generally considered as the best single indicator of the BSI and was used in this study. The BSI-18 has shown good internal consistency (.92) for the GSI in Chinese samples (Wang & Mallinckrodt, 2006; Wang, Heppner, Fu, Zhao, Li, & Chuang, 2012). The alpha coefficient of GSI for current study was .94.

Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The 5-item SWLS measures global cognitive judgments of satisfaction with one's life. The scale uses a 7-point Likert-type response format with "*1 = strongly disagree*" to "*7 = strongly agree*". Higher score indicates more satisfaction with one's life in general. The test-retest reliability coefficient alpha of the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was .87 over at a two-month interval. In addition, the SWLS was found to be distinct from social desirability measure and yet related to other measures of subjective well-being (e.g., happiness, self-esteem, emotional

intensity) (Diener, et al, 1985). The alpha coefficient of SWLS was .78 in Chinese sample (Xiong & Xu, 2009). The alpha coefficient for SWLS in current study was .85.

Mooney Problem Check List (MPCL; Mooney & Gordon, 1950). The Mooney Problem Check List consists of 330 problems unobtrusively grouped in eleven different areas, including: (a) health and physical development; (b) finances, living conditions, and employment; (c) social and recreational activities; (d) courtship, sex, and marriage; (e) social-psychological relations; (f) personal-psychological relations; (g) morals and religion; (h) home and family; (i) the future: vocational and educational; (j) adjustment to school work; (k) curriculum and teaching procedures. Low scores indicate a low frequency of reported problems. A correlation coefficient of .93 was reported by Mooney and Gordon (1950). The test-retest reliabilities of the Mooney Problem Check List varied from .90 to .98 (Mooney & Gordon, 1950).

The survey was translated into Mandarin using a three-step process. First, the researcher who is fluent in both Mandarin and English translated the original English version of MPCL into Mandarin. Second, another native Chinese speaker (i.e., a graduate student in counseling psychology) who is also fluent in both Mandarin and English back-translated the Mandarin version of the MPCL into English. Third, a native English speaker checked the accuracy of the English back-translation with the original English version of the MPCL. Translation changes were made during the process to resolve the translation discrepancies.

State-Trait Anxiety Inventory, Trait version (STAI-T; Spielberger, 1983). The STAI-T is a 20-item self-report scale to assess a stable propensity to experience anxiety, and tendencies to perceive stressful situations as threatening using a 4-point

Likert scale (*1 = almost never, 4 = almost always*). The test-retest reliabilities for the trait scale ranged from .73 to .86 for college students and the alpha coefficient for the trait scale was .90 (Spielberger & Sydeman, 1994). Concurrent validity of STAI-T with other anxiety questionnaires ranges from .73 to .85 (Spielberger, 1983). The test-retest reliability for the trait scale in Chinese sample was .90 (Wang, Wang, & Ma, 1999). The alpha coefficient for the STAI-T scale in current study was .89.

General Procrastination Scale-students (GP-S; Lay, 1986). The GP is a 20-item trait-like measure to assess individual's level of procrastination. The GP consists of two versions: one for student (GP-S) and the other for general population (GP). The two versions are similar except for a few items (i.e., some item wordings in the GP-S are slightly changed from the GP to match the responder's current educational situation). The GP-S is a 5-point Likert-type scale ranging from "*1 = extremely uncharacteristic*" to "*5 = extremely characteristic*" with higher total scores indicating higher level of procrastinating tendencies. Internal consistency coefficients of the GP have been reported to range from .81 to .89 (Lay, 1988; Lay & Burns, 1991; Lay, Edwards, Parker, & Endler, 1989). The test-retest reliability over a 9-month interval was .80 (Ferrari, 1989). The GP has been positively correlated with the Procrastination Assessment Scale-Students (PASS; Solomon & Rothblum, 1984), and has low correlations with a social desirability scale (Lay, 1986). In addition, the alpha coefficients for the GP in Chinese samples have been reported to range from .73-.84 (Bao & Zhang, 2007; Cheng, Li, & Zhang, 2010; Chu, Xiao, & Lin, 2010; Zhang & Cheng, 2013). The alpha coefficient for GP in current study was .86.

Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1986, 1988). The BIDR is a 40-item scale which measures social desirability. It assess whether respondents are responding truthfully or are misrepresenting themselves in order to manage their self-presentation. BIDR is a 7-point Likert-type scale (*1 = not true, 7 = very true*). It has two subscales: (a) Self-deceptive Enhancement (SDE), and (b) Impression Management (IM). Only IM was used in current study. Higher scores mean more over-reporting of one's desirable behaviors and under-reporting of undesirable behaviors. Internal consistency coefficients of the IM have been reported to range from .75-.86 (Paulhus, 1988; Quinn, 1989) and the test-retest reliability over five-week was .65 (Paulhus, 1988). The alpha coefficient for IM in current study was .77.

Demographic questionnaire. Participants also completed a brief demographic questionnaire that includes questions about their age, gender, ethnicity, sexual orientation, major, relationship status, and year in school.

Chapter IV: Results

Preliminary Analysis

First, both Sample A and Sample B were examined for data accuracy, the normality of distribution, linear relationships, homoscedasticity, univariate and multivariate outliers, and missing values. For Sample A, 54 cases which have more than 85% of the total responses missing were deleted. Then, 20 cases were deleted because those participants failed to provide the correct answer to the validity-check items (e.g., "Please choose 'not at all' in the following options."). The remaining missing values were replaced using EM. Moreover, all the univariate outliers in 12 cases were treated as missing values and were replaced using EM. In addition, 27 cases were identified as multivariate outliers and were eliminated. In the end, 233 out of 334 cases were remained for Sample A.

For sample B, 48 cases which have more than 85% of the total responses missing were deleted. Then, 27 cases were deleted because those participants failed to provide the correct answer to the validity-check items. The remaining missing values were replaced using EM. Moreover, all the univariate outliers in 14 cases were treated as missing values and were replaced using EM. In addition, 25 cases were identified as multivariate outliers and were eliminated. In the end, 226 out of 326 cases were remained for Sample B.

All items in both Sample A and Sample B were non-normally distributed (Shapiro-Wilk test, $p < .001$). Therefore, Mean-Adjusted Maximum Likelihood (MLM) estimator was used in the following confirmatory factor analysis because it is robust with non-normal distributed data.

Exploring Factor Structure

Exploratory factor analysis (EFA) was conducted to explore the factor structure on Sample A (N = 233). The initial estimation yielded 10 factors with eigenvalues greater than one, accounting for 61.3% of the total variance; parallel analysis (Brown, 2006; Franklin, Gibson, Robertson, Pohlmann, & Fralish, 1995; Kahn, 2006) indicated four factors should be retained for rotation while the Scree test indicated three factors. Therefore, three-factor, four-factor, and five-factor maximum likelihood analyses with oblique rotation were conducted in order to find the best solution. Three criteria were used for the following item retention: (a) loadings at least .45 on one factor, and (b) cross-loadings not exceeding .30, and (c) retaining factors that had at least three items per factor.

The five-factor solution was eliminated because it had one factor with only one item. Both three-factor and four-factor solutions each had an adequate number of items when utilizing the above-mentioned criteria. Therefore, both solutions were examined conceptually to decide the best solution. The three-factor and four-factor shared two similar factors within their solutions. The remaining factor in the three-factor solution appeared to be the combination of the two remaining factors in the four-factor solution, with a few items eliminated. Further examination indicated that the two remaining factors in the four-factor solution are conceptually distinctive and meaningful. Therefore, a four-factor solution with 18 items was retained, accounting for 41.4% of total variance.

The first two factors appear to reflect two distinctive approaches that people employ to deal with potential stressful situations. Factor 1 was labeled *Active Preparation for Potential Stressors* (APPS: five items, accounting for 22.47% of the total

variance). This factor refers to activities which prepare for potential future stressors by active planning and collecting resources. The highest loading items were, "To prepare for potential future stressors, I make plans and follow them" and "I rehearse how to deal with potential future stressors in my mind".

Factor 2 was labeled *Acquiring Knowledge for Potential Stressors* (AKPS: five items, accounting for 8.81% of the total variance). This factor refers to activities that deal with potential future stressors by learning from one's or others' experiences. The highest loading items were, "I make use of other people's experiences to prepare for potential future stressors" and "I learn from other people's experiences to predict what potential future stressors may happen".

Factor 3 was labeled *Consideration of Proactive Actions* (CPA: four items, accounting for 3.22% of the total variance after rotation). This factor reflects individual's evaluation or consideration of contextual factors (i.e., characteristics of potential future stressors or one's current situation) that affects proactive actions. The highest loading items were, "Whether I do something about potential future stressors depends on how many resources I currently have to deal with them" and "Whether I do something about potential future stressors depends on how likely they may happen".

Factor 4 was labeled *Avoiding Proactive Actions* (APA: four items, accounting for 4.28% of the total variance after rotation). This factor refers to individual's general tendency to avoid taking proactive actions. The highest loading items were, "I only collect relevant resources when I have a particular potential future stressor in my mind" and "I seldom make social connections or maintain them for potential future stressors".

Validating Factor Structure

Confirmatory factor analysis was conducted on the 18-item Proactive Coping Inventory on Sample B (N = 226) using the mean-adjusted maximum likelihood estimation method. Four fit indices were used to evaluate the fit of the model to the data: the Comparative Fit Index (CFI; a value close to .90 or greater suggests a reasonably good model fit), the Tucker-Lewis Index (TLI; a value close to .90 or greater suggests reasonable good model fit), the Root-Mean-Square Error of Approximation (RMSEA; a value of .06 or less suggests a good error of approximation), and the Standardized Root-Mean-Square Residual (SRMR; a value of .08 or less suggests an good model fit). Alternative models were also tested. In addition to the four-factor oblique model, the following models were also tested (a) a four-factor orthogonal model, and (b) a one-factor model with all 18 items loading on one factor. The results indicated that only the four-factor oblique model has adequate fit indices (χ^2 = [129] = 191.11, p < .001; CFI = .92; TLI = .91; RMSEA = .05, 90% confidence interval [CI] [.03, .06]; SRMR = .06), and seems to represent the data best. Both the four-factor orthogonal model (χ^2 = [135] = 304.51, p < .001; CFI = .79; TLI = .76; RMSEA = .08, 90% confidence interval [CI] [.06, .09]; SRMR = .13) and one-factor model (χ^2 = [135] = 454.82, p < .001; CFI = .61; TLI = .55; RMSEA = .10, 90% confidence interval [CI] [.09, .11]; SRMR = .10) had poor fit indices.

Examining Reliability and Validity Estimates

Reliability. Reliability estimates were conducted for both Sample A (i.e., 233) and Sample B (i.e., 226). For Sample A, the results indicated adequate internal reliability for the total Proactive Coping Inventory (α = .81, 95% CI [.78, .83]), and its four subscales: Active Preparation for Potential Stressors (α = .76, 95% CI [.73, .80]),

Acquiring Knowledge for Potential Stressors (α = .75, 95% CI [.71, .78]), Consideration of Proactive Actions (α = .66, 95% CI [.61, .71]), Avoiding Proactive Actions (α = .68, 95% CI [.63, .73]). The results indicated low to moderate correlations among the scores on the four subscales, ranging from .01 to .47 (see Table 3). For Sample B, the results indicated similar adequate internal reliability for the total Proactive Coping Inventory (α = .76, 95% CI [.71, .80]), and its four subscales: Active Preparation for Potential Stressors (α = .77, 95% CI [.71, .81]), Acquiring Knowledge for Potential Stressors (α = .70, 95% CI [.61, .75]), Consideration of Proactive Actions (α = .64, 95% CI [.55, .71]), Avoiding Proactive Actions (α = .65, 95% CI [.57, .72]). The results also indicated low to moderate correlations among the scores on the four subscales, ranging from .02 to .48 (see Table 4).

Concurrent Validity. Two estimates of concurrent validity were examined: associations between the PCI factors and (a) PSI-CN and (b) MPCL. As expected, the total PCI and three of the four factors (i.e., APPS, AKPS, and APA) were correlated with the PSI-CN (See Table 3). More specifically, all correlations were statistically significant (*r*s = -.19 to -.49). At the same time, CPA was not significantly correlated with the PSI-CN total and one factor, EC. That is, higher PCI scores were associated with a more positive problem solving appraisal, with CPA as the exception in 2 of the 4 correlations. The correlations among the PCI and its factors and the MPC indicated that MPC score was negatively associated with APPS and APA (*r*s = -.14 and -.17, respectively) and positively associated with CPA (*r* = .14). That is, in general higher PCI scores were negatively associated with the number of personal problems, but Avoiding Proactive Actions was associated with more personal problems. Thus, the PCI were significantly

correlated with two well-established coping inventories in expected directions, which provided some support for the concurrent validity of the PCI. At the same time, the amount of overlap found between PCI and the two coping inventories ranged from 2% to 21%. These results suggest the PCI is not simply another measure of coping, but does seem to be related to coping activities.

Construct Validity. Table 3 presents the correlations of the PCI and its four factors with measures of psychological adjustment, namely the GP, TA, SWL, and BSI. As expected, the total PCI and three factors (i.e., APPS, AKPS, and APA) had small to moderate statistically significant negative associations with GP (*r*s = -.22 to -.33); those who reported more proactive coping activities also reported less procrastination. The PCI and three factors (i.e., APPS, AKPS, and APA) also had small but statistically significant negative associations with TA (*r*s = -.20 to -.30); those who reported more proactive coping activities also tended to report less trait anxiety. The PCI and three factors (i.e., APPS, AKPS, and APA) had small but statistically significant positive associations with SWL (*r*s = .19 to .23); that is, those who reported more proactive coping activities also tended to report more satisfaction with their life. In addition, only APA had small but statistically significant negative association with BSI (*r* = -.20); those who reported a general tendency to engage less in proactive coping activities also reported more psychological distress. All of these results supported the construct validity of the PCI.

Moreover, hierarchical regression analyses were conducted to examine whether social desirability (SD) was independent from the associations between the PCI and the other variables (i.e., GP, PSI-CN, TA, and SWL). As indicated in Table 5, the PCI accounted for an additional 5%, 20%, 5%, and 5% of the variance in predicting GP (β =

-.25), PSI-CN (β = -.45), TA (β = -.22), and SWL (β = .21) over and above SD. These results suggested that, after controlling for SD, the PCI still significantly predicted the above outcome variables.

Chapter V: Discussion

The primary purpose of this study was to develop a reliable and valid inventory to measure what activities people engage in to prevent or prepare for potential future stressors within Chinese cultural context. Results from the exploratory and confirmatory factor analyses indicated that the Proactive Coping Inventory was best depicted as a 20-item inventory with four underlying factors: (a) Active Preparation for Potential Stressors, (b) Acquiring Knowledge for Potential Stressors, (c) Consideration of Proactive Actions, and (d) Avoiding Proactive Actions. The factor loadings across these four factors ranged from .30 to .77, with only four items below .50. The alpha coefficients for four factors ranged from .60 to .76 across two samples, suggesting that these factors were also internally consistent.

The mean scores of the total PCI and each factor were consistent across two samples; the range of differences between the sample means was small, ranging from .15 to .63. Moreover, all four factor means were slightly above the midpoint (15 for APPS; 15 for AKPS; 12 for CPA and APA), indicating that Chinese college students on average considered themselves as slightly engaging in proactive coping activities. In addition, the standard deviations for all factors were relatively small, ranging from 1.85 to 2.95. There numbers indicated the absence of ceiling or floor effects, and the existence of considerable variability across Chinese college students, and therefore were desirable from a scale construction perspective.

Overall, the Proactive Coping Inventory measures people's efforts aimed at preventing, intervening with, or preparing for potential stressors which are undertaken in advance of their occurrence. Proactive coping may be of unique significance within the

Chinese cultural context. Chinese people employ quite amount of proactive coping efforts which are reflected in Chinese culture values. First, the values of proactive coping have been emphasized in several major Chinese philosophical systems. For example, Laozi noted that luck and misfortune comes in turn (Tai Te Ching), which suggests that happiness and misfortune do not last forever and alternate over time. Consequently, in order to deal with this reality, people are supposed to Ju An Si Wei, You Bei Wu Huan (i.e., Think of danger in time of peace; Preparedness averts peril). Second, proactive coping efforts have been reflected in Chinese people's thoughts and behaviors in different areas of their lives. For example, Chinese people have a high savings rate. Accordingly, Chinese have an average household savings rate of 38%, compared to 3.9% for Americans and 28% for Japanese (Bloomberg Businessweek, 2010). In part, the saving behaviors can be traced to Confucian values which emphasize being thrifty, spending wisely, and saving for the future. In addition, Chinese tend to employ indirect communication style (e.g., be more silent, avoid saying no in conflict situations) in order to maintain a harmonious relationship (Huang, 2000). In part, the emphasis on interpersonal harmony and saving face in Chinese culture reflects the idea of preserving interpersonal connections and associated resources for future potential stressors. The idea of proactive coping is even reflected in rearing children, as to prepare for aging includes the assumptions that children will take care of the elders.

The results also indicated that the Proactive Coping Inventory has small to moderate relationships with Chinese college students' appraisal of their problem solving/coping abilities as well as the number of problems which they encountered in their lives. These results suggest that proactive coping efforts are related to people's

coping activities with existing stressors but also have associations with how people deal with their lives in general. Moreover, proactive coping activities were positively associated with people's general satisfaction with their lives. Perhaps some problems are prevented from happening and other problems are easier to deal with due to people's proactive coping efforts, and thus people have higher life satisfaction. At the same time, it also makes sense to assume that people who engage in more proactive coping activities may possess some particular personality traits which leads them to be more satisfied with their lives, such as optimistic, high locus of control etc. Indeed, the results indicated that Chinese college students who engage more in proactive coping activities appear to experience less trait anxiety and less procrastination in their lives. To some extent, engaging in proactive coping activities may be an effective coping strategy for Chinese college students to manage their anxiety over potential future stressors. Engaging more in proactive coping activities may also provide a sense of safety and control in general or specifically over potential future stressors, and therefore associated with less anxiety. It also makes sense that people who engage in more proactive coping activities would be more action-oriented in general, and therefore less likely to procrastinate in their lives.

Four underlying factors were identified within the Proactive Coping Inventory through the exploratory and confirmatory factor analyses. Each factor represents an important piece of information about proactive coping activities. The first factor was labeled Active Preparation for Potential Stressors (APPS), and consists of 5 items, which seems to describe the actual activities that people engaged aimed at preventing, intervening with, or preparing for potential future stressors. Those activities ranged from collecting various resources, planning, rehearsing, and executing the plan. It also

included an on-going evaluation component which people conduct to ensure that their proactive efforts are effective.

The activities described in the APPS would seem to suggest having a direct impact on potential future stressors. That is, these activities would most likely alter the status of potential future stressors (i.e., preventing them from happening or reducing their severity). For example, collecting various resources would potentially change one's relationship with potential future stressors (e.g., if people constantly improve their knowledge and skills, the potential future stressor such as unemployment would be much less stressful for them as their knowledge and skills likely provide more career options). Moreover, collecting various resources could even prevent potential future stressors from happening. For example, if people collect adequate money, the likelihood of encountering financial problems would be significantly reduced. In addition, planning, rehearsing, and executing a plan of action would also directly change the effects of potential future stressors on people. For example, if college students successfully planned their career and successfully executed the plan for their job search after graduation, they might obtain a job even before graduation.

The direct impact of APPS on potential future stressors also seems to be reflected in the validity estimates. People who actively engage in preparation for potential future stressors tend to evaluate themselves as having more problem solving abilities, have less problems in their lives, procrastinate less, experience less trait anxiety, and have higher life satisfaction. Clearly, engaging in active proactive preparation activities associated with less struggles in people's lives and higher self-appraisal of themselves as a problem

solver, have positive emotions and behaviors, as well as hold better perceptions of their lives in general.

Acquiring Knowledge for Potential Stressors (AKPS) consists of 5 items, which describes activities related to acquiring relevant knowledge and experiences from oneself and others to deal with potential future stressors. It is important to note that acquiring relevant knowledge not only happens when people prepare for potential future stressors but also when people try to predict what potential future stressors may happen. To some extent, AKPS seems to be a prerequisite step of APPS as it involves activities to identify what potential future stressors could be by learning from other people's experiences or one's own mistakes. It also makes sense that people may learn about other people's experiences to gather more information on potential future stressors before making plans and more actively and directly involving in dealing with potential future stressors. For example, a freshman may learn from other senior students that he or she needs some internship experiences before he or she could get a job. Subsequently, it is likely that he or she may want to collect more information about acquiring internship experiences before they dive themselves into searching for an internship. On the other hand, however, it is also possible that APPS may happen without AKPS. For example, a person may regularly save money as part of his or her routine knowing that it may be useful someday in the future.

The validity estimates indicated that people who tend to acquire relevant knowledge in dealing with potential future stressors also tend to evaluate themselves as having more problem solving abilities, having fewer problems in their lives, experience less trait anxiety, and have higher life satisfaction. At the same time, however, the results

also suggested that people's engagement in acquiring relevant knowledge was not associated with procrastinations. Thus, Chinese college students who tend to acquire relevant knowledge to cope with potential future stressors might not necessarily procrastinate less than others.

Consideration of Proactive Actions (CPA) consists of 4 items, which describes people's cognitive activities to considerate contextual factors (i.e., characteristics associated with potential future stressors or one's current situation) that affect proactive actions. Conceptually, CPA would seem likely to happen after AKPS. That is, after identifying a potential future stressor and collecting some knowledge on it, there may likely be a cognitive process to evaluate different characteristics of the potential future stressor in order to decide the next step. Such considerations could lead to Chinese college students either decide to more actively engage in proactive coping activities for a particular stressor, or take no actions about the potential future stressor. In that sense, APPS could happen after the CPA, depending on the results of evaluations. On the other hand, as described earlier, APPS could also happen without CPA when the activities are habits or routines in Chinese college students' lives. In those situations, the cognitive evaluations could be ignored in deciding students' proactive coping activities. Interestingly enough, the results indicated that CPA has no statistically significant correlations with people's evaluation of their problem solving abilities, number of problems in their lives, their anxiety level, satisfaction with their lives, as well as their level of procrastination. Rather, the results seem to suggest that the cognitive evaluation of one's possible proactive coping activities is not a determining factor in terms of Chinese college students' psychological adjustment and well-being, but rather the actual

proactive coping activities that people engage in matters. In addition, given the positive correlations between CPA and other two proactive coping factors (e.g., APPS and AKPS), as well as the negative correlations between the other two proactive coping factors (e.g., APPS and AKPS) and students' psychological adjustment and well-being, it is possible that specific proactive coping activities such as APPS and AKPS may serve as suppressive mediators between CPA and Chinese college students' psychological adjustment and well-being.

Avoiding Proactive Actions (APA) consists of 4 items, and describes people's general tendency to avoid engaging in proactive coping activities. Such avoidance not only involves specific activities that Chinese college students might avoid engaging with potential future stressors (e.g., collecting resources), but also Chinese college students' tendency to quickly hold back from proactive coping activities even when they engage in them earlier. In addition, it seems to also consist of a general inactive attitude towards coping with potential future stressors. In contrast to specific activities associated with APPS and AKPS, APA appears to be more of a general attitude or tendency to not engage with potential future stressors. Moreover, it is relatively independent from those specific activities described in APPS and AKPS (i.e., *r*s range from .32-.45). The general avoidant tendency towards proactive coping activities appears to have negative associations with Chinese college students' life satisfaction and their problem solving abilities. Specifically, people who tend to avoid proactive coping activities are also inclined to evaluate themselves as having less problem solving abilities, have more problem in their lives, procrastinate more, experience more trait anxiety, and have lower life satisfaction.

In addition, the results also indicated that proactive coping activities do not seem to have direct association with psychological adjustment measured by BSI. Given the symptoms that BSI measures are short-term in nature (i.e., distress in the past week), it seems that proactive coping activities have no zero-order correlations with Chinese college students' relative current and temporary psychological status. But rather, proactive coping activities associated with long-term traits such as trait anxiety and behavioral patterns such as procrastination and problem-solving appraisal. In addition, previous research indicated that BSI has significant correlations with people's coping activities with their current stressors (Segal, Hook, & Coolidge, 2001; Heppner et al., 2004; Gustems-Carnicer & Calderon, 2012). Therefore, perhaps the PCI is less strongly associated with short-term stressors (e.g., BSI), but more reflective of coping with potential life stressors in the future, and thus associated with personality traits (e.g., procrastination, trait anxiety), and more global ratings of life satisfaction and coping style. More research is needed to examine the short and long term associations and consequences of APA.

Several limitations of this study should be noted. One methodological limitation of the study is the utility of two randomly split samples for EFA and CFA. Although such practice is considered as a significant improvement than conducting EFA and CFA using the same sample, it is possible that the two randomly split samples may reflect highly similar sampling bias, measurement bias, expectancy effects, or experimenter effects; therefore, additional research is needed to examine the PCI factor structure. Another methodological limitation of the current study is that the measurements were not administrated in a counterbalanced order. It makes the results vulnerable to the carryover

effects, such as fatigue effects. In addition, given all the results were gathered through self-report, they were vulnerable to recall bias and errors in self-observation as well.

Moreover, the generalizability of the PCI factor structure in other countries is unclear. For example, it would be informative to examine the generalizability of the PCI factor structure with U.S. samples, which has a distinct, different individualistic cultural context. Moreover, future research might examine the relationship between the PCI and other personality variables as well as other indices of psychological adjustments and well-being. One personality variable is time perspective, which represents an individual's way of relating to the psychological concepts of past, present, and future (Boniwell & Zimbardo, 2004). In particular, it may be informative to understand how people with past-orientated, present-orientated, and future-orientated time perspectives differ in terms of their proactive coping efforts. Moreover, it seems that the PCI could nicely fit within the resilience framework which intends to explain why some individuals in populations exposed to uncontrollable adversity nevertheless achieve positive developmental outcomes (Yates & Masten, 2004). In addition, further research may examine whether people's proactive coping efforts vary depending on different types of potential future stressors; in particular, would people react differently when they deal with potential future stressors varying in their degree of predictability (i.e., ranging from more predictable stressors such as aging or job search to less predictable stressors such as natural disaster or car accidents). Another potential future research could focus on examining the effects of people's proactive coping efforts on how they cope with their current stressors. Do people's proactive coping efforts enhance how they cope with current stressors because they have more resources prepared? Or do people's proactive

coping efforts impede them to cope with current stressors because those efforts take over some parts of people's time and efforts? Or does PCI and other well-established coping inventories combined to better predict psychological adjustment and well-being (e.g., self-esteem)?

Summary and Conclusions

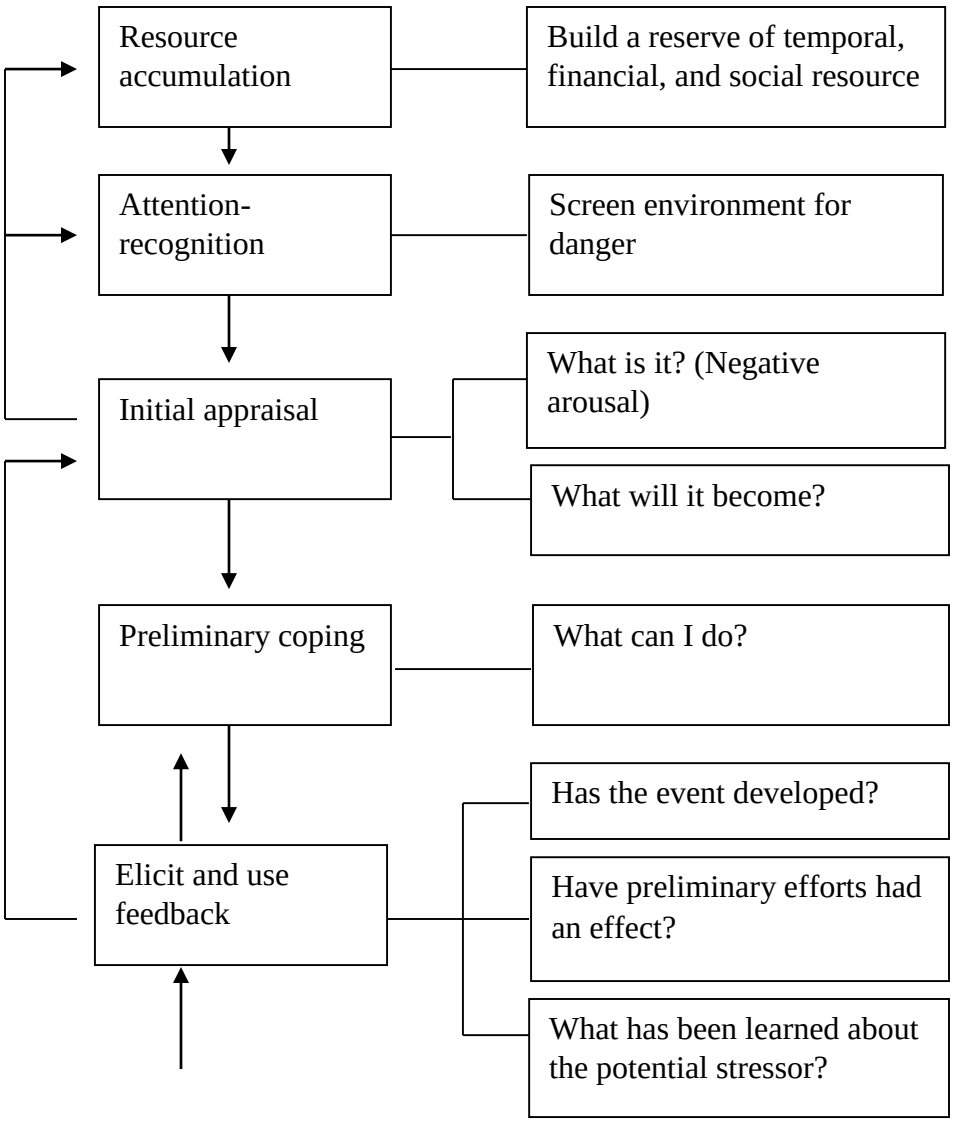
Understanding how people deal with potential stressors which may happen in the future could add a significant and important construct regarding people's coping efforts in general, and provide a more comprehensive picture of how people face various stressors in their lives. Perhaps how people cope in the face of existing stressors is at least partially determined by one's available resources and the degree of difficulty of those stressors. Clearly, both of the two factors could be affected by one's coping efforts in advance of the existing stressors, that is, one's proactive coping efforts. Moreover, one's proactive coping efforts could even eliminate potential future stressors from happening, which in turns eliminates the number of stressors people may encounter in their daily life. Finally, there is a great deal of evidence documenting the strong negative relationship between the stress people experience in their lives, and their physical and psychological health; greater understanding of people's proactive coping efforts could also contribute to improve people's physical and psychological health in general.

The newly developed Proactive Coping Inventory among Chinese college students is an 18-item four-factor model which describes four inter-correlated components of proactive coping efforts. The results indicate that the constructs of proactive coping are distinctively different from the measurements of reactive coping that primarily focus on managing stressful situations. Specifically, proactive coping consists

of positive approaches to deal with potential stressors, such as collecting material resources, establishing social capital, as well as planning, and learning from previous mistakes. When people cope proactively, their relationship with life stressors are likely to change. With the advantage of time, such proactive coping shifts from "risk management" to have a flavor of self-agency and a sense of controlling one's fate. This shift is of significant importance because its positive effects could lead to many physical and psychological benefits for people (Aspinwall & Taylor, 1997). In the current study, the results provide some promising evidence of the negative relationship between proactive coping and several indicators of psychological adjustment, such as trait anxiety, procrastination, as well as a positive relationship between proactive coping and psychological well-being, such as life satisfaction. Additional research is needed to further explore the relationship between proactive coping and other indicators of psychological and physical health. Moreover, it may be informative to further explore the proactive coping constructs in other cultural context, such as the U.S.

Figure

FIGURE 1: FIVE-STAGE PROACTIVE COPING MODEL



Table

TABLE 1: ITEMS, FACTOR LOADINGS, COMMUNALITY ESTIMATES, ITEM-TOTAL CORRELATIONS, MEANS, AND STANDARD DEVIATIONS FOR THE PROACTIVE COPING INVENTORY

	1	2	3	4	h^2	Item-total *r*	*M*	*SD*
Active Preparation for Potential Stressors								
15. To prepare for potential future stressors, I make plans and follow them.	**.57**	-.05	.06	-.07	.30	.52	3.37	.86
11. I rehearse how to deal with potential future stressors in my mind.	**.51**	.27	-.11	.11	.31	.51	3.33	.85
9. I collect different resources (e.g., materials, information, knowledge, skills, and social connections etc.) even if I don't have any potential future stressors.	**.51**	.15	-.11	-.10	.37	.58	3.49	.83
8. I collect all kinds of information because it may be useful later.	**.51**	.13	-.03	-.17	.57	.66	3.60	.76
31. I collect various resources (e.g., materials, information, knowledge, skills, and social connections etc.) to be ready "for a rainy day".	**.47**	.15	.03	-.24	.56	.70	3.60	.71
Acquiring Knowledge for Potential Stressors								
38. I make use of other people's experiences to prepare for potential future stressors.	.18	**.68**	-.10	.18	.64	.56	3.74	.63
13. I learn from other people's experiences to predict what potential future stressors may happen.	.25	**.59**	-.02	.13	.54	.62	3.75	.69
5. I take actions to prevent my previous mistakes.	.05	**.57**	-.10	-.09	.27	.54	3.84	.74
28. I reflect on my previous mistakes to predict what potential future stressors may happen.	.22	**.48**	.05	-.04	.45	.61	3.74	.69
39. I visualize that I have successfully resolved potential future stressors.	.12	**.48**	-.04	.13	.24	.45	3.67	.74
Consideration of Proactive Action								
35. Whether I do something about potential future stressors depends on how many resources I currently have to deal with them.	.06	-.08	**.65**	.14	.33	.31	3.57	.65
27. Whether I do something about potential future stressors depends on how likely they may happen.	-.01	-.01	**.62**	.17	.34	.51	3.55	.70
36. Whether I do something about potential future stressors depends on how urgent they are.	-.16	.28	**.54**	-.04	.49	.53	3.82	.66
21. Whether I do something about potential future stressors depends on how severe they are.	.11	.15	**.47**	.02	.36	.36	3.68	.68
Avoiding Proactive Actions								
*16. I only collect relevant resources when I have a particular potential future stressor in my mind.	-.11	.22	.21	**.64**	.34	.36	2.93	.92
*22. I seldom make social connections or maintain them for potential future stressors.	-.07	.04	-.00	**.62**	.40	.33	3.34	.88
*17. I seldom collect any information for potential future stressors.	-.02	-.03	.00	**.61**	.49	.55	3.43	.89
*26. I stop making efforts to deal with potential future stressors if my previous efforts do not work.	.29	-.20	.06	**.55**	.29	.50	3.27	.96

Note. $N = 233$. Participants respond to these items using five response options (1 = *Completely unlike me,* 2 = *Relative unlike me,* 3 = *Neutral*, 4 = *Relative like me*, 5 = *Completely like me*). Bold values represent factor loadings exceeding .45. * represent reverse-scored items.

TABLE 2: THE FACTOR LOADINGS OF THE FOUR-FACTOR OBLIQUE MODEL FOR THE PROACTIVE COPING INVENTORY

	Factor Loading	Uniqueness
Active Preparation for Potential Stressors		
15. To prepare for potential future stressors, I make plans and follow them.	.51	.74
11. I rehearse how to deal with potential future stressors in my mind.	.48	.77
9. I collect different resources (e.g., materials, information, knowledge, skills, and social connections etc.) even if I don't have any potential future stressors.	.74	.45
8. I collect all kinds of information because it may be useful later.	.77	.40
31. I collect various resources (e.g., materials, information, knowledge, skills, and social connections etc.) to be ready "for a rainy day".	.71	.49
Acquiring Knowledge for Potential Stressors		
38. I make use of other people's experiences to prepare for potential future stressors.	.62	.62
13. I learn from other people's experiences to predict potential future stressors.	.63	.72
5. I take actions to prevent my previous mistakes.	.40	.84
28. I reflect on my previous mistakes to predict what potential future stressors may happen.	.54	.70
39. I visualize that I have successfully resolved potential future stressors.	.23	.95
Consideration of Proactive Actions		
35. Whether I do something about potential future stressors depends on how many resources I currently have to deal with them.	.62	.62
27. Whether I do something about potential future stressors depends on how likely they may happen.	.53	.72
36. Whether I do something about potential future stressors depends on how urgent they are.	.54	.71
21. Whether I do something about potential future stressors depends on how severe they are.	.56	.69
Avoiding Proactive Actions		
16. I only collect relevant resources when I have a particular potential future stressor in my mind.	.59	.65
22. I seldom make social connections or maintain them for potential future stressors.	.61	.62
17. I seldom collect any information for potential future stressors.	.68	.54
26. I stop making efforts to deal with potential future stressors if my previous efforts do not work.	.55	.70

Note. $N = 226$. * represent reverse-scored items.

TABLE 3: INTERCORRELATIONS AMONG PROACTIVE COPING AND ITS SUBSCALES, GENERAL PROCRASTINATION, CHINESE PROBLEM SOLVING INVENTORY AND ITS SUBSCALES, TRAIT ANXIETY, SATISFACTION WITH LIFE, AND BRIEF SYMPTOM INVENTORY

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Proactive Coping Inventory	—													
2. Active Preparation for Potential Stressors	.85**	—												
3. Acquiring Knowledge for Potential Stressors	.66**	.47**	—											
4. Consideration of Proactive Actions	.43**	.19*	.27**	—										
5. Avoiding Proactive Actions	.67**	.45**	.32**	.01	—									
6. PSI-CN	-.49**	-.48**	-.34**	-.13	-.42**	—								
7. Problem Solving Confidence	-.35**	-.33**	-.26**	-.18*	-.25**	.78**	—							
8. Reflective Thinking	-.43**	-.45**	-.31**	-.21*	-.27**	.75**	.63**	—						
9. Emotional Control	-.30**	-.29**	-.19**	.06	-.37**	.67**	.19**	.13	—					
10. Satisfaction with Life	.23**	.18**	.20**	.08	.19*	-.24**	-.19*	-.07	-.24**	—				
11. General Procrastination	-.28**	-.30**	-.22**	.09	-.33**	.46**	.27**	.28**	.44**	-.20**	—			
12. Trait Anxiety	-.26**	-.21**	-.20**	-.12	-.30**	.53**	.39**	.22**	.50**	-.45**	.37**	—		
13. Brief Symptom Inventory	-.13	-.11	-.02	.03	-.20**	.31**	.23**	.11	.32**	-.32**	.28**	.67**	—	
14. BIDR	.11	.19**	-.03	-.12	.18*	-.23**	-.02	-.10	-.33**	.27**	-.33**	-.25**	-.24**	—
M	64.53	17.43	18.98	14.67	13.45	52.05	13.75	14.44	23.87	20.13	53.50	44.75	34.77	86.83
SD	6.76	2.95	2.37	1.85	2.56	10.27	4.25	4.29	5.52	5.89	10.65	8.09	13.19	16.31
Skewness	-.31	-.29	-.68	-.43	-.05	-.26	.33	.64	-.35	-.13	.22	.10	.75	-.17
Kurtosis	.42	.18	1.48	.10	-.24	.03	-.35	.42	-.19	-.69	.40	.00	-.30	.34
Actual score range	47-90	9-24	11-25	9-20	6-20	23-83	6-26	6-30	10-36	5-32	26-86	20-67	18-73	39-128
Possible range	18-90	5-25	5-25	4-20	4-20	18-108	6-36	6-36	6-36	5-35	20-100	20-80	18-90	20-140
α	.81	.76	.75	.66	.68	.83	.82	.77	.80	.85	.86	.89	.94	.77
95% CI	.78, .83	.73, .80	.71, .78	.61, .71	.63, .73	.79, .87	.77, .86	.71, .82	.75, .84	.81, .88	.82, .89	.87, .91	.92, .95	.71, .81

Note. CI = confidence intervals for alpha. PSI-CN = Chinese Problem Solving Inventory.
* $p < .05$ ** $p < .01$

TABLE 4: INTERCORRELATIONS AMONG PROACTIVE COPING AND ITS SUBSCALES, AND MOONEY PROBLEM CHECKLIST

Variable	1	2	3	4	5	6
1. Proactive Coping Inventory	__					
2. Active Preparation for Potential Stressors	.79**	__				
3. Acquiring Knowledge for Potential Stressors	.67**	.30**				
4. Consideration of Proactive Actions	.35**	.23**	.24**			
5. Avoiding Proactive Actions	.66**	.48**	.24**	.02		
6. Mooney Problem Checklist	-.09	-.14*	.01	.14*	-.17*	__
M	64.33	17.63	18.86	14.62	13.22	53.50
SD	6.15	2.88	2.17	2.09	2.60	10.65
Skewness	-.11	-.53	-.27	-.81	-.21	.22
Kurtosis	-.27	-.09	-.02	1.14	-.70	.40
Actual score range	47-82	9-24	13-24	6-19	8-19	0-269
Possible range	18-90	5-25	5-25	4-20	4-20	0-330
α	.76	.77	.70	.64	.65	__
95% CI	.71, .80	.71, .81	.61, .75	.55, .71	.57, .72	__

Note. CI = confidence intervals for alpha.
* $p < .05$ ** $p < .01$

TABLE 5: SUMMARY OF HIERARCHICAL MULTIPLE REGRESSION FOR INCREMENTAL VALIDITY

Variable	*B*	*β*	ΔR^2	R^2
General Procrastination				
Step 1			.09***	.09***
BIDR	-.20	-.30***		
Step 2			.05**	.14***
Proactive Coping	-.37	-.25**		
Problem Solving Appraisal				
Step 1			.05**	.05**
BIDR	-.15	-.23**		
Step 2			.21***	.26***
Proactive Coping	-.67	-.45***		
Trait Anxiety				
Step 1			.07**	.07**
BIDR	-.13	-.26**		
Step 2			.05**	.12***
Proactive Coping	-.26	-.22**		
Life Satisfaction				
Step 1			.07***	.07***
BIDR	.10	.27***		
Step 2			.05**	.12***
Proactive Coping	.17	.21**		

Note. BIDR = Balanced Inventory of Desirable Responding.
** $p < .01$
*** $p < .001$

Appendix A

Test Battery-English Version

Chinese Problem-solving Inventory (C-PSI)

Directions:
People respond to personal problems in different ways. The statements on this inventory deal with how people react to personal difficulties and problems in their day-to-day life. The term "problems" refers to personal problems that everyone experiences at times, such as depression, inability to get along with friends, choosing a vocation, or deciding whether to get a divorce. Please respond to the items as honestly as possible so as to most accurately portray how you handle such personal problems. Your responses should reflect what you actually do to solve problems, not how you think you should solve them. When you read an item, ask yourself: Do I ever behave this way? Please answer every item.

Read each statement and indicate the extent to which you agree or disagree with that statement, using the scale provided. Mark your responses by circling the number to the right of each statement.

1	2	3	4	5	6
Strongly agree	Moderately Agree	Slightly Agree	Slightly disagree	Moderately disagree	Strongly Disagree

1. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation.
2. When I have a problem, I think of as many possible ways to handle it as I can until I can't come up with any more ideas.
3. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation.
4. I have the ability to solve most problems even though initially no solution is immediately apparent.
5. When solving a problem, I make decisions that I am happy with later.
6. Sometimes I do not stop and take time to deal with my problems, but just kind of muddle ahead.
7. When confronted with a problem, I stop and think about it before deciding on a next step.
8. When making a decision, I compare alternatives and weigh the consequences of one against the other.
9. When I make plans to solve a problem, I am almost certain that I can make them work.
10. Given enough time and effort, I believe I can solve most problems that confront me.

11. When faced with a novel situation, I have confidence that I can handle problems that may arise.
12. Even though I work on a problem, sometimes I feel like I'm groping or wandering and not getting down to the real issue.
13. I make snap judgments and later regret them.
14. I trust my ability to solve new and difficult problems.
15. I use a systematic method to compare alternatives and make decisions.
16. When confronted with a problem, I usually first survey the situation to determine the relevant information.
17. There are times when I become so emotionally charged that I can no longer see the alternatives for solving a particular problem.
18. When confronted with a problem, I am unsure of whether I can handle the situation.

Mooney Problem Check List (MPCL)

Directions:

This is not a test. It is a list of troublesome problems which often face students in college-problems of health, money, social life, relations with people, religion, studying, selecting courses, and the like. You are to go through the list, pick out the particular problems which are of concern of you.

Read the list slowly, pause at each item, and if it suggests something which is troubling you, underline it, thus "34. Sickness in the family". Go through the whole list, underlining the items which suggest troubles (difficulties, worries) of concern to you.

1. Feeling tired much of the time
2. Being underweight
3. Being overweight
4. Not getting enough exercise
5. Not getting enough sleep
6. Too little money for clothes
7. Receiving too little help from home
8. Having less money than my friends
9. Managing my finances poorly
10. Needing a part-time job now
11. Not enough time for recreation
12. Too little chance to get into sports
13. Too little chance to enjoy art or music
14. Too little chance to enjoy radio or television
15. Too little time to myself
16. Being timid or shy
17. Being too easily embarrassed
18. Being ill at ease with other people
19. Having no close friends in college
20. Missing someone back home
21. Taking things too seriously
22. Worrying about unimportant things
23. Nervousness
24. Getting excited too easily
25. Finding it difficult to relax
26. Too few dates
27. Not meeting anyone I like to date
28. No suitable places to go on dates
29. Deciding whether to go steady
30. Going with someone my family won't accept
31. Being criticized by my parents
32. Mother
33. Father
34. Sickness in the family
35. Parents sacrificing too much for me
36. Not going to church often enough
37. Dissatisfied with church services
38. Having beliefs that differ from my church
39. Losing my earlier religious faith
40. Doubting the value of worship and prayer
41. Not knowing how to study effectively
42. Easily distracting from my work
43. Not planning my work ahead
44. Having a poor background for some subjects
45. Inadequate high school training
46. Restless at delay in starting life work
47. Doubting wisdom of my vocational choice
48. Family opposing my choices of vocation
49. Purpose in going to college not clear
50. Doubting the value of a college degree
51. Hard to study in living quarters
52. No suitable place to study on campus
53. Teachers too hard to understand
54. Textbooks too hard to understand
55. Difficulty in getting required books
56. Not as strong and healthy as I should be
57. Allergies (hay fever, asthma, hives, etc.)
58. Occasional pressure and pain in my head

59. Gradually losing weight
60. Not getting enough outdoor air and sunshine
61. Going in debt for college expenses
62. Going through school on too little money
63. Graduation threatened by lack of funds
64. Needing money for graduate training
65. Too many financial problems
66. Not living a well-rounded life
67. Not using my leisure time well
68. Wanting to improve myself culturally
69. Wanting to improve my mind
70. Want ting more chance for self-expression
71. Wanting to a more pleasing personality
72. Losing friends
73. Wanting to be more popular
74. Being left out of things
75. Having feelings of extreme loneliness
76. Moodiness, “having the blues”
77. Failing in so many things I try to do
78. Too easily discouraged
79. Having bad luck
80. Sometimes wishing I’d never been born
81. Afraid of losing the one I love
82. Loving someone who doesn’t love me
83. Too inhibited in sex matters
84. Afraid of close contact with the opposite sex
85. Wondering if I’ll even find a suitable mate
86. Parents separated or divorced
87. Parents having a hard time of it
88. Worried about a member of my family
89. Father or mother not living
90. Feeling I don’t really have a home
91. Differing from my family in religious beliefs
92. Failing to see the relation of religion to life
93. Don’t know what to believe about God
94. Science conflicting with my religion
95. Needing a philosophy of life
96. Forgetting things I’ve learned in school
97. Getting low grades
98. Weak in writing
99. Weak in spelling or grammar
100. Slow in reading
101. Unable to enter desired vocation
102. Enrolled in the wrong curriculum
103. Wanting to change to another college
104. Wanting part-time experience in my field
105. Doubting college prepares me for working
106. College too indifferent to students needs
107. Dull classes
108. Too many poor teachers
109. Teachers lacking grasp of subject matter
110. Teachers lacking personality
111. Poor posture
112. Poor complexion or skin trouble
113. Too short
114. Too tall
115. Not very attractive physically
116. Needing money for better health care
117. Needing to watch every penny I spend
118. Family worried about finances
119. Disliking financial dependence on others
120. Financially unable to get married
121. Awkward in meeting people
122. Awkward in making a date
123. Slow in getting acquainted with people
124. In too few student activities
125. Boring weekends
126. Feelings too easily hurt
127. Being talked about
128. Being watched by other people
129. Worrying how I impress people
130. Feeling inferior
131. Unhappy too much of the time
132. Having memories of an unhappy childhood

133. Daydreaming
134. Forgetting things
135. Having a certain nervous habit
136. Being in love
137. Deciding whether I'm in love
138. Deciding whether to become engaged
139. Wondering if I really know my prospective mate
140. Being in love with someone I can't marry
141. Friends not welcomed at home
142. Home life unhappy
143. Family quarrels
144. Not getting along with a member of my family
145. Irritated by habits of a member of my family
146. Parents old-fashioned in their ideas
147. Missing spiritual elements in college life
148. Troubled by lack of religion in others
149. Affected by racial or religious prejudice
150. In love with someone of a different race or religion
151. Not spending enough time in study
152. Having too many outside interest
153. Trouble organizing term papers
154. Trouble in outlining or note-taking
155. Trouble with oral reports
156. Wondering if I'll be successful in life
157. Needing to plan ahead for the future
158. Not knowing what I really want
159. Trying to combine marriage and a career
160. Concerned about military service
161. Not having a good college adviser
162. Not getting individual help from teachers
163. Not enough chances to talk to teachers
164. Teachers lacking interest in students
165. Teachers not considerate of students' feelings
166. Frequent sore throat
167. Frequent colds
168. Nose or sinus trouble
169. Speech handicap (stuttering, etc.)
170. Weak eyes
171. Working late at night on a job
172. Living in an inconvenient location
173. Transportation or commuting difficulty
174. Lacking privacy in living quarters
175. Having no place to entertain friends
176. Wanting to learn how to dance
177. Wanting to learn how to entertain
178. Wanting to improve my appearance
179. Wanting to improve my manners or etiquette
180. Trouble in keeping a conversation going
181. Being too envious or jealous
182. Being stubborn or obstinate
183. Getting into arguments
184. Speaking or acting without thinking
185. Sometimes acting childish or immature
186. Losing my temper
187. Being careless
188. Being lazy
189. Tending to exaggerate too much
190. Not taking things seriously enough
191. Embarrassed by talk about sex
192. Disturbed by ideas of sexual acts
193. Needing information about sex matters
194. Sexual needs unsatisfied
195. Wondering how far to go with the opposite sex
196. Unable to discuss certain problems at home
197. Clash of opinion between me and parents
198. Talking back to my parents
199. Parents expecting too much of me
200. Carrying heavy home responsibilities
201. Wanting more chances for religious worship
202. Wanting to understand more about the Bible
203. Wanting to feel close to God
204. Confused in some of my religious

beliefs

205. Confused on some moral questions
206. Not getting studies done on time
207. Unable to concentrate well
208. Unable to express myself well in words
209. Vocabulary too limited
210. Afraid to speak up in class discussions
211. Wondering whether further education is worthwhile
212. Not knowing where I belong in the world
213. Needing to decide on an occupation
214. Needing information about occupations
215. Needing to know my vocational abilities
216. Classes too large
217. Not enough class discussion
218. Classes run too much like high school
219. Too much work required in some courses
220. Teachers too theoretical

221. Frequent headaches
222. Menstrual or female disorders
223. Sometimes feeling faint or dizzy
224. Trouble with digestion or elimination
225. Glandular disorders (thyroid, lymph, etc.)
226. Not getting satisfactory diet

227. Tiring of the same meals all the time
228. Too little money for recreation
229. No steady income
230. Unsure of my future financial support
231. Lacking skill in sports and games
232. Too little chance to enjoy nature
233. Too little chance to pursue a hobby
234. Too little chance to read what I like
235. Wanting more worthwhile discussions with people
236. Disliking someone

237. Being disliked by someone
238. Feeling that no one understands me
239. Having no one to tell my troubles to
240. Finding it hard to talk about my troubles
241. Afraid of making mistakes
242. Can't make up my mind about things
243. Lacking self-confidence
244. Can't forget an unpleasant experience
245. Feeling life has given me a "raw deal"
246. Disappointment in a love affair
247. Girl friend
248. Boy friend
249. Breaking up a love affair
250. Wondering if I'll ever get married
251. Not telling parents everything
252. Being treated like a child at home
253. Being an only child
254. Parents making too many decisions for me

255. Wanting more freedom at home
256. Sometimes lying without meaning to
257. Pretending to be something I'm not
258. Having a certain bad habit
259. Unable to break a bad habit
260. Getting into serious trouble
261. Worrying about examination
262. Slow with theories and abstractions
263. Weak in logical reasoning
264. Not smart enough in scholastic ways
265. Fearing failure in college
266. Deciding whether to leave college for a job

267. Doubting I can get a job in my chosen vocation
268. Wanting advice on next steps after college
269. Choosing course to take next term
270. Choosing best courses to prepare for a job

271. Some courses poorly organized
272. Courses too unrelated to each other
273. Too many rules and regulation
274. Unable to take courses I want
275. Forced to take courses I don't like
276. Having considerable trouble with my teeth

277. Trouble with my hearing
278. Trouble with my feet
279. Bothered by a physical handicap
280. Needing medical advice
281. Needing a job during vacations
282. Working for all my expenses
283. Doing more outside work than is good for me
284. Getting low wages
285. Dissatisfied with my present job
286. Too little chance to do what I want to do
287. Too little social life
288. Too much social life
289. Nothing interesting to do in vocations
290. Wanting very much to travel
291. Too self-centered
292. Hurting other people's feelings
293. Avoiding someone I don't like
294. Too easily led by other people
295. Lacking leadership ability
296. Too many personal problems
297. Too easily moved to tears
298. Bothered by bad dreams
299. Sometimes bothered by thoughts of insanity
300. Thoughts of suicide
301. Thinking too much about sex matters
302. Too easily aroused sexually
303. Having to wait too long to get married
304. Needing advice about marriage
305. Wondering if my marriage will succeed
306. Wanting love and affection
307. Getting home too seldom
308. Living at home, or too close to home
309. Relatives interfering with family affairs
310. Wishing I had a different family background
311. Sometimes not being as honest as I should be
312. Having a troubled or guilty conscience
313. Can't forget some mistakes I've made
314. Giving in to temptations
315. Lacking self-control
316. Not having a well-planned college program
317. Not really interested in books
318. Poor memory
319. Slow in mathematics
320. Needing a vacation from school
321. Afraid of unemployment after graduation
322. Not knowing how to look for a job
323. Lacking necessary experience for a job
324. Not reaching the goal I've set for myself
325. Wanting to quit college
326. Grades unfair as measures of ability
327. Unfair tests
328. Campus activities poorly coordinated
329. Campus lacking in school spirit
330. Campus lacking in recreational facilities

Brief Symptom Inventory-18 (BSI-18)

Please report the extent to which you have been distressed or bothered in the previous 7 days by each symptom. Use the scale below.

Not At All				Extremely
1	2	3	4	5

1. Faintness
2. No Interest
3. Nervousness
4. Chest Pains
5. Lonely
6. Tense
7. Nausea
8. Blue
9. Scared
10. Short of Breath
11. Worthlessness
12. Panic Episodes
13. Numb or Tingling
14. Hopelessness
15. Restlessness
16. Body weakness
17. Pessimistic thoughts of life
18. Fearful

Satisfaction with Life Scale (SWLS)

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
1	2	3	4	5	6	7

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

State-Trait Anxiety Inventory, Trait version (STAI-T)

Directions: a number of statements which people have used to describe themselves are given below. Read each statement and then mark the appropriate number on the sheet to indicate how you GENERALLY feel. There is no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you GENERALLY feel.

Almost never	Sometimes	Often	Almost always
1	2	3	4

1. I feel pleasant.
2. I tire quickly.
3. I feel like crying.
4. I wish I could be as happy as others seem to be.
5. I am losing out on things because I can't make up my mind soon enough.
6. I feel rested.
7. I am "calm, cool, and collected".
8. I feel that difficulties are pulling up so that I cannot overcome them.
9. I worry too much over something that really doesn't matter.
10. I am happy.
11. I am inclined to take things hard.
12. I lack self-confidence.
13. I feel secure.
14. I try to avoid facing a crisis or difficulty.
15. I feel blue.
16. I am content.
17. Some unimportant thought runs through my mind and bothers me.
18. I take disappointments so keenly that I can't put them out of my mind.
19. I am a steady person.
20. I get in a state of tension or turmoil as I think over my recent concerns and interests.

General Procrastination Scale-Student (GP-S)

The response format we now use is:

Extremely uncharacteristic				Extremely characteristic
1	2	3	4	5

1. I often find myself performing tasks that I have intended to do days before.
2. I do not do assignments until just before they are to be handed in.
3. When I am finished with a library book, I return it right away regardless of the date it's due.
4. When it is time to get up in the morning I most often get right out of bed.
5. A letter may sit for days after I write it before mailing it.
6. I generally return phone calls promptly.
7. Even with jobs that require little else except sitting down and doing them, I find they seldom get done for days.
8. I usually make decisions as soon as possible.
9. I generally delay before starting on work I have to do.
10. I usually have to rush to complete a task on time.
11. When preparing to go out, I seldom caught having to do something at the last minute.
12. In preparing for some deadlines, I often waste time by doing other things.
13. I prefer to leave early for an appointment.
14. I usually start an assignment shortly after it is assigned.
15. I often have a task finished sooner than necessary.
16. I always seem to end up shopping for birthday or Christmas gifts at the last minute.
17. I usually buy even an essential item at the last minute.
18. I usually accomplish all the things I plan to do in a day.
19. I am continually saying "I'll do it tomorrow".
20. I usually take care of all the tasks I have to do before I settle down and reflex for the evening.

BIDR-Impression Management Subscale (IM)

Using the scale below as a guide, choose a number to indicate how true it is.

Not true			Somewhat			Very true
1	2	3	4	5	6	7

1. I sometimes tell lies if I have to.
2. I never cover up my mistakes.
3. There have been occasions when I have taken advantage of someone.
4. I never swear.
5. I sometimes try to get even rather than forgive and forget.
6. I always obey laws, even if I'm unlikely to get caught.
7. I have said something bad about a friend behind his/her back.
8. When I hear people talking privately, I avoid listening.
9. I have received too much change from a salesperson without telling him or her.
10. I always declare everything at customs.
11. When I was young I sometimes stole things.
12. I have never dropped litter on the street.
13. I sometimes drive faster than the speed limit.
14. I never read sexy books or magazines.
15. I have done things that I don't tell other people about.
16. I never take things that don't belong to me.
17. I have taken sick-leave from work or school even though I wasn't really sick.
18. I have never damaged library book or store merchandise without reporting it.
19. I have some pretty awful habits.
20. I don't gossip about other people's business.

Test Battery-Chinese Version

问题解决问卷中文版

说明：每个人都有不同的方法面对自己的问题。本量表是叙述人们如何面对他们日常生活中的问题。这里所谓的“问题”是指人们有时会经历到的个人问题，例如：情绪沮丧，无法和朋友相处，前途的抉择，或决定是否要分手。回答时，请尽可能诚实的描述你如何处理个人的问题。就是说，你的答案是反映你“实际上如何做”，而不是你认为“应该如何做”。回答时，请问你自己：我是这样做的吗？请注意：每一道题都要回答。

请阅读每一道题，并选择适当的数字描述你同意或不同意每一个句子的程度。

1	2	3	4	5	6
非常同意					非常不同意

1. 当我为解决一个问题所作的第一次努力失败时，我会对自己处理事情的能力感到不安。
2. 当我有一个问题时，我会尽量想出所有可能解决问题的方法去处理它，直到我无法再想出其他的点子为止。
3. 碰到一个问题时，我会持续的检视自己对问题的感受，以确定这个问题到底是怎么一回事。
4. 即使一开始未能立刻找到解决问题的方法，我仍相信我有能力去解决大部分的问题。
5. 我在解决一个问题时所作的决定，之后会令我感到满意。
6. 有些时候，我没有停下来花时间去处理我的问题，而只是让自己马马虎虎或漫无计划的进行。
7. 当面对一个问题时，我会先停下来想想之后，才决定下一个步骤。
8. 当作一个决定时，我会比较每种方式并权衡轻重。
9. 当我做计划解决一个问题时，我几乎有信心我可以使我的计划行得通。
10. 只要有充分的时间与努力，我相信我可以解决大多数我所面对的问题。
11. 当面对一个新的情况时，我有信心自己有能力处理可能会产生的问题。
12. 即使我已开始处理问题，有时我觉得自己只是在摸索与徘徊，并没有掌握到真正问题的所在。
13. 当面对问题时，我急促的作判断而事后懊悔。
14. 我相信自己具有解决新问题与困难问题的能力。
15. 我运用一套有系统的方法去比较各种解决问题的方式，然后才作决定。
16. 当面对一个问题时，我通常先研究问题的情况来决定哪些是对解决问题有用的信息。
17. 有时我会太情绪化，而无法想出其他解决某个问题的方法。
18. 当面对一个问题时，我不确定我是否可以处理好它。

孟氏问题清单

这不是一个测验，而是大学生常常遇到的一系列困难的清单（如健康，钱，社交生活，与他人的关系，宗教信仰，学习，选课等）。你需要读完这个清单，选出那些困扰你的问题。

请慢慢的读这个清单，在每个句子上停顿一下。如果这个困难困扰了你，请选择“是”。否则，请选择“否”。

1. 大多数时候都很疲倦
2. 过瘦
3. 过胖
4. 缺乏锻炼
5. 缺乏睡眠
6. 买衣服的钱太少
7. 家里的支持太少
8. 钱比我的朋友少
9. 理财能力不足
10. 现在需要一个兼职工作
11. 没有足够的时间玩乐
12. 很少有运动的机会
13. 少有机会享受艺术或音乐
14. 少有机会听广播或看电视
15. 给自己的时间太少
16. 胆小或害羞
17. 太容易感到尴尬
18. 跟别人在一起不自在
19. 大学里没有亲密的朋友
20. 想念家乡的人
21. 对待事情太认真
22. 担忧不重要的事情
23. 神经紧张
24. 太容易激动
25. 很难放松
26. 约会太少
27. 没有喜欢的人
28. 没有合适的地方约会
29. 需要决定是否稳定下来
30. 和家里不认可的人约会
31. 被父母挑剔
32. 妈妈
33. 爸爸
34. 家里有人生病了
35. 父母为我牺牲很多
36. 去教堂的次数不够
37. 对教堂服务不满意
38. 有一些信仰与我的教堂的信仰不同
39. 丧失早先的宗教信仰
40. 质疑礼拜和祈祷的价值
41. 不知道如何有效率的学习
42. 很容易从工作中分心
43. 没有提前计划我的工作
44. 某些学科的基础不足
45. 高中教育不足
46. 对延迟开始工作（life work）感到焦虑
47. 怀疑我的职业选择
48. 家人反对我的职业选择
49. 上大学的目标不明确
50. 怀疑大学文凭的价值
51. 在宿舍里很难学习
52. 学校里没有合适的地方学习
53. 老师们难以理解
54. 教科书难以理解
55. 很难买到教科书
56. 不够强壮和健康
57. 过敏（花粉热，哮喘，荨麻疹等）
58. 偶尔的压力和头痛
59. 逐渐消瘦
60. 没有得到足够的户外空气和阳光
61. 因为大学花费而欠债
62. 用很少的钱上大学
63. 因缺钱而可能无法毕业
64. 需要钱读研究生
65. 太多的财务问题
66. 生活不够丰富多彩
67. 没有好好利用我的休闲时光
68. 想提高个人素质
69. 想增长智慧
70. 想要更多自我表达的机会
71. 想要更惹人喜爱的个性
72. 失去朋友
73. 想要更受欢迎
74. 在某些事情上被忽略或排斥了
75. 感到极度孤独
76. 情绪化，“情绪低沉”
77. 在很多事情上都失败了
78. 很容易沮丧
79. 运气很糟糕
80. 有时候希望自己没出生
81. 害怕失去我爱的人
82. 爱上一个不爱我的人
83. 没有性体验
84. 害怕与异性近距离接触
85. 怀疑我是否能找到合适的伴侣
86. 父母分居或离婚
87. 父母在过苦日子
88. 担心我的某个家庭成员
89. 父亲或母亲去世了
90. 感觉我并不是真的拥有一个家
91. 与我家人的宗教信仰不同
92. 无法看到宗教信仰与我生活的关系
93. 不知道如何信仰上帝

94. 科学与我的宗教信仰冲突
95. 需要找到自己的生活哲学
96. 忘记了我在学校学习的东西
97. 成绩不好
98. 不擅长写作
99. 不擅长拼写或语法
100. 阅读慢
101. 得不到想要的职位
102. 上的专业不合适
103. 想转学校
104. 想在我的专业领域里作兼职工作
105. 质疑大学是否为我今后的工作做准备
106. 大学对学生的需要照顾不够
107. 课程无聊
108. 太多不好的老师
109. 老师们缺乏对所教课程的了解
110. 老师们缺少个性
111. 缺乏自己的立场
112. 肤色或皮肤不好
113. 太矮
114. 太高
115. 长得不够吸引人
116. 需要钱做更好的健康保健
117. 需要精打细算
118. 家里面担心钱的问题
119. 不愿意在钱上依赖别人
120. 因为钱的缘故不能结婚
121. 跟人见面很笨拙
122. 跟人约会很笨拙
123. 跟人熟悉起来很慢热
124. 参加的学生活动太少
125. 周末很无聊
126. 感情上很容易受伤
127. 被别人议论
128. 被别人监视
129. 担心如何让人印象深刻
130. 感觉低人一等
131. 太多的时间都不快乐
132. 有不快乐的童年记忆
133. 做白日梦
134. 健忘
135. 有个紧张时的习惯动作
136. 陷入爱情
137. 要决定是否恋爱
138. 要决定是否订婚
139. 怀疑我是否真的了解将来会成为我另一半的人
140. 爱上了一个不能跟我结婚的人
141. 家里不欢迎我的朋友
142. 家庭生活不快乐
143. 家庭争吵
144. 与家里的某个家庭成员合不来
145. 烦恼于某个家庭成员的习惯
146. 父母的思想老旧保守
147. 大学生活缺少精神信仰
148. 对于其他人缺少宗教信仰感到苦恼
149. 受到种族或宗教信仰偏见的影响
150. 爱上了一个不同种族或有不同宗教信仰的人
151. 没有花足够的时间在学习上
152. 额外的兴趣太多
153. 在写期末论文上有困难
154. 在列提纲或做笔记上有困难
155. 在做口头报告上有困难
156. 怀疑我将来是否会成功
157. 需要为将来早做计划
158. 不知道我真正想要的是什么
159. 需要结合婚姻和事业
160. 担心服军役
161. 没有一个好的大学导师
162. 没有从老师那儿获得单独的帮助
163. 没有足够的机会跟老师谈话
164. 老师们对学生没有兴趣
165. 老师们不考虑学生的感受
166. 频繁的喉咙痛
167. 频繁的感冒
168. 鼻子或鼻窦问题
169. 说话障碍（口吃等）
170. 视力不好
171. 工作到深夜
172. 所住的地方交通不方便
173. 交通或通勤有困难
174. 在宿舍缺少隐私
175. 没有地方招待朋友
176. 想学跳舞
177. 想学习如何招待别人
178. 想改善我的外表
179. 想改善我的举止或礼仪
180. 苦恼于如何保持谈话
181. 太过嫉妒
182. 过于固执或倔强
183. 陷于争吵之中
184. 不经思考的说话或做事
185. 有时候表现得孩子气或不成熟
186. 发脾气
187. 漫不经心
188. 懒惰
189. 容易过于夸张
190. 对待事情不够认真
191. 对谈论性感到尴尬
192. 对于性行为的想法感到困扰

193. 需要了解性知识
194. 性需要没有得到满足
195. 考虑要跟异性进展到什么程度
196. 在家里有些事情不能谈
197. 跟父母的意见有冲突
198. 跟父母顶嘴
199. 父母对我的期望太高
200. 承担很重的家庭责任
201. 想有更多机会参与宗教礼拜的仪式
202. 想对圣经有更多了解
203. 想与上帝感到亲近
204. 对我的某些宗教信仰感到困惑
205. 对某些道德问题感到困惑
206. 不能按时完成学业
207. 无法集中精神
208. 无法用语言很好地表达自己
209. 词汇贫乏
210. 害怕参与课堂讨论
211. 质疑继续进修是否值得
212. 不知道我在这个世上的位置
213. 需要决定自己的职业
214. 需要关于职业的信息
215. 需要了解我的职业技能
216. 课堂太大了
217. 课堂讨论不够
218. 课堂太像高中
219. 有些课的作业太多
220. 老师们太理论化
221. 频繁的头痛
222. 经痛或女性的疾病
223. 有时感到虚弱或眩晕
224. 消化或排泄问题
225. 腺上的毛病（甲状腺，淋巴等）
226. 对饮食不满意
227. 厌倦一直吃同样的东西
228. 娱乐的钱太少
229. 没有稳定的收入
230. 不确定未来的财务保证
231. 缺乏运动或游戏技能
232. 太少机会享受大自然
233. 太少机会培养一个兴趣爱好
234. 太少机会读一点我喜欢的东西
235. 想要与人有多一点有价值的讨论
236. 不喜欢某个人
237. 不被某个人所喜欢
238. 感觉没人理解我
239. 没有人可以让我谈谈自己的烦恼
240. 觉得谈论自己的烦恼有困难
241. 害怕犯错误
242. 对事情犹豫不决
243. 缺乏自信
244. 无法忘记一段不愉快的经历
245. 感觉生活给了我不公平的待遇
246. 在一场感情里觉得失望
247. 女朋友
248. 男朋友
249. 恋爱分手
250. 怀疑我是否最终会结婚
251. 不能告诉父母所有的事
252. 在家里被当成小孩子一样的对待
253. 是独子
254. 父母替我做了太多的决定
255. 希望在家里有更多的自由
256. 有时候无意的撒谎
257. 假装成一个不是自己的人
258. 有某个坏习惯
259. 不能改掉坏习惯
260. 陷入严重的麻烦事
261. 担心考试
262. 理解理论和抽象的概念比较慢
263. 不擅长逻辑推理
264. 不擅长学术
265. 害怕在大学里失败
266. 在决定是否因一份工作而离开大学
267. 怀疑我是否能在自己选择的职业里找到一份工作
268. 希望得到大学之后下一步怎么走的建议
269. 选择下学期要修的课
270. 选择合适的课程为工作做准备
271. 有一些课程安排的很糟糕
272. 课程之间太不相关
273. 太多规章制度
274. 不能够修我想修的课
275. 不得不选修我不喜欢的课
276. 牙齿有相当大的问题
277. 听觉有问题
278. 脚有问题
279. 受到身体残疾的困扰
280. 需要医疗建议
281. 假期中需要一个工作
282. 打工挣我所有的花费
283. 做过多额外的工作，超出了对我有利的状况
284. 收入低
285. 对现有的工作不满意
286. 很少有机会做我想做的事
287. 太少社交生活
288. 太多社交生活

289. 假期没有做什么有趣的事
290. 渴望去旅行
291. 太以自我为中心
292. 伤害别人的感受
293. 回避某个我不喜欢的人
294. 太容易被他人指使
295. 缺乏领导能力
296. 太多个人问题
297. 太容易因感动而哭
298. 被噩梦困扰
299. 有时候被疯狂、荒唐的想法所困扰
300. 自杀的想法
301. 花太多时间想跟性有关的事
302. 太容易性兴奋
303. 需要等太长的时间才能结婚
304. 需要关于结婚的建议
305. 怀疑我的婚姻是否能够成功
306. 渴望爱和情感
307. 很少回家
308. 住在家里，或离家太近
309. 亲戚干预家庭事务
310. 期望我有不同的家庭背景
311. 有时候不如我应该的诚实
312. 心有愧疚或亏欠
313. 无法忘记我所犯的一些错误
314. 屈服于诱惑
315. 缺乏自控
316. 大学课程没有计划好
317. 并不真的对书本感兴趣
318. 记忆力不好
319. 做数学很慢
320. 需要个假期
321. 害怕毕业后失业
322. 不知道怎么找工作
323. 缺乏某个工作的相关技能
324. 不能达到我为自己设定的目标
325. 等待退学
326. 用成绩来评估能力不公平
327. 测验不公平
328. 校园活动协调的很糟糕
329. 学校缺少大学的精神
330. 学校缺少娱乐设施

简明症状问卷

请在一下量表中选出你在过去 7 天里是否有被如下的状况所困扰。

	完全没有				非常
1. 头晕	1	2	3	4	5
2. 失去兴趣	1	2	3	4	5
3. 情绪不安	1	2	3	4	5
4. 胸口疼痛	1	2	3	4	5
5. 孤独	1	2	3	4	5
6. 紧张	1	2	3	4	5
7. 反胃	1	2	3	4	5
8. 沮丧	1	2	3	4	5
9. 害怕	1	2	3	4	5
10. 气短	1	2	3	4	5
11. 失去意义	1	2	3	4	5
12. 恐慌症状	1	2	3	4	5
13. 麻木或异常兴奋	1	2	3	4	5
14. 没希望	1	2	3	4	5
15. 烦躁不安	1	2	3	4	5
16. 身体虚弱	1	2	3	4	5
17. 有自杀的想法	1	2	3	4	5
18. 恐惧	1	2	3	4	5

生活满意度量表

请仔细阅读下列5项，并根据旁边1至7的指标，圈上适当的数字，表达你对各项的同意程度。请以开明和诚实的态度作答。

	非常不同意	不同意	稍微不同意	中立	稍微同意	同意	非常同意
1. 我的生活大致符合我的理想。	1	2	3	4	5	6	7
2. 我的生活状况非常圆满。	1	2	3	4	5	6	7
3. 我满意自己的生活。	1	2	3	4	5	6	7
4. 至今为止，我已经得到生命中希望拥有的重要东西。	1	2	3	4	5	6	7
5. 如果我能够重新活过，我几乎没什么想改变的。	1	2	3	4	5	6	7

特质焦虑量表

下面列出的是人们常常用来描述他们自己的一些陈述，请阅读每一个陈述后，然后在右边恰当的数字上画圈，来表示你通常的感受。答案没有对错之分。不要对任何一个陈述花太多的时间去考虑，但所给的回答应该是你平常所感觉到的。

	完全没有	有时	常常	几乎总是
1. 我感到愉快。	1	2	3	4
2. 我感到神经过敏和不安。	1	2	3	4
3. 我对自己感到满意。	1	2	3	4
4. 我希望能像别人那样快乐。	1	2	3	4
5. 我觉得自己是个失败者。	1	2	3	4
6. 我感到很宁静。	1	2	3	4
7. 我是平静的、冷静的和泰然自若的。	1	2	3	4
8. 我感到困难一一堆积起来，因此无法克服。	1	2	3	4
9. 我过分忧虑一些无关紧要的事。	1	2	3	4
10. 我是快乐的。	1	2	3	4
11. 我有一些令我困扰的想法。	1	2	3	4
12. 我缺乏自信心。	1	2	3	4
13. 我感到安全。	1	2	3	4
14. 我容易做出决断。	1	2	3	4
15. 我感到自己有不足。	1	2	3	4
16. 我是满足的。	1	2	3	4
17. 一些不重要的想法总缠着我，并打扰我。	1	2	3	4
18. 我产生的沮丧是如此强烈，以致我不能把它们清除出我的脑海。	1	2	3	4
19. 我是一个镇定的人。	1	2	3	4
20. 当考虑我目前关心的事情和利益时，我就陷入紧张状态。	1	2	3	4

一般拖延量表--学生版

人们会用以下的一些陈述来描述自己。使用下面的 5 点量表来决定下面的每一个表述是否符合对你的描述。注意量表上的 3 表示中立，也就是说这个陈述既没有符合对你的表述，也没有不符合对你的表述。请在旁边圈出最能够描述你的数字。

	非常不符合	一般不符合	中立	一般符合	非常符合
1. 我经常发现自己在做几天前就已经打算要做的事情。	1	2	3	4	5
2. 我不到要交作业之前不会做作业。	1	2	3	4	5
3. 读完借阅的书籍之后，不过是否到期，我都会立刻归还给图书馆。	1	2	3	4	5
4. 早晨到起床时间时，我总是马上就起来。	1	2	3	4	5
5. 信写完之后，我可能会放几天才寄出。	1	2	3	4	5
6. 我总是迅速回电话。	1	2	3	4	5
7. 即使是非常简单、容易完成的工作，我也很少在几天内做完。	1	2	3	4	5
8. 我通常会尽快的作出决定。	1	2	3	4	5
9. 我总是推迟必须要做的工作。	1	2	3	4	5
10. 我通常不得不急急忙忙的赶工作以便能按时完成。	1	2	3	4	5
11. 准备外出时，我很少最后时刻还要做什么。	1	2	3	4	5
12. 在为最后期限做准备时，我经常浪费时间做其他事情。	1	2	3	4	5
13. 我更喜欢提前赴约。	1	2	3	4	5
14. 我通常做作业布置之后很快就开始做它。	1	2	3	4	5
15. 我通常提前完成任务。	1	2	3	4	5
16. 我似乎总是到最后一刻才去选购生日或节日礼物。	1	2	3	4	5
17. 即使是必需品，我也通常拖到最后一刻才买。	1	2	3	4	5
18. 我通常会完成一天内计划好的所有事情。	1	2	3	4	5
19. 我总说“我明天会做”。	1	2	3	4	5
20. 在晚上休息放松之前，我通常会处理好必须完成的所有任务。	1	2	3	4	5

期待性回答平衡问卷（BIDR）

用下面的数字在每一陈述的右边表示你同意的程度。

1 2 3 4 5 6 7

完全不同意 非常同意

1. 如果迫不得已，我有时说些谎话。
2. 我从不掩盖自己的错误
3. 我有过利用别人的时候。
4. 我从不咒骂别人。
5. 我有时想以牙还牙，不想原谅或忘记了事。
6. 我总是遵纪守法，即使不可能被发现也一样。
7. 我曾在背后说过朋友的坏话。
8. 当我看到别人进行私人谈话，我尽量避开以免听见。
9. 我曾悄悄收下多找给我的钱。
10. 在海关，我总是如数申报所有东西。
11. 小时候，我有时偷东西。
12. 我从来不在街上扔脏东西。
13. 我有时超速驾车。
14. 我从来不看色情书刊。
15. 我做过一些谁也不知道的事情。
16. 我从来不拿不属于自己的东西。
17. 我曾经在并没生病时，向单位或学校请病假。
18. 我从来没有损坏了图书馆的书或商店的东西而又不说的情况。
19. 我有些很不好的习惯。
20. 我不对别人的事情说长道短。

Appendix B

Informed Consent-English Version

Title of Study
Development and Validation of a Proactive Coping Inventory

Purpose of Study
This research will be used for a dissertation at University of Missouri. The purpose of this study is to develop a scale that measures how people cope with potential stressful situations which has not happened yet. This study intends to understand how people cope with potential stressful situations which may happen in the future.

Description of Procedure
If you agree to participate in this study, you will complete an online survey, which will take about 20-30 minutes. After the data collection process complete, the researcher will contact you through email and let you know how to receive your compensation (which is described below).

Benefits and Risks
There will be no direct benefit to you besides reflecting on your experiences. We hope that the information gained in this study will contribute to our understanding of how people cope with potential stress. This study poses minimal risk to participants. You may skip any questions that you feel uncomfortable answering. Your participation in this study is voluntary and you may stop participation at any time without penalty.

Compensation
As a way to express appreciation for your time and efforts, you may choose one of two options.
Option One: you may join a drawing to win one of twenty $20 for participating in the study; the drawing will be held after the completion of all data collection and winners will be notified via email.
Option Two: you may choose to receive a small gift (worth around 20 cents) after your completion of the survey. You will receive the gift from your instructor.

Confidentiality
Your participation in this study will be completely anonymous. Your email address will not be linked with your survey responses and will only be used to contact you about the raffle results or the gift.

Questions or Problems
You may ask questions about the research. Lu Tian is the primary researcher of this study and can be reached at lt4x5@mail.missouri.edu. You may also contact the University of Missouri Campus Institutional Review Board at (573) 882-9585 or umcresearchcirb@missouri.edu, if you have any questions about the rights of research participants.
Thank you for taking the time to assist me in this research. We recommend that you either print out or copy and paste this page and keep it for your own records.
By clicking "Yes" below, you indicate that you have read this form and give your consent to participate in this study.

Informed Consent-Chinese Version

研究名称

前瞻性应对量表的编制及信、效度研究

研究目的

本研究意在建立一个量表，用于测量人们如何应对那些将来可能会发生的困难（如可能的人际关系困难，学习压力，职业问题，健康问题，财务困难，天灾，车祸等）。

流程

如果你同意参加此次研究，接下来，你将会填写几个问卷。这大概会花费你 20-30 分钟的时间。

报酬

为了表达对你的时间和努力的感谢，你可以选择以下的两种方式之一作为我们的报酬：

方式一：你可以参与我们的抽奖活动（将会有 20 个人获得 20 美元的报酬）。抽奖将会在所有问卷收集完成之后举行。获奖者会通过电子邮件收到通知。

方式二：你也可以选择在完成问卷后接受一个小礼物（这意味着你将不参与抽奖）。在确认你完成问卷后，你会从你的老师那里收到这个礼物。

匿名

你的参与完全是匿名的。你的邮箱地址将用于：（1）确认你是否完成问卷；（2）通知你抽奖活动的结果，或通知你的老师你可以收到这个小礼物。我无法通过你的邮箱地址连接到你的问卷答案，而仅仅能知道你是否作答了。

利益及危害

参与到这个研究当中不会给你带来直接的利益。我们希望从本研究中得到的信息可以用于更好的了解人们是如何应对那些将来可能会发生的困难。

本研究基本不会对参与者产生任何危害。如果在回答某个问题时感觉不适，你可以跳过这个问题。你对本研究的参与完全自愿，而且可以在任何时候选择停止参与。

问题或顾虑

如果你对本研究有任何问题或顾虑，请联系本研究的主要研究者：田璐。你可以随时发邮件到 lt4x5@mail.missouri.edu.

感谢您花时间参与本研究。我建议你保存一份本同意书以作存档。

通过选择下面的“同意”，你表示你已经阅读的此同意书，并且同意参加本研究。

Appendix C

Interview Protocol

1. Introduction of the research
2. Confidentiality & Recording
3. Proactive Coping behaviors
    - Do you do anything to prevent, intervene with, or prepare for potential future stressors?
        i. What did you do?
        ii. What's your thinking process when you do them?
    - Can you describe your behaviors related to potential future stressors in different area of your life?
        i. Academic and work
        ii. Relationship / Interpersonal
        iii. Daily life
        iv. Money
        v. Healthy
4. How do you know or find out potential future stressors?
5. When thinking of potential future stressors, there are different kinds of them:
    - Do you always do something with potential future stressors?
    - If not, how would you decide when to take actions and when not?
6. Can you describe how your actions aimed at potential future stressors affect you?

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