The Potential Utility of Daoist Theory and Practice in Psychology

by

Christopher Cott
BAppSc(Psych)(Hon)

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I am the author of the thesis entitled **The potential utility of Daoist theory and practice in psychology**

submitted for the degree of **Doctor of Philosophy**

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Full Name: ........Christopher Charles Paxton Cott...........................

Signed: ....................................................................................

Date: .................................16/11/2012....................................
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# Table of Contents

LIST OF TABLES ........................................................................................................... vii

ABSTRACT ................................................................................................................... ix

INTRODUCTION ............................................................................................................. 1

PART A – STRESS AND COPING

CHAPTER 1: STRESS .................................................................................................... 5

  Defining Stress ........................................................................................................... 5

  Stress in the environment ......................................................................................... 6

  Physiological reactions .............................................................................................. 8

  Psychological factors ................................................................................................. 12

  Appraisal .................................................................................................................... 13

  Summary ..................................................................................................................... 15

CHAPTER 2: COPING ..................................................................................................... 16

  Theories of Coping .................................................................................................... 17

  Psychological Hardiness ............................................................................................ 24

  Recent Research into Stress and Coping .................................................................. 26

    Coping in wartime .................................................................................................. 27

    Coping and personality ......................................................................................... 28

    Coping over the lifespan ....................................................................................... 30

    Coping and culture ................................................................................................. 31

    Coping and spirituality ......................................................................................... 34

  Summary ..................................................................................................................... 36

PART B – DAOISM

CHAPTER 3: DAOISM .................................................................................................. 39
Prior Psychological Research into Daoism ................................................ 63
Analytical Psychology and the contribution of Jung ......................... 64
Humanistic Psychology ................................................................. 67
Empirical studies ........................................................................... 72
Asian Psychologies ........................................................................ 76
Summary .......................................................................................... 79

PART C – DAOIST COPING

CHAPTER 5: DAOIST MODELS OF COPING ................................. 82
The Daoist Experience ...................................................................... 82
Appraisal ......................................................................................... 84
Coping Strategies ........................................................................... 85
Hardiness ......................................................................................... 87
The Studies ....................................................................................... 88
Summary .......................................................................................... 89

PART D – STUDIES

CHAPTER 6: STUDY 1 - DEVELOPING THE QUESTIONNAIRE .......... 91
Method .............................................................................................. 91
Participants ...................................................................................... 91
Materials ......................................................................................... 92
Procedure ......................................................................................... 99
Results ............................................................................................ 100
Discussion ....................................................................................... 103

CHAPTER 7: STUDY 2 - TESTING THE QUESTIONNAIRE WITH A
CHINESE SAMPLE ................................................................. 105
Method ............................................................................................ 105
Participants .................................................................................................. 105
Materials ....................................................................................................... 105
Procedure ..................................................................................................... 106
Results ........................................................................................................... 107
  Determining a factor structure ................................................................. 107
  Reliability analysis .................................................................................... 112
  Validating the Brief COPE and PSS .......................................................... 113
  Comparing the DQ to the Brief COPE and PSS ........................................ 114
Discussion .................................................................................................... 122

CHAPTER 8: STUDY 3 - COMPARISON OF A STUDENT AND CLINICAL
SAMPLE ON THE DQ .................................................................................... 125
  Method ....................................................................................................... 125
  Participants ............................................................................................... 125
  Materials ................................................................................................... 126
  Procedure .................................................................................................. 126
Results ........................................................................................................... 126
Discussion .................................................................................................... 128

CHAPTER 9: STUDY 4 - TESTING THE QUESTIONNAIRE WITH AN
AUSTRALIAN SAMPLE ................................................................................ 130
  Method ....................................................................................................... 130
  Participants ............................................................................................... 130
  Materials ................................................................................................... 130
  Procedure .................................................................................................. 131
Results ........................................................................................................... 132
Testing the factor structure ....................................................................... 132
### List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>DQ, PSS, Brief COPE, and age correlations</td>
<td>116</td>
</tr>
<tr>
<td>Table 2</td>
<td>DQ Total and Brief COPE on PSS regression summary</td>
<td>118</td>
</tr>
<tr>
<td>Table 3</td>
<td>Model 1: Brief COPE on PSS coefficients</td>
<td>119</td>
</tr>
<tr>
<td>Table 4</td>
<td>Model 2: DQ Total and Brief COPE on PSS coefficients</td>
<td>120</td>
</tr>
<tr>
<td>Table 5</td>
<td>DQ subscales and Brief COPE on PSS regression summary</td>
<td>120</td>
</tr>
<tr>
<td>Table 6</td>
<td>Model 2: DQ subscales and Brief COPE on PSS coefficients</td>
<td>121</td>
</tr>
<tr>
<td>Table 7</td>
<td>DQ Total comparison for a Chinese student and Chinese clinical sample</td>
<td>127</td>
</tr>
<tr>
<td>Table 8</td>
<td>Multivariate effects of Sample and covariates (Age and Gender) on combined DQ subscale scores</td>
<td>128</td>
</tr>
<tr>
<td>Table 9</td>
<td>DQ subscale comparisons for a Chinese student and Chinese clinical sample</td>
<td>128</td>
</tr>
<tr>
<td>Table 10</td>
<td>DQ Total comparison for an Australian and Chinese sample</td>
<td>138</td>
</tr>
<tr>
<td>Table 11</td>
<td>Multivariate effects of Sample and covariates on combined DQ subscale scores</td>
<td>139</td>
</tr>
<tr>
<td>Table 12</td>
<td>DQ subscale comparisons for an Australian and Chinese sample</td>
<td>140</td>
</tr>
<tr>
<td>Table 13</td>
<td>DQ, PSS, Brief COPE, and age correlations</td>
<td>142</td>
</tr>
<tr>
<td>Table 14</td>
<td>DQ Total and Brief COPE on PSS regression summary</td>
<td>144</td>
</tr>
<tr>
<td>Table 15</td>
<td>Model 1: Gender and Age on PSS coefficients</td>
<td>144</td>
</tr>
<tr>
<td>Table 16</td>
<td>Model 2: Gender, Age, and Brief COPE on PSS coefficients</td>
<td>145</td>
</tr>
<tr>
<td>Table 17</td>
<td>Model 3: Gender, Age, Brief COPE, and DQ Total on PSS coefficients</td>
<td>146</td>
</tr>
</tbody>
</table>
Table 18  *DQ subscales and Brief COPE on PSS regression summary* .......... 147

Table 19  *Model 3: Gender, Age, Brief COPE, and DQ subscales on PSS coefficients* ........................................................................................................... 148
Abstract

Although there has been growing interest in Eastern philosophy and practice in the West, Daoism, one of the major world religions, has to date received limited attention from modern psychological researchers. This thesis argues that modern psychological practice and theory could find significant benefit in an interaction with Daoist ideas and praxis, particularly in the area of stress. After reviewing current stress and coping literature and introducing the main ideas of Daoism, the thesis goes on to examine how these two areas might be related and may benefit from mutual interaction. Following this, some preliminary studies into the area are presented, wherein a questionnaire to measure Daoist thinking style was developed and utilised to examine the relationship between Daoist thinking style and mental health. In a Chinese population, Daoist thinking style was associated with lower levels of stress, and a clinical population scored significantly lower on Daoist thinking style than a healthy student population. The questionnaire did not translate readily into an English speaking population and possible reasons for this are discussed. Despite these difficulties, comparisons seemed to demonstrate that Daoist thinking style is more prevalent in Chinese populations, as might be expected given Daoism was developed and evolved predominantly in China. Furthermore, the questionnaire seemed to indicate that Daoist thinking style was associated with lower levels of stress in the Australian sample as well, although this effect was already largely captured by existing measures of coping. The thesis concludes with a discussion of these findings and suggestions for where the field might focus its research in the future.
Introduction

In recent years, there has been a growing interest in the West in psychological theory and practice developed outside of the domain of Western psychology. Buddhism, for example, has received a great deal of attention in this regard, with a plethora of papers published in psychological journals (see De Silva, 2001). In particular, Western psychology has adopted techniques used in Eastern traditions, such as mindfulness meditation (see e.g., Kabat-Zinn, 1990), to assist in alleviating stress. However, one area that has been neglected by Western psychology, despite its apparent potential, is Daoism (also, Taoism). Daoists, like the Buddhists, have produced sophisticated methods of psychospiritual cultivation aimed at developing the practitioner to an ostensibly elevated mental and spiritual state of being (see e.g., Kohn, 1989, 2008a, 2008b). Furthermore, Daoism includes coinciding physiological methods designed to enhance physical health and wellbeing (see e.g., Engelhardt, 2000). Scientific study of the benefits of these physiological practices is in its infancy, but the field is expanding, and the results to date are quite promising (Chen, 2004; Sancier, 1996).

Daoism also has an alternative theoretical basis to Buddhism and other non-Western psychologies, such as Advaita Vedanta, that have been studied by Western psychologists to date, and may therefore offer valuable new perspectives regarding non-Western modes of thinking. In addition, millions of Chinese, Koreans, and others consider themselves to be Daoist, at least in part, and Daoism is in many ways a fundamental background to the Chinese way of thought (Nisbett, 2003). The psychological study of Daoism may therefore contribute to a greater understanding of the Chinese cultural milieu in particular and cross-cultural psychology in general.
The philosophical perspectives and worldview of Daoism, as well the specific techniques used by Daoists, may also prove beneficial to clients when adapted to the Western therapeutic milieu. These points provide adequate rationale to grant Daoism a more prominent place in the field of psychological research than it has enjoyed to date.

The few explorations that have been undertaken on the relationship between Daoism and Western psychology, largely from within the Jungian analytical and humanistic psychological frameworks (e.g., Cambray, 2005; Lee, 2003), have demonstrated that mainstream psychology may benefit from such research. The humanistic movement in particular, through the work of Rogers and Maslow, has been significantly influenced by Daoist philosophical theory (Cleary & Shapiro, 1996; Hermsen, 1996). Furthermore, Jenni (1999), a scholar with a sophisticated understanding of both contemporary and historical Chinese society, has pointed to the influence that Daoist and Confucianist thought has had on the development of modern psychological theory and practice in China. Similarly, Fujio Tomoda, one of the forefathers of modern psychology in Japan, drew heavily on Daoist philosophy and terminology in his interpretation of client-centred therapy (Hayashi et al., 1998).

However, a great deal more work is needed if modern psychology is to gain the full benefits Daoism has to offer, while avoiding the misunderstandings and misinterpretations that have been characteristic of much of the literature to date.¹

One area that may find particular benefit in psychological explorations of Daoist ideas and practices is the area of stress and coping. Many of Daoism’s basic

¹ Perhaps primary among these misunderstandings has been the dismissal of the majority of Daoism as mere religious superstition. Until recently a great many scholars made a distinction between philosophical Daoism as represented by the Dao De Jing and the Zhuangzi, and religious Daoism, meaning the rest of Daoism as it developed over the past 2000 years. Modern scholars (see in particular, Kirkland, 2004; Kohn, 2000a; Pregadio, 2008a; Robinet, 1997) have exposed this as a largely false dichotomy and have begun to show the value of studying Daoism in its entirety, from the earliest texts to modern movements.
concepts, such as accepting things as they are and 'going with the flow', might be theorised to act as stress reduction mechanisms. It may be that those who hold Daoist beliefs and undertake Daoist practices may experience a reduction in stress thereby. This thesis will explore this potential relationship, beginning with a review of Western ideas of stress and coping before moving on to discuss Daoism and the potential for Daoist coping. Chapter 1 gives a broad outline of stress and provides an overview of psychological literature regarding stress. Chapter 2 discusses theoretical approaches to coping and reviews recent research into coping. Chapter 3 describes Daoism and some of its history and principles. Chapter 4 reviews prior psychological research into Daoism and addresses some important points that must be considered in conducting this type of research. Chapter 5 gives a brief overview of how Daoism might be relevant to stress and coping research. Following this, a number of empirical investigations into the relationship between Daoism and stress and coping are presented. Study 1 describes the development of a preliminary version of a questionnaire for measuring Daoist thinking style and its validation and revision with Daoist masters in China. Study 2 outlines the further revision of this questionnaire with a sample of Chinese students, including reliability testing and the elicitation of a factor structure for a number of subscales. The comparison of this revised version of the questionnaire with commonly used measures of stress and coping is also covered in Study 2. Study 3 compared the student sample with a clinical sample from a mental health clinic in Shanghai, China. Study 4 outlines testing of the factor structure and reliability of the scale in an Australian sample and the comparison of the Australian and Chinese questionnaire results. Finally, a general discussion and conclusion is offered, exploring the results obtained and summing up the main messages of the thesis.
Part A – Stress and Coping
Chapter 1 – Stress

Defining Stress

Despite being one of the more widely discussed constructs in modern Western psychology, there is still a considerable degree of variability in the way stress is defined. Some researchers have found it useful to make a distinction between the internal process of stress, often termed ‘strain’, and the external events that lead to said strain, termed ‘stressors’ (Pearlin & Schooler, 1978). While this distinction is useful in operationalising the area of research, it is important to note that any individual stress response is an interaction between an external event and an internal reaction to that event, mediated by a variety of factors such as personality, appraisal, and coping strategies such as those outlined below. There are also different domains in which a stress response can be active, such as physiological, psychological, and even social levels.

Largely capturing the above facets of stress, Aldwin (2007) defines stress as “that quality of experience, produced through a person-environment transaction, that, through either overarousal or underarousal, results in psychological or physiological distress” (p.24). Lazarus and Folkman’s (1984) seminal text similarly highlighted the relationship between the individual and the environment in their definition of psychological stress as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p.19). While it is likely that most stress researchers accept that the term stress covers a wide variety of events and experiences, many have found it fruitful to focus their research mainly on one or
other area, and the benefits and drawbacks of each approach will now be discussed.

**Stress in the environment.** Environmental stressors can include a wide variety of events and situations that elicit strain in different ways. Perhaps the most obvious is physical trauma, which elicits a physiological stress response and subsequent psychological reactions. However, environmental stressors may also be much more subtle, but harmful none-the-less. Working in an office space with poor ventilation, leading to a buildup of chemical carcinogens such as formaldehyde, a lack of fresh air and sunlight, little opportunity for physical exercise, flickering fluorescent lights and computer screens, and so on may lead to both chronic physiological conditions such as backaches, migraines, decreased immune response, as well as psychological fatigue, irritability, and depression (Aldwin, 2007). Stressors in the physical environment may also interact with stressors from the sociocultural environment, such as discrimination and a lack of adequate resources due to socioeconomic status or cultural background (Pearlin, 1989). Indeed, Evans (2004) suggests that many of the adverse effects of poverty may result, not only from the sociocultural stressors encountered, but also from living in environments that expose the individual to a wide variety of pollutants and other noxious agents.

The benefit of examining stressful stimuli in the environment, or stressors, is that events can be standardised. That is to say, the same target event can be used as a measure for stress in all individuals. It is arguable that there are some events that are universally stressful, such as war and natural disasters. It is also possible that there may be at least some consistency with the ranking of environmental stressors. Losing one's job may be universally less stressful than going to war, regardless of the individual. This is likely the rationale behind stress measurement scales such as the
Holmes and Rahe (1967) Social Readjustment Rating Scale, which lists, in ranked order, life events that may be considered stressful. The drawback of this approach however is individual differences in responses to these events. While two individuals may agree that war is more stressful than job loss, the degree of strain they experience when going to war (or losing their job) may be very different. Thus, while examination of stressors is beneficial in and of itself, it does not present a complete picture, hence the necessity for an interaction approach.

In attempting to examine stressors in light of their interaction with individual strain, Lazarus and Folkman (1984) highlight a number of characteristics of environmental stimuli that can have a bearing on subsequent stress appraisals and coping responses:

(i) Novelty in an event can be an important factor that determines whether or not the event will be stressful, given that limited knowledge may impede the appraisal process. In this situation, the individual may focus on some familiar aspect of the event, or may rely on general knowledge about similar events in order to make an appraisal.

(ii) The subjective probability of a negative event occurring also seems to be important in relation to how stressful a situation is. However, there appears to be a complex relationship between actual probability, subjective estimates of probability, and stress experienced (e.g., Epstein & Roupenian, 1970; Monat, Averill, & Lazarus, 1972; Gaines, Smith, & Skolnick, 1977).

(iii) The time at which an event takes place and the duration of the event also appear to be important factors in how stressful an event is and how proficiently an individual can cope with the event. Indeed, animal research (e.g., Dienstbier, 1989) has suggested that the physiological effects of stress may be different for short-term,
chronic, and intermittent stressors. Psychological responses may also differ. If there is only a short period of time before the event occurs, coping efforts tend to be rushed and generally not as complex or effective as if one has longer to develop a coping response (Epstein, 1982; Lazarus & Folkman, 1984).

The relationship between the duration of a stressful event and the psychological stress experienced seems to be ambiguous. Selye (1956) proposed the General Adaptation Syndrome (detailed below) to be a reaction to stressful events, which begins with an alarm stage when the stressful event is first encountered, followed shortly after by a resistance stage, in which the body is best able to manage the stress response. Following the resistance stage is, according to Selye, an exhaustion stage, when the body is no longer able to manage its own response to the stressful event and consequently begins to break down. However, Lazarus and Folkman (1984) suggest that exhaustion does not always occur and in many cases habituation occurs instead, whereby the person becomes accustomed to managing the stressful event and it therefore no longer produces a stress response.

**Physiological reactions.** Stress is commonly described as having a physiological aspect and a psychological or behavioural aspect. The physiological response includes neuroendocrine, immune, and cellular reactions (Aldwin, 2007). Early research into physiological responses suggested that there is a general stress response that occurs in all stressful situations. Cannon (1939) coined the term 'fight-flight' to describe this reaction.² He hypothesised that exposure to a perceived threat

² It is worth noting that recent research (e.g., Taylor et al., 2002, 2006) has indicated that there may be gender differences in this stress response. Taylor (2006) argues that the female response to stress may be characterised more by protecting and caring for offspring, and forming social bonds, as opposed to the male response of either fighting or fleeing. It is also possible that this female response is associated with the hormone oxytocin, which has been associated with trust in general (Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005) and the creation of bonds between mothers
stimulates the thalamus, which stimulates the pituitary, which in turn triggers the release of hormones from the adrenal glands. He supported this by demonstrating that, for example, cats release epinephrine into the bloodstream when exposed to barking dogs. Hans Selye (1956) expanded on Cannon's ideas in his General Adaptation Syndrome. Selye demonstrated that it was in fact the hypothalamus that stimulated the pituitary, in what has become known as the Hypothalamic Pituitary Adrenal (HPA) axis, and focussed on the release of cortisol rather than epinephrine. 

Selye's General Adaptation Syndrome involves three stages. As stated above, the alarm stage refers to the autonomic response that begins immediately as a threat is perceived. This stage is short-lived and characterised by an increase in the body's ability to deal with the physiological requirements of the stress response. During the resistance stage the autonomic response declines and the hormonal response resulting in the release of cortisol takes over. The resistance stage is longer lasting than the alarm stage and during this stage the body is maximally able to cope with the strain put on it by the stress response. However, if the stress response is prolonged, the body enters into the exhaustion stage, in which the stress response itself begins to negatively impact on the body, resulting in decreased immune activity, strain on the internal organs, etc.

Both Cannon (1939) and Selye (1956) focussed on the idea of a generalised stress response that was activated by all stressors relatively indiscriminately. While the HPA axis does appear to be activated in most stressful situations, more recent research has suggested that the physiological stress response is somewhat more complicated than this. Reviews of some early studies by Lazarus and colleagues

and newborn infants (Matthiesen, Ransjö-Arvidson, Nissen, & Uvnäs-Moberg, 2001; Nelson & Panksepp, 1998). This 'tend and befriend' response (Taylor et al., 2000) seems to be active in men as well, although to a somewhat lesser degree than in women (Aldwin & Gilmer, 2004; Taylor, 2007).
have found differential responses to stress, such as increases in heart rate for some individuals and decreases for others (Lazarus, Averill, & Opton, 1974). The neuroendocrine response to stress also appears to involve a number of subsystems in the sympathetic nervous system (SNS), some of which can be activated independently, suggesting that there may be specific as well as general physiological responses to stress (Jänig & McLachlan, 1992). The two major SNS pathways both result in the release of catecholamines (e.g., epinephrine/adrenaline; Gervitz, 2000).

In the first subsystem, sympathetic neurons directly release norepinephrine into target organs to increase heart rate, respiration, blood flow to muscles, muscle strength, etc., all of which ready the body to respond to physical stressors. In the second subsystem, sympathetic neurons stimulate the adrenal medulla to release catecholamines into the bloodstream, which results in a slower but longer lasting catecholamine reaction.

While this catecholamine reaction is beneficial in the short-term, long-term exposure to catecholamines can become toxic and damage organ systems (Sapolsky, 1998). The organism's natural reaction to this is for the parasympathetic nervous system to return the body to homeostatic balance. Indeed, the HPA axis, as well as being a reaction to stress in itself, also helps to counteract the effects of the SNS pathways (Aldwin, 2007). For example, the SNS pathways stimulate immune inflammation, which can damage various organ systems if prolonged. The HPA response acts to suppress this immune response in order to prevent damage to the organs. However, if the stress response is prolonged and/or severe, the body may fail to restore balance, resulting in Selye's (1956) exhaustion phase, whereby the stress response itself becomes noxious. Indeed, the hippocampus provides a feedback mechanism to avoid toxic levels of corticosteroids accumulating, but prolonged
exposure can damage the hippocampus itself (Sapolsky, 1992, 1999). In an evolutionary framework, the physiological stress response probably came about to deal with immediate threats, such as an attack by a predator, and possibly natural disasters such as fires and floods. In both of these cases, the threat is likely to be gone within a short period of time, leaving the body to recover in the absence of the stress response. However, in modern society the stress response may be triggered by events and situations that last much longer, months or even years (e.g., a difficult divorce).

The detrimental effects of prolonged stress are many and varied. Perhaps the most pervasive effect of stress on health is immune suppression. While the SNS response initially increases the immune response, the HPA axis reduces this effect. Prolonged immune suppression can leave the organism open to a host of noxious elements, including pathogens and cancerous cells (Aldwin, 2007). Furthermore, in cases of chronic stress, this immune suppression may persist long after the stressor is gone (Glaser, Kiecolt-Glaser, Marlarkey, & Sheridan, 1998). However, there are also negative health impacts specific to the stress response itself. Excessive levels of both catecholamines from the sympathetic response and corticosteroids from the HPA response are toxic to the organism. Corticosteroids can stimulate the release of glucose, which may become an issue for, for example, those with diabetes (Black, 2003). They can also affect sex hormones and fertility (Aldwin, 2007), and interfere with the release of growth hormones (Sapolsky, 1998). As previously mentioned, excessive levels of cortisol can damage the hippocampus, which can impact negatively on memory (Sapolsky, 1998). Chronic stress can also lead to the depletion of cortisol supplies (Yehuda, 2000), which can lead to fatigue and the inability to adequately respond to new stressful events (Gruenewald & Matsumoto, 1999). The
associations that have been made between stress and specific ailments are too many to list here, but it has been well established that stress can negatively impact on virtually every system in the body, sometimes dramatically (Aldwin, 2007).

**Psychological factors.** Psychological stress comes in a variety of forms. Strain can be triggered by major life events and trauma, but some research has indicated that daily hassles may have a much more ubiquitous effect (DeLongis, Folkman, & Lazarus, 1988; Johnson & Sherman, 1997). The strain brought about by these minor but frequent stressors appears to be cumulative and can result in major impacts on psychological and physical health. Causes of these minor but pervasive stressors include internal conflict, such as choosing between two unattractive alternatives, frustration over day to day irritations, such as being stuck in traffic, and being under time pressure, such as having a nearing deadline for a piece of work (Lazarus & Folkman, 1984). They may be relatively short in duration, such as an argument with a friend, but may also be more chronic, such as ongoing family or marital disputes (Conger & Conger, 2002). A variety of emotional reactions can occur in response to these daily stressors, including negative emotions such as irritation, anger, apprehension, and sadness (Lazarus, 1993; Woolfolk & Richardson, 1978), as well as positive emotions such as happiness, optimism, and contentment (Folkman, 1997). Lazarus (1991) also notes that less severe emotions such as shame, guilt, and feeling bored may also be considered stress reactions. Emotional numbing is also possible, especially in cases of severe trauma or post-traumatic stress disorder (PTSD; Brewin, Andrews, Rose, & Kirk, 1999).

It is important to note that intermediate levels of stress are often productive and positive, however high levels of chronic stress are almost always negative (c.f.
The Yerkes-Dodson law, which posits that there is an optimal amount of arousal in-between lethargy and panic; Yerkes & Dodson, 1908). What impact stress has and what emotions are elicited are likely largely determined by personality factors such as psychological hardiness, and the manner in which a person appraises the potentially stressful event and the subsequent coping strategies that are invoked (Aldwin, 2007).

Along with the physiological issues mentioned above, stress can also lead to a number of psychological problems. For example, research has indicated that excessive levels of stress can disrupt working memory (Oei, Everaerd, Elzinga, Van Well, & Bermond, 2006), and chronic stress has been associated with memory impairments caused by cortisol damaging neurons in the hippocampus (amongst other areas; Sapolsky, 1998). Stress can also indirectly lead to problems with alcohol and drug abuse, when these are initially used to self-medicate in an attempt to deal with stress. It is also possible that stress may trigger more serious mental disorders. Extremely stressful events, such as natural disasters and wars, can result in post-traumatic stress disorder. Likewise, pervasive day-to-day stressors and the resultant emotional responses, especially in the absence of appropriate coping strategies, could lead to mood disturbances and anxiety disorders. Indeed, the onset of a number of psychological disorders can be linked with stress and stressful events, often in conjunction with a prior susceptibility to the disorder (Langner & Michael, 1963).

**Appraisal**

The way a person views a potentially threatening event determines a considerable proportion of how much stress they will experience. Thus, appraisal is
an important factor to consider when attempting to alleviate stress. Lazarus (1993) proposed a two-stage model of appraisal. The first stage, primary appraisal, includes an individual's determination of whether a particular event is going to be stressful, benign, or irrelevant. The second stage, secondary appraisal, describes an individual's considerations regarding their ability to cope with the event, and their election of the coping strategies they will use to do so. Appraisal can affect stress levels in a number of ways. It is possible that a person may underestimate the stressfulness of a given event and thus be unprepared for the event when it comes, resulting in greater levels of stress. Alternatively, if a person appraises an event appropriately, they will be well prepared and their stress levels will be reduced. It is also possible that the appraisal itself may cause anxiety and stress. If a person decides that an event is going to be stressful, chances are that a certain amount of the stress they experience in relation with that event will be due to that appraisal alone. Thus, for example, cognitive behavioural therapy might focus on learning to reappraise events in a less stressful light, and thereby reduce stress levels and the use of maladaptive coping strategies.

Lazarus and Folkman (1984) also identify four primary ways in which an event can be appraised. According to them, a potentially stressful event can be appraised as either being benign, a situation of loss, a threat, or a challenge. If the situation is appraised as benign then no further action is required. However, if a situation is appraised as involving loss, a threat, or a challenge, coping mechanisms will be selected to attempt to alleviate the stress and/or solve the problem. There are numerous factors involved in the selection of these coping strategies, which will be the focus of the following chapter.
Summary

Chapter 1 has provided some preliminary definitions of stress and discussed some of the factors that contribute to stress as well as physiological and psychological reactions to these factors. It was noted that intermediate levels of stress can be beneficial and indeed evolved as a mechanism to assist in managing potentially dangerous situations. However, excessive amounts of chronic stress can be detrimental to both physiological and psychological health. It was also noted that chronic stress tends to come in large part from daily hassles, rather than extreme but infrequent events, although of course these too can be damaging. Finally, a discussion of appraisal was offered, noting that it is often the manner in which an individual views and reacts to an event that determines whether or not that situation will be stressful for them; different individuals can react to the same situation in very different ways. The next chapter will discuss coping and the different ways that people manage or fail to manage potentially stressful situations.
Chapter 2 – Coping

The human response to perceived stressors has been labelled by psychologists ‘coping’. Lazarus and Folkman (1984) define coping as “constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p.141). Aldwin (2007) notes that correlations between stress measures and health outcomes are typically much lower in humans than in laboratory animals. There are, of course, a variety of reasons for this, such as not being able to control disease outcomes in humans to the extent that is possible with laboratory animals. However, one important factor is that, unlike most animals, humans are psychologically equipped to employ a wide range of coping strategies in an attempt to control their subjective stress levels. Although it is extremely difficult to track the complex relationship between stress, coping, and health outcomes, there is a growing body of evidence for the effectiveness of certain coping strategies in reducing stress (see Aldwin & Yancura, 2004, for a review of literature demonstrating stress buffering via coping). Furthermore, some coping strategies appear to be learned behaviours (Aldwin, 2007), indicating that it may be possible to develop interventions that teach effective coping strategies in order to alleviate stress and improve health outcomes, at least in certain situations (Folkman & Moskowitz, 2004). Coping research is, however, still in its early stages and there are a variety of approaches to describing and categorising coping. This chapter will begin by reviewing some of the more well known coping theories before going on to present some recent examples of coping research.
Theories of Coping

One of the earliest and still one of the most popular theories of coping is to divide it into problem-focussed and emotion-focussed attempts at coping (Lazarus & Folkman, 1984). Problem-focussed coping attempts to alleviate stress by directly addressing and resolving the issue that is causing the stress (e.g., making plans, allocating resources, etc.). Emotion-focused coping strategies attempt to alleviate the psychological aspects of stress without actually addressing the problem causing them. This can be beneficial in certain circumstances, such as in situations in which attempting to address the problem would simply result in more stress or even danger (e.g., combat zones and hostage situations). Indeed, Riolli and Savicki (2010) found that both problem-focussed and emotion-focussed coping strategies were associated with positive adjustment in combat situations. It is likely that being able to employ emotion-focussed coping strategies in order to manage negative affect whilst dealing with the issue itself through problem-focussed coping strategies will result in the best outcomes. However, in the majority of cases, using emotion-focussed coping as the sole coping strategy results in greater stress in the long-term, as the problem is not addressed and becomes compounded, with more problems arising while the initial problem persists (Lazarus & Folkman, 1984).

Examples of emotion focussed coping include learned helplessness (Seligman, 1992), aggression and lashing-out at others, eating comfort foods, and self-medicating with drugs and alcohol. Most of these strategies are ineffective in the long run, but provide easy, short-term relief without having to put effort into dealing with the problem itself. There is also some evidence to suggest that emotion-

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3 Perhaps a forerunner to work on emotion-focussed coping can be found in psychodynamic defence mechanisms, such as denial, suppression, projection, etc., in that they serve a similar function (Freud, 1966).
focussed strategies are used more frequently in 'loss' situations and problem-focussed strategies are more common in situations where the stressor is seen as a 'threat' or 'challenge' (Folkman & Lazarus, 1980). This makes intuitive sense, given that not much can be done to address something that has already been lost, whereas there is still the possibility of addressing a future threat or challenge. Folkman and Moskowitz (2000) have also suggested some more positive, productive emotion-focussed coping strategies that may help to protect people from undue stress when the situation is beyond their control. Both these strategies are closely related to appraisal, however they occur after primary appraisal and are directed towards coping with the stress. The first strategy is making downward comparisons by comparing oneself to others who are in a worse situation. For example, upon being diagnosed with diabetes, an individual might compare their situation with someone diagnosed with AIDS, thereby somewhat lightening their situation. The second strategy includes the creation of positive events, or finding the positive in everyday events, such as having a cup of coffee or watching a sunset. Neither of these two strategies actually address the problem itself, but each can help to alleviate some of the stress associated with a problem and are generally more productive than lashing out at others, self-medicating, and so on.

In comparison with the emotion-/problem-focussed system proposed by Lazarus and Folkman (1984), Endler and Parker (1990, 1999) offer an alternative, tripartite categorisation of coping attempts. In their system, coping strategies are either (a) task-oriented (e.g., planning), (b) emotion-oriented (e.g., self-preoccupation), or (c) avoidance-oriented. Avoidance-oriented strategies are further subdivided into (i) distraction (i.e., seeking out activities to reorient one's attention away from the stressful situation) and (ii) social diversion (i.e., seeking social means
of diverting attention away from the stressful situation). Task-oriented strategies are analogous to problem-focussed strategies. However, where avoidance strategies would be included under emotion-focussed strategies by Lazarus and Folkman, Endler and Parker have separated them out and created two categories. This may be useful in clarifying functional versus dysfunctional emotion-focussed strategies. That is to say, those emotion-focussed strategies that are not specifically avoiding the problem but simply trying to manage the emotion involved, perhaps even while addressing the problem, would fall under the emotion-oriented category. Alternatively, those strategies that were dysfunctional in as much as they were attempting to manage the emotion by avoiding addressing the problem would fall under the avoidance-oriented category. Task-orientation, emotion-orientation, avoidance-orientation, distraction, and social diversion are captured in subscales of the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1999).

While categorisations like Endler and Parker's (1990, 1999) are useful for analysis overall coping, it is important to note that real world applications are often much more detailed and complex (Carver, Scheier, & Weintraub, 1989). For example, Scheier and Carver (1985, 1992) focus on optimism as an individual difference between people that can influence how and how well they cope with adversity. Contrasted with a sense of personal control, where one can influence the future toward positive outcomes, optimism is simply the belief that positive things will happen in the future. Holding a sense of optimism, or its opposite, pessimism, can influence the way in which an individual approaches coping and experiences the stress response. Those with optimistic attitudes tend to experience more positive emotions and confidence, adapting more readily in situations of stress, while those with pessimistic attitudes have a tendency to experience more negative emotions and
recover more poorly from stressful situations (Scheier, Carver, & Bridges, 2001).

Both Lazarus and Folkman’s (1984) and Endler and Parker’s (1990, 1999) theories tend to view coping in terms of strategies that can be put into place in a given situation. Some researchers have preferred to view coping more as a style that will tend to be chosen given an individual’s personality. Millon (1982), for example, described eight different characteristic styles of dealing with illness: confident, cooperative, forceful, inhibited, introversive, respectful, sensitive, and sociable. To give some examples, those who were introversive tended to minimise, ignore, or deny their problem, were untalkative, and preferred to be left alone. Those with a cooperative style followed advice rigorously, but refused to assume responsibility for themselves, requiring the care and reassurance of others. Those with a sociable coping style were gregarious and outgoing but not dependable, being disinclined to deal with serious problems. Those with a confident style viewed the sick role as a threat to their self-image as strong and independent, and were highly motivated to regain their health, sometimes even to the point of arrogance or disdain for others.

Despite this type of personality-based coping theory, it does appear that coping is situation dependent. This is not to say that theories of coping styles should be discounted, but that people may use different strategies and/or styles in different situations. For example, one might be well equipped to cope with confrontation in an employment scenario, but poorly equipped to cope with confrontation from a spouse (Aldwin, 2007). Examining the situation, instead of just personal characteristics, allows researchers to study, for example, whether a justified versus and unjustified rebuke from a boss leads to different coping attempts, or whether the characteristics of the ‘other’ in a situation affect coping styles. It is likely that situational factors, personal factors, and coping efforts and their outcomes all affect each other and
evolve over the duration of a stressful event (Aldwin, 2007). One specific aspect of the situation that may be of particular importance is the coping attempts of others. For example, the manner in which the wife of a heart attack victim copes can affect the stress levels of the husband. If the wife minimises the problem, the husband tends to experience less stress, but the wife more (Coyne & Smith, 1991). This type of effect is likely to occur in any situation in which a group of individuals are all attempting to cope with the same stressful scenario. For this reason, it is likely to be beneficial for psychologists to also consider the others involved in a scenario, such as family members or fellow soldiers in an active platoon, and the coping attempts they are making.

Closely related to situational considerations in coping is another theoretical approach. Some psychologists find it useful to focus on the manner in which individuals perceive information relevant to a potential stressor. This construct is most commonly examined with regards to the approach-avoidance dichotomy (Roth & Cohen, 1986). As the name suggests, those who fall into the approach category tend to sensitise to situations and confront them head on. Alternatively, those who fall into the avoidance category attempt to suppress or avoid dealing with situations, in order to reduce potential stress levels. Traditionally approach and avoidance are characterised as perceptual styles. However, Lazarus and colleagues (e.g., Lazarus, Averill, & Opton, 1974) have taken issue with this approach, noting that approach-avoidance tends to vary within individuals across different situations, and that general measures of approach-avoidance tend not to predict coping behaviour very well. On the other hand, approach-avoidance measures that are targeted at specific situations do tend to predict behaviour under certain circumstances (Miller & Mangan, 1983), suggesting that approach-avoidance may be more like patterns of
responding that vary over time and situation (Aldwin, 2007). This type of thinking has led to dual process approaches to coping, wherein individuals use both approach and avoidant behaviour for different purposes (Stroebe & Schut, 1999, 2001), as well as balancing positive and negative emotions (Folkman, 1997), controlled and automatic processes (Tugade & Fredrickson, 2004), and so on.

Another approach is to view stress, and consequently coping, in terms of resources. Conservation of resources (COR) theory focusses on objective elements of threat and loss, and stress is seen as arising due to a lack of appropriate resources to deal with a given situation (Hobfoll, 2011). Coping is thus viewed as an attempt to accumulate and retain sufficient resources to deal with the potentially stressful situation. Resources may come in the form of material assets, such as finances and access to healthcare, or psychosocial assets, such as self-efficacy and social support. One of the major benefits of COR is that many of these resources can be objectively measured, thus allowing a great deal of standardisation across different individuals and groups. However, a consequent drawback of this approach is that it does not necessarily take into account the value placed on each of these resources, instead focussing on common appraisals held by the majority of people who share a particular biology and culture (Hobfoll, 2011). The problem with this approach is that COR does not work for those who do not hold these appraisals. For example, the response of a Buddhist to finding that they lack sufficient resources to achieve some particular goal may be to reassess their goals, reducing their desires such that they no longer require the resources they lack. Consequently, in attempting to ascertain the stress levels of these types of individuals, focussing on what resources they have or do not have is less important than examining their goals and desires.

Coping can also be viewed along a temporal dimension, in terms of the
temporal distance between a coping effort and the target stressor. Situations of loss versus threat or challenge have already been discussed in regards to their impact on emotion-focussed and problem-focussed coping. More recently researchers have started to consider coping attempts made in anticipation of a future stressful event. For example, Aspinwall and Taylor (1997) identified three types of coping; active coping strategies, anticipatory coping, and proactive coping. Active strategies are utilised at times of stress and may be composed of the strategies or styles discussed above. Anticipatory strategies are coping attempts made in anticipation of a potentially stressful event that is almost certain to occur. Proactive coping, by comparison, involves more general efforts to prevent or modify what might be a potentially stressful event in the future. It includes five stages: accumulating resources; identifying potential stressors; making initial appraisals; making initial coping efforts to minimise future stress; and eliciting feedback about whether the event transpired and acting on the feedback if necessary.

Schwarzer and Knoll (2003) developed a similar model while considering temporal factors, but instead identified four categories: reactive, anticipatory, proactive, and preventative. Reactive coping is similar to Aspinwall and Taylor’s (1997) active coping, and anticipatory coping is also the same in both models. Similarly, preventative coping resembles Aspinwall and Taylor’s proactive coping. Where Schwarzer and Knoll differ from Aspinwall and Taylor is in their concept of proactive coping. Schwarzer and Knoll’s proactive coping involves personal growth and efforts to develop oneself and improve one’s situation in anticipation of less stress in the future. However, the current author would be wary of overstating coping and attempts to minimise stress as a motivational factor. While minimising stress and discomfort is undoubtedly important to humans, categorising going to college as a
coping attempt at avoiding poverty (Aldwin, 2007) may be overemphasising the importance of stress in people’s decision making. Stress and coping are important problems for psychology, especially in modern society, but psychologists must be careful not to lose sight of other important factors.

**Psychological Hardiness**

Psychological hardiness is another factor that mediates the levels of stress a person may experience (Kobasa, Maddi, & Kahn, 1982). In her seminal article on hardiness, Kobasa (1979) indicated that hardiness was comprised of three components: *commitment, challenge*, and *control*. *Commitment* is characterised by commitment to all areas of life, but commitment to oneself is of particular importance, including recognising personally distinctive values, goals, and priorities and appreciating one’s own purpose and meaning (Kobasa, 1979). Furthermore, people high in *commitment* scan their environment for things that pique their interest and seem meaningful (Maddi, 1990). *Challenge* involves a sense of novelty and interest in the environment resulting in perceiving potentially stressful situations and challenges to overcome and learn from, rather than threats to be avoided (Kobasa, 1979). *Control* refers to having an internal rather than external locus of control, meaning the individual high in *control* feels that their efforts can have a meaningful impact on their environment and that they are not simply at the mercy of external forces (Kobasa, 1979). *Control* includes three sub-elements: the capability to consciously choose among various courses of action; the ability to interpret, appraise, and incorporate various sources of data about stressful events into an ongoing plan of action; and a large repertoire of appropriate coping responses from
which to choose when dealing with a potentially stressful situation (Kobasa, 1979).

People high in these traits tend to cope with stressful events more effectively and subsequently experience less stress overall. A recent meta-analysis by Eschleman, Bowling and Alarcon (2010) highlighted a number of relationships that may explain the stress reducing properties of hardiness. Firstly, they found that hardiness was positively correlated with other personality traits that protect against stress, such as self-esteem and optimism, and negatively correlated with personality traits that exacerbate stress, such as negative affectivity. Hardiness was also negatively associated with stressors, which Eschleman et al. hypothesised might be due to less appraisals of stressful events, due to the commitment and control factors, and those events that are appraised as potentially stressful being viewed as challenges rather than threats. They also hypothesised that those high in hardiness may actually be exposed to lower levels of stressors due to their active involvement in the environment resolving potential issues before they become stressful. As well as experiencing less stressors, hardy individuals also experience less strain, as hardiness appears to work as a buffer between stressors and strain. This is possibly due to hardy individuals having access to more resources with which to deal with stress, including social support due to their strong commitment to relationships, and awareness of environmental resources due to their constantly scanning the environment for interesting and meaningful things. Perhaps most importantly, hardiness was also associated with the use of adaptive coping strategies. There are a number of possible reasons for this. Having an internal locus of control lends itself more to the use of proactive coping strategies and a lower likelihood of using less effective strategies such as avoidance. A sense of challenge may again mean that hardy individuals are more likely to engage with stressors and attempt to resolve
them, rather than avoid them. Finally, commitment to the task at hand may prevent aborted attempts at coping, leading hardy individuals to continue coping attempts in the face of adversity, or try new coping techniques, rather than simply giving up.

Eschleman et al. (2010) also conducted exploratory analyses on the relationships between the three hardiness components. They found that hardiness should not be viewed as a unitary construct, but is better examined at the level of commitment, challenge, and control. They also found that the relationship between commitment and control was much stronger than either the relationship between commitment and challenge or control and challenge, indicating that challenge is the least coherent of the three components. Indeed, regression analyses indicated that commitment seemed to be the most useful factor in explaining unique variance for most of the analyses. Regression analyses also showed that hardiness overall explained unique variance in all the aforementioned effects and was also the strongest predictor in the majority of the analyses, indicating the importance of the hardiness construct in stress and coping research.

Recent Research into Stress and Coping

Beyond theoretical approaches to coping, much of the recent research in the areas of stress and coping has tended to focus on specific areas of application, such as stress and coping in parents of children with autism (Pottie & Ingram, 2008), stress and coping among physicians (Lovell, Lee, & Brotheridge, 2009; Wetzel et al., 2010), gender differences in stress and coping among college students (Brougham, Zail, Mendoza, & Miller, 2009), and so on. While it is impractical to cover all the recent research into stress and coping here, a small selection will be covered below.
Coping in wartime. Much of the research into stress began with World War II (e.g., Grinker & Spiegel, 1945), and the wars in Iraq and Afghanistan have triggered a renewed interest in the stresses associated with war. Riolli and Savicki (2010) examined the effectiveness and diversity of coping strategies in 632 U.S. soldiers stationed in Iraq. To assess coping they used the COPE, which is a theory-based scale including subscales for nine functional coping strategies (e.g., planning, instrumental social support) and six dysfunctional coping strategies (e.g., denial, alcohol and drugs; Carver, Scheier, & Weintraub, 1989). To assess psychological adjustment they utilised the Global Severity Index of the Brief Symptom Checklist (Derogatis & Melisaratos, 1983), which combines the number of symptoms with their perceived severity to give an overall measure of adjustment. In general, the soldiers in this sample showed a depressed level of functional coping when compared with a norm group, although they appear to more frequently use religion as a coping strategy. In comparison, soldiers utilised a similar level of dysfunctional coping to the norm group, although they vented their emotions less and turned to alcohol and drugs much more frequently. In a multiple regression, which controlled for age, rank, and education, coping was found to have a significant impact on overall psychological adjustment, indicating the importance of coping strategies to ultimate mental health outcomes. More detailed analyses revealed that four of nine functional coping strategies were inversely related with the overall level of psychological symptoms, while five of six dysfunctional coping strategies were positively related with the level of psychological symptoms. The diversity of coping strategies employed was also important to overall adjustment but the relationship was more complex. It would appear that pervasively employing a wider variety of
coping strategies, including dysfunctional ones, may not be as good as modestly employing only a few functional coping strategies, at least in traumatic situations such as combat. Studies such as this are important because they highlight that different coping strategies may be used in different situations, and the effectiveness of coping strategies may also vary depending on the situation.

**Coping and personality.** There has been a great deal of research in recent years into the relationships between coping and various personality factors, which are likely to influence initial exposure to stressors and strain (Vollrath, 2001). For example, those high in neuroticism are liable to exaggerate the impact of potentially stressful situations and consequently experience higher levels of strain. Contrarily, those high in conscientiousness are more likely to address issues before they become major problems, consequently reducing their overall exposure to severe stressors.

Personality may also affect what types of coping strategies or styles are utilised and how effective they are. Carver and Connor-Smith (2010) use the Big Five personality traits (extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience; Costa & McCrae, 1992) to describe how this might occur. Extraversion may, for example, give one greater access to a social network for seeking instrumental and emotional support. Neuroticism, due to an increased likelihood of experiencing fear, sadness, hopelessness, etc., may facilitate avoidance type behaviours. Conscientiousness may equip one to persist with problem solving efforts where others may give up. Agreeableness, like extraversion, may provide strong social support networks. Finally, openness to experience is characterised by traits such as curiosity and creativity, which may equip one to find new and creative ways of solving problems and coping with stress. There are of course, also many
other ways in which these, and other personality traits, may affect coping.

Two recent meta-analyses have summarised empirical findings on the relationship between personality and coping. Connor-Smith and Flachsbart (2007) found modest relationships between the Big Five factors and engagement (approach) and disengagement (avoidance) coping styles, as well as specific coping strategies. For example, engagement coping was positively associated with extroversion \( (r = .15) \), conscientiousness \( (r = .11) \), and openness to experience \( (r = .10) \) although these were all fairly weak effects. Disengagement coping was positively associated with neuroticism \( (r = .27) \), and negatively associated with conscientiousness \( (r = -.15) \) and agreeableness \( (r = -.13) \). Regarding specific strategies, problem solving had a moderate correlation with conscientiousness \( (r = .30) \), one of the strongest effects in the analysis. Neuroticism was associated with withdrawal \( (r = .29) \), wishful thinking \( (r = .35) \), and substance use \( (r = .28) \). The second meta-analysis, by Solberg Nes & Segerstrom (2006), examined the relationship between optimism and approach and avoidance coping in both problem- and emotion-focussed areas. They again found evidence for modest relationships, with the strongest associations being negative correlations between optimism and avoidance coping in both the problem- and emotion-focussed spheres, especially for health-related stressors.

The aforementioned research indicates that, although generally modest, there is a relationship between personality and coping. Coping researchers should therefore be aware of and consider these relationships when conducting their own research. Similarly, health practitioners may benefit from an understanding of which personality factors affect which coping styles and strategies, in order to best assist their clients in developing areas of weakness and focussing on areas where they may be particularly strong.
Coping over the lifespan. Another area that has been receiving attention in recent research is stress and coping at different developmental periods over the lifespan. For example, Sontag and Graber (2010) examined the effects of perceived peer stress and coping on anxiety/depression and aggression in male and female middle school students. They found that perceived peer stress was significantly correlated with anxiety/depression and indirect aggression, but not overt aggression. Disengagement coping (e.g., denial, avoidance) partially mediated the association between peer stress and anxiety/depression for both sexes. Furthermore, disengagement coping mediated the relationship between peer stress and overt aggression for boys. Given that disengagement coping was associated with lower levels of overt aggression, it appears that strategies such as denial or avoidance may serve as a buffer to prevent overt aggression, again highlighting how emotion-focussed coping can be beneficial in some situations. Finally, girls utilised engagement coping more frequently than boys, and this was found to buffer against the indirect effects of perceived peer stress on psychopathiological symptoms.

Brougham et al. (2009) also examined sex differences in stress and coping strategies, but this time in college students. Using the 5-factor revised COPE scale (Zuckerman & Gagne, 2003), they found that women scored higher than men on the use of self-help, approach, and self-punishment as overall coping strategies. There was also a trend toward emotion-focussed coping strategies for both men and women, however this may be an artefact of there being four emotion-focussed strategies and only one problem-focussed strategy in the 5-factor revised COPE. Brougham et al. also assert that college women experienced more stress overall than college men. However, the measure of stress used was actually a measure of
stressors and as mentioned above, given that different individuals will react to the same stressor in different ways, without an explicit measure of strain as well, the subjective experience of stress cannot be gauged.

Continuing along the lifespan, Diehl and Hay (2010) observed young, middle-aged, and older adults in a naturalistic setting to examine the impact of daily stress (as measured by the Daily Inventory of Stressful Experiences; Almeida, Wethington, & Kessler, 2002), self-concept incoherence, and resilience on negative affect. Overall, younger adults and those with a more incoherent self-concept reported higher levels of negative affect on average across the study. They also found a positive correlation between daily stress and negative affect and a negative correlation between self-control and negative affect. Furthermore, there was an interaction between these factors, with individuals experiencing greater negative affect as a result of daily stress on days they reported less self-control. The correlation between negative affect and self-control was more pronounced for younger adults. These three studies indicate that stress may be experienced differently, or be triggered by different factors at different times in the lifespan, and that the ways stress is managed may also vary across the lifespan.

Coping and culture. One area of coping research that has only recently begun to receive the attention it deserves is the effect of culture on coping. The vast majority of coping research has been conducted in North America and consequently, much of the coping literature is characterised by a monocultural perspective typified by Western, individualistic values (Hobfoll, 2001). For example, taking direct action against a stressor through personal agency may be appropriate for a Westerner (e.g., Folkman & Moskowitz, 2004), but the same action taken by someone from a
collectivist culture may be deemed inappropriate and may even cause greater stress through interpersonal conflict and being ostracised by peers. In what is perhaps the first overview of research into the relationships between culture and coping, Kuo (2011) identifies four theoretical approaches to understanding the effect of culture on coping attempts.

The Resource-Congruence model (Wong & Ujimoto, 1998) is predicated upon Lazarus and Folkman’s (1984) approach to stress and coping. It stipulates that culture (a) defines what is stressful, (b) predisposes individuals to respond in a customary manner, (c) delimits the nature and range of coping resources utilised, (d) provides information regarding what would be a culturally appropriate coping response to a given stressor, and (e) dictates the manifestation of coping outcomes (Wong & Ujimoto, 1998). The Multiaxial Model of Coping is grounded in Hobfoll’s (1998, 2001) Conservation of Resources Theory outlined above. The Multiaxial Model posits that culture can influence stress and coping through both objective relative truths and subjective misinterpretations or illusions based on individual interpretations of stimuli, as well as familial and cultural norms and biases. The Transactional Model of Cultural Stress and Coping (Chun, Moos, & Cronkite, 2006) proposes that there is a constant interplay between culture and the stress-coping process. This interplay can be mapped across five dimensions: environmental systems (e.g., social climate); personal systems (e.g., social competence); transitory conditions or stressors (e.g., life events); cognitive appraisal and coping skills; and health and well-being. Finally, Aldwin (2007) presented a sociocultural model of stress, coping, and adaptation, which again worked within a transactional framework. In this model, culture can affect (a) the context that shapes what types of stressors are typically encountered by an individual, (b) the degree of strain associated with a
given stressor, (c) the selection of coping strategies deemed appropriate to a given stressor, and (d) institutional mechanisms through which an individual may seek to cope with stress (e.g., psychotherapy).

In support of these theoretical links between culture and coping, cross-cultural studies have demonstrated differences across cultures in coping types and preferences. For example, McCarty et al. (1999) found that Thai children were twice as likely as American children to use covert coping methods in public. McCarty et al. attribute this difference to cultural influences such as respect for authority and an emphasis on social harmony in Thailand. O’Connor and Shimizu (2002) reported that Japanese university students were more likely than British students to use emotion-focused coping, such as avoidance and positive reappraisal. Furthermore, primary control predicted stress, distress and coping preferences for British but not Japanese students, suggesting that Japanese coping responses and outcomes are less influenced by the need for personal control, which again may be due to cultural factors such as collectivism versus individualism. In a study of Asian, Black, and Latin American responses to the September 11 terrorist attacks, researchers found that Black and Latin Americans engaged in more religious coping strategies such as attending church, while Asian Americans reported more acceptance of the event as a result of fate or a spiritual higher power (Constantine, Alleyne, Caldwell, McRae, & Suzuki, 2005). In an interesting display of cultural assimilation, in response to domestic violence, Japanese-born Japanese American women reported the use of more passive coping strategies (e.g., minimising the problem, focusing on positive traits of abuser) than American-born Japanese American women (Yoshihama, 2002). Although a great deal more research is needed in this area, studies such as these provide strong evidence of social and cultural influences on coping.
**Coping and spirituality.** One further area that has received attention in recent years, and of particular relevance to the current thesis, is the impact of spirituality on stress and coping. For example, Krok (2008) utilised the Self-description Questionnaire of Spirituality (SQS; Heszen-Niejodek, Gruszczynska, & Metlak, 2003, as cited in Krok, 2008) as a measure of spirituality, correlating its three subscales (Religious attitudes, Ethical sensitivity, and Harmony) with the subscales of the Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1999). He found that overall spirituality was associated with the use of task-oriented and social diversion coping strategies. He also found positive correlations between ethical sensitivity and task-orientation, avoidance-orientation, and social diversion, and between harmony and task orientation. Harmony was also negatively correlated with avoidance oriented coping. It is clear from these results that spirituality, as measured by the SQS is associated with coping, and in all cases with at least some functional coping strategies. It is perhaps noteworthy that task-oriented coping and social diversion often co-occurred in Krok’s sample, which suggests that ‘avoidance’ may not be an appropriate label for the social support seeking behaviour that appears to be captured by the CISS. It is of course possible that individuals are alternating between approach (i.e., task-orientation) and avoidance, but it is also possible that the ‘social diversion’ subscale is actually capturing something like seeking emotional support whilst addressing the problem.

A number of longitudinal studies have, by temporal precedence, provided evidence for a causal effect of religious coping (such as praying to a higher power for guidance) on positive health outcomes. For example, Tix and Frazier (1998) demonstrated unique variance explained by religious coping for kidney transplant
patients concurrent to surgery and at three and 12 month follow-ups. Similarly, studying the effect of religious coping on distress related to the Gulf War, Pargament et al. (1994) found that positive religious coping at Time 1 predicted a decrease in distress at a subsequent time, and that negative religious coping (such as religious avoidance) was associated with an increase in distress from Time 1 to Time 2. However, other studies have shown that even negative forms of religious coping can be associated with positive outcomes, such as stress-related growth (e.g., Koenig, Pargament, & Nielsen, 1998; Pargament et al., 1999). Overall, there appears to be a positive association between religious coping, and particularly positive religious coping, and positive outcomes.

A recent meta-analysis has provided further evidence for this relationship. Ano and Vasconcelles (2005) collated 49 relevant studies of the relationship between religious coping and psychological adjustment when dealing with stressful events. Following Pargament's (1997) model, they identified ten positive religious coping strategies, such as seeking support from clergy and active religious surrender, and seven negative religious coping strategies, including passive religious deferral and pleading for direct intercession. They also identified 18 positive outcomes, such as personal growth and quality of life, and 20 negative outcomes, such as guilt and negative affect, as dependent measures. Overall, there was a moderate positive relationship between positive religious coping and positive adjustment, and a small but significant negative relationship between positive religious coping and negative adjustment. There was also a modest positive association between negative religious coping and negative adjustment. However, no significant relationship was found between negative religious coping and positive adjustment, which is possibly an indication of the mixed results outlined above, with some benefits and some
drawbacks of negative religious coping.

Summary

Where Chapter 1 discussed theories of stress, this chapter discussed some of the theories relating to human responses to stress, i.e., coping. One of the early and still popular theories separates reactions to stress into problem- versus emotion-focused coping, where problem-focused coping attempts to deal with the environmental stressor and emotion-focused coping attempts to alleviate the emotional reactions to said stressor (Lazarus & Folkman, 1984). Endler and Parker (1990, 1999) offer an alternative categorisation wherein coping strategies are either (a) task-oriented (e.g., planning), (b) emotion-oriented (e.g., self-preoccupation), or (c) avoidance-oriented. Other theories again discuss coping in terms of resources, where stress is seen as arising due to a lack of appropriate resources to deal with a given situation and hence stress is reduced by gaining more resources or utilising them more appropriately (Hobfoll, 2011). Finally, coping can be viewed in relation to the temporal proximity of the stressor, whereby coping is either a reaction to an event that has already happened, an attempt at dealing with an event that is currently happening or inevitably going to happen, or an attempt at preventing a projected event from happening at all (e.g., Schwarzer & Knoll, 2003; Aspinwall & Taylor, 1997).

Following this, a summary of theories relating to psychological hardiness was offered, noting that some individuals, particularly those high in commitment, challenge and control, are better equipped to deal with stress than others (Kobasa, 1979). Finally, some recent research into coping was summarised, including coping
in wartime, coping and personality, coping at different points throughout the lifespan, cultural aspects of coping, and coping and spirituality. While this is simply a small sample of the vast amount of research that has been conducted into stress and coping over the past few years, it gives an indication of the type of work that is being undertaken. Despite this variety of literature, there is a paucity in the area of Daoism and coping, and to the author’s knowledge not a single empirical study has been conducted into the connection between Daoism and coping. The current project aims to remedy this situation by providing a tool with which Daoist thinking style can be quantitatively measured and its relationship with stress and coping subsequently studied. Having now examined stress and coping in detail, the next chapter will begin the discussion of Daoism by summarising some of the main ideas discussed in the Daoist literature.
Part B – Daoism
Chapter 3 – Daoism

What is Daoism?

As the philosophy and practices of Daoism (also Taoism) outside the most widely read texts of Laozi and Zhuangzi (elaborated upon below) are yet to be widely explored in psychology, it may be prudent to begin by discussing some of the definitional issues that face those scholars who attempt to study Daoism. A strict definition of Daoism is not particularly forthcoming in either the modern literature or ancient texts. Indeed, this is a contentious issue even amongst Daoist scholars, as the beliefs and practices to which the label Daoism has been applied over the centuries are many and varied, so much so that one may rightly question whether there is such a single thing as Daoism at all (Cleary, 1987). Girardot, in his forward to Kirkland (2004), notes that until very recently Daoism has been relatively poorly understood by Western (and indeed many Chinese) scholars, who attended almost exclusively to a very few texts (e.g. the Dao De Jing, Zhuangzi) and ignored the vast majority of Daoist literature. This may be due to an erroneous comparison to Western traditions (e.g. Christianity), in which the primary principles and teachings are set-down during the initial conception of the tradition. Daoism, in contrast to these traditions, is an evolving tradition, with various new sects and schools appearing with relative frequency, each of which had new ideas but were still self-identified as Daoist (Kirkland, 2004). Teiser (1996) lists at least seven major movements in Daoism (e.g. Quanzhen or “Complete Perfection”), many of which had a multitude of sub-sects or schools (pai) (e.g. the Longmenpai “Dragon Gate sect” of the Quanzhen tradition).

It is important to note at this point that the Daoists themselves never felt a need
to define Daoism according to a particular set of criteria (Kirkland, 2004), and this in itself is instructive of the nature of Daoist (and indeed much of Chinese) thought. If a Daoist called themself a Daoist (and indeed many that are now labelled as Daoists did not), then they were a Daoist. This need to categorise Daoists into ‘types’ according to set criteria is largely an artefact of Western scholarly thought, however the author acknowledges the need for a working definition of what constitutes a ‘Daoist practice’. According to Needham (1956), perhaps the most well-known and prolific sinologist (scholar of Chinese culture and history) of the 20th century, Daoism was born of a combination of the ideas of philosophers from the Warring States period (e.g. Zhuangzi) and the shamans (wu) and wizards (fang-shi) that entered Chinese culture, from its northern and southern elements respectively, at some time during protohistory. However, the concept of ‘Daoism’ as an organised institution did not appear in China until at least the second century CE if not later (Kirkland, 2004), so the majority of principles fundamental to Daoism (discussed below), developed over perhaps thousands of years of protohistory, were only labelled as Daoist retrospectively. Of course we cannot disregard these ‘pre-Daoist Daoist principles’, but we are then left with the dilemma of ascertaining what of this material, written outside of the context of organised Daoism, may be considered to be Daoist.

Kirkland (2004) suggests a simple, if not complete, solution; consult the Daoists. There are several Daoist canons developed at different times in history and it is Kirkland’s suggestion that these may be a good starting point for identifying criteria for inclusion under the term ‘Daoist’. This is a reasonable position, he asserts, as any material included in these was not only agreed upon by the Daoists of

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4 CE (Common Era) and BCE (Before the Common Era) are alternatives to the Christian AD and BC labels.
the period, but was also condoned by the imperial governments. This stems from Kirkland's more general position of identifying as Daoist any who self-identify as Daoist, or are identified by later generations as Daoist. Of course this position is not perfect, some texts may have been questionably included in the Daoist canons, and others that deserve a place were undoubtedly excluded (there are traditions of both secrecy and reclusion in Daoism, and both of these may have led to oversight of certain valuable texts), but it is a pragmatic approach and will be adhered to by the current author.

The Underlying Principles of Daoism

The Dao gives birth to one, the one produces two,
the two produce three and the three produce the myriad things.

(\textit{Lao Zi's Dao De Jing}, 5th-3rd C BCE)

\textbf{Dao.} The Daoist concept of \textit{Dao} is perhaps one of the most amorphous concepts in philosophy. Indeed, as the famous first line in the \textit{Dao De Jing} (the most well-known and influential Daoist text) states, the \textit{Dao} that can be named is not the eternal \textit{Dao}. In attempting to put it in terms perhaps more familiar to Westerners, \textit{Dao} might be analogous to that from which the Father, Son, and Holy Spirit emerge. Of course this is somewhat nonsensical from a Western standpoint and the concept has not been expressed in this way in the literature, to the author's knowledge, but it gives an idea of how, while the Abrahamic 'God' is somewhat defined, the \textit{Dao} transcends all definition and conceptualisation. The \textit{Dao} cannot truly be expressed or known, it simply is, and yet somehow it is possible to 'achieve \textit{Dao}', that is, become
'enlightened'. Although an entire thesis could be written on the concept of Dao itself, given it will not be a major point of discussion in the current thesis, the author hopes this very cursory description will suffice.

**Wu Ji (the one).** Wu Ji is the undifferentiated from which duality emerges. It emerges from Dao and in turn yin and yang emerge from it. In the words of Wang Zongyue, one of the forefathers of Taiji Quan (also, Tai Chi Chuan), "Taiji (the perfect balance of yin and yang represented by the famous yin-yang symbol) is born of Wu Ji and is the mother of yin and yang. In motion they separate; in stillness they become one" (Wile, 1983, p. 117). Several methods of Daoist spiritual practice pass through this stage of Wu Ji before finally returning to Dao and achieving ultimate liberation (Blofeld, 1978).

**Yin and Yang (the two).** As with many typically Daoist principles, the idea of yin and yang was developed relatively early in Chinese history and later absorbed into Daoism proper. The origins of this concept are vague, but it seems the idea was concretised in a philosophical sense around the 4th century BCE, particularly in the 'Naturalist' school (Yin Yang Jia) and the work of Zou Yan (Waley, 1958). The concept seems to appear in the broken and solid lines of the trigrams and hexagrams of the Yi Jing (Book of Changes, c.10th C BCE, discussed below), but this significance may only have been attributed to the symbols at a later date.

The concept of yin and yang is fundamentally that of dichotomous opposites and can be applied to all aspects of life and the universe. Yin is dark, yang is light, yin is destructive, yang is creative. In some senses yin and yang are relatively stable constants, for example, yin is earth and yang heaven, or in man yin is the physical
body and *yang* the spiritual body. In other contexts *yin* and *yang* are cyclic processes, constantly overcoming and submitting to one another. For example, in the cycle of a 24 hour day, *yin* culminates at midnight, bringing about the appearance of *yang*, which grows over the next 12 hours until it culminates at midday, bringing about in turn the appearance of *yin*, and so the cycle continues. Grasping the basics of *yin* and *yang* is fairly easy, but mastering the subtleties of this apparently simple principle is extremely difficult and one of the primary goal of Daoist cultivation.

**Heaven, Man, Earth (the three).** 'The three' of Lao Zi’s quote does not have an explicit label like *yin* and *yang* but refers to the tripartite nature of reality in the Daoist worldview. On a cosmological level the three are Heaven (*yang*) above, Earth (*yin*) below, and Man (*yin* and *yang*), the balance of the two, in between. In man the three refers to the ‘three treasures’ of the body-mind: *jing*, *qi*, and *shen* (elaborated upon below).

**Wu Xing (the mechanism by which the ten thousand things are made).** The *wu xing* theory also seems to have been absorbed into Daoism from the *Yin Yang Jia* and owes a great deal again to Zou Yan for its solidity and clarity (Needham, 1956). The *wu xing* are the five phases of transformation through which all created things proceed. They are labelled after elements in nature and have a creative (wood, fire, earth, metal, water, i.e. wood produces fire, etc.) and a destructive (wood, metal, fire, water, earth, i.e. fire is destroyed by water, etc.) sequence (Needham, 1956). The five phases theory is fundamental to traditional Chinese medicine (TCM), with each phase being associated with the energy of a different organ. The phases (i.e. organ

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5 There are many more processes and intricacies to the theory but these are beyond the scope of the current thesis. The interested reader might refer to Needham (1956) as a starting point.
energy) must be kept in appropriate balance or ill-health will result. Similarly, in some forms of Daoist spiritual practice the phases (and the energies/processes they represent) must be brought into balance and the sequence reverted from the destructive, which leads to eventual death, to the creative, which leads to lasting life. Of course the Chinese who developed the theories were not referring to actual wood or metal in the body, and, like yin and yang, the processes to which the five phases can be applied are many and not always clearly delineated, making interpretation difficult. This may in part have been a deliberate ploy to protect family or school secrets and highlights the need for direct transmission from a teacher in Daoism to avoid confusion and to gain a thorough understanding of what textual sources might be referring to.

**Ba Gua and Yi Jing (the changes of the ten thousand things).** The *ba gua* are eight trigrams, symbols made of three broken (*yin*) or solid (*yang*) lines one above the other, representing the various transformations of *yin* and *yang*. The trigrams can be combined with one another to create 64 hexagrams. Said to represent all possible transformations in the universe, these are the symbols that make up the *Yi Jing*, the Book of Changes. The symbols are originally attributed to Fu Xi, a legendary figure of perhaps c. 3000 BCE, although it is unclear whether the symbols were attributed the same significance at that time that they have today (Cleary, 1986b). The symbols were organised into the *Yi Jing* proper, with commentaries explaining them, by King Wen of Zhou and his son the Duke of Zhou around the 10th or 11th century BCE. From that point on, and probably before, they enjoyed a special significance in Chinese culture, used by official diviners of the king and feudatories to predict outcomes and advise appropriate courses of action based on the principles
of change explicated by the hexagrams. It is most likely from these official court diviners that the Daoists inherited the *ba gua* and *Yijing* (Kirkland, 2004).

**Xian Tian and Hou Tian.** The *ba gua* mentioned above have two organisational lay-outs, representative of two different cosmological landscapes. In the *xian tian ba gua*, each of the trigrams is balanced facing its direct opposite (e.g. the Heaven trigram, of three solid (*yang*) lines, is directly opposite the Earth trigram, of three broken (*yin*) lines). This is representative of the structure of the universe before differentiation (*xian tian* means ‘before Heaven’). In contrast, the *hou tian ba gua* is unbalanced and represents the universe as it is now, after differentiation (*hou tian* means ‘after Heaven’). In a spiritual sense, *xian tian* is the uncreated, the divine, the unchanging, whereas *hou tian* is the crude, the physical, the impermanent. *Xian tian* practices focus on refining the mind and the spirit to return to the undifferentiated state, this being the ultimate goal of Daoist practice. *Hou tian* practices focus more on physical health, longevity, martial arts, etc. Daoist texts often warn practitioners of the necessity of utilising practices to develop both of these aspects, for either one without the other could be said to be unbalanced.

**Wu Wei.** *Wu wei* is an important philosophical concept in Daoism. It has been abundantly discussed in the modern philosophical literature relating to Daoism (see e.g., Graham, 1989). *Wei* is generally taken to mean ‘action’ and *wu* ‘no’ or ‘not’, so it is often translated as ‘non-action’. However, this is somewhat misleading. *Wei* refers to action that requires effort, because it tries to force its way regardless of the natural flow of things, so *wu wei* may more appropriately be understood as ‘taking no action that works contrary to the natural flow of things’ (Needham, 1956). It is
somewhat akin to a raft flowing downstream, as opposed to a boat forcing its way against the current. Of course the raft still allows some control, it will allow itself to be subtly guided to avoid obstacles and follow the path of least resistance.

De. One further concept in Daoism is that of de, which can be translated as both 'virtue' and 'power'. The significance of this is that, in Daoism, de is both; it is a moral quality but also a form of subtle energy. This is something quite foreign to the West, the correspondence of ethics and metaphysics, two branches of philosophy that have tended to remain relatively distinct here. It does, however, find something of a parallel in other Eastern traditions such as Buddhism and Hinduism in their concepts of Karma. That is to say, in some ways Karma may be considered a metaphysical counterpart of ethics, in that moral or immoral actions result in some or other Karma that will be carried out at a later date (i.e., Karma is a result of the moral quality of actions, but its fulfilment is affected upon the metaphysical world of the individual). So in Daoist living, de is to be collected just like qi or jing (see below), and the method of this is carrying out what are considered by Daoists to be moral actions.

The Daoist View of the Body-mind

The Daoist view of the human body-mind is much more integrated than most Western notions; instead of a single body and a single mind, there are several layers of body, mind, and spirit, each intimately linked with the other.⁶ Daoist praxis includes methods for the cultivation of each of these aspects detailed in their

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⁶For one example, interested readers might refer to Cott and Rock (2011).
conceptualisation. It may be helpful at this point to outline some of the more fundamental elements of the Daoist body-mind.

**Xing and Ming.** *Xing* and *ming* are two concepts or elements that broadly capture two aspects of human existence. *Xing* (often translated as 'innate nature') may be said to be *xian tian* (see above), in that it is uncreated and unchanging. In this regard, *xing* is not so much 'cultivated' as it is 'realised', although this is an obvious over-simplification. It might be compared with concepts like 'Buddha nature', the 'Christ within', etc. *Ming* (often translated as 'life') is related to the potentiality of *qi* in the individual, and may thus be said to be *hou tian*. Just as *xian tian* and *hou tian* are ideally cultivated together, the same is true for *xing* and *ming*, and so 'xing ming shuang xiu' (dual-cultivation of *xing* and *ming*) is the goal. *Xing* cultivated by itself would lead to dissolution of the individual, whereas *ming* cultivated by itself would lead to the perpetuation of the individual without any spiritual realisation. Ideally, these two are combined leading to a spiritually realised 'immortal'.

**Hun and Po.** *Hun* and *po* is another duality in the individual related to the celestial and the created. In ordinary people, the *po* is said to rule over the *hun*, leading to earthly desires and attachment to the material world dominating the individual. The goal in Daoism is to return *hun* to its rightful place as ruler of the individual, before uniting a purified version of *hun* and *po*, along with *xing* and *ming* to become a 'celestial immortal'. If this is not achieved, *hun* and *po* separate at death with the dissolution of the body and *hun* rises to exist for a while in a heavenly realm.

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7 There is a certain amount of variation in this. For example, the *Secret of the Golden Flower* (Cleary, 1991), one of the more popular Daoist texts, made famous in the West by Wilhelm and Jung (1931/1962) (see below for a discussion of Jung's analysis of this text), tends to focus more on *xing* practices, whereas schools that put a particular emphasis on cultivating *qi* may be said to put more of an emphasis on *ming*.
while *po* remains on earth as a ghost, before both eventually cease to exist.

**The three treasures; Jing, Qi, Shen.** *Jing, qi* and *shen* are the three treasures of the human body, which should be restored and refined in order to realise the goal of enlightenment and immortality. In relation to the above, *jing* may be said to be related to *po* and *shen* to *hun*, with *qi* acting as the intermediary. Each of these three has multiple varieties and degrees of purity. For example, one aspect of *jing* is the substrata on which all matter is built. If the *jing* of a thing were to be 'removed', not only would that thing cease to exist but the very idea of that thing would cease to exist (D. Verdesi, personal communication, September 15, 2008). In relation to this form of *jing*, *qi* would be the material 'stuff' built onto the substrata, and it is in this sense that some practitioners say all matter is *qi*. However, in typical Daoist fashion, the truth is infinitely more complicated, for in a very real sense, *jing* is a form of *qi*. That is to say, *jing* can be refined into *qi* and vice-versa. In the human being, *jing* is something like a life-giving force. In its crude form it is said to be lost when a male ejaculates, for it is transferred into the spermatozoa in order to give them life. Each human being only has a certain stock of this *jing*, and once it is used up the person will die. For this reason, the first step of some forms of Daoist practice is to conserve *jing* and to replenish this stock. Once this stock reaches a certain level, a 'critical-mass', it will be transformed into *qi*, and by this process the *qi* may also be replenished.

The *shen* is something akin to 'spirit'. However, there are several possible forms this can take. The Yuan Shen is the original spirit and the return of this to full expression (as opposed to obscurity), is the final goal of what is commonly known as Daoist 'Alchemy'. When *shen* interacts with the the day-to-day world in which we
live and is sullied by craving and desire, it degrades into the human consciousness with which we are familiar and its true nature is obscured. This can be termed ‘yin shen’, and the process of purifying it of mundane influence and returning its former splendour can be termed cultivating the ‘yang shen’. Alternatively, the shen is said to have ‘flown off’ in ordinary people, and must be attracted back by ‘cleaning out its abode’ (the heart-mind).

Summary

This chapter began by attempting to offer some criteria by which Daoism might be recognised. Definitional elements were discussed, highlighting the difficulties involved with these and offering a simple, if imperfect, definitional strategy of taking anything self-identified as Daoist or identified as Daoist by later self-identified Daoists as appropriate material for study under the banner of Daoism. Following this, some of the important concepts in Daoist philosophy were presented. These included cosmological elements such as Dao, de, and yin yang, as well as concepts pertinent to the body-mind such as the three treasures, hun and po, and xing and ming. Having now established an understanding of some of the basic concepts of Daoism, the following chapter will discuss the psychological study of Daoism, beginning with some preliminary considerations and then moving on to a overview of some of the psychological research into Daoism to date.
Chapter 4 - The Psychological Study of Daoism

Why Study Daoism?

There are a number of compelling reasons why psychologists might wish to study Daoism. Daoism developed over several thousand years in constant interaction with the mainstream Chinese culture, both taking from it and contributing to it (Kirkland, 2004). Indeed, it is in many ways a fundamental background to modern Chinese thought (Nisbett, 2003). Thus, cross-cultural psychologists may gain insight into both modern and ancient Chinese and East Asian thought through the study of Daoism.

Furthermore, Daoism (along with Confucianism) may be the closest thing to an indigenous psychology of China. Like early Western psychology, Daoists used techniques like introspection in an attempt to gain insight into the workings of the mind. They also applied methods similar to those used in cognitive-behavioural therapy, in that they attempted to consciously gain control of and alter their interpretations of events and the world around them, while utilising techniques such as meditation for clarity of mind and calmness. However, Daoism evolved in a very different cultural milieu to Western psychology and may consequently have developed differing opinions regarding certain aspects of the mind and how best to establish positive mental health. Thus, the insights and opinions of Daoism regarding the mind may help Western psychologists to gain different perspectives, and the methods used in Daoism might be adapted to provide new techniques for Western psychologists to apply in their own practice.
Defining the Field of Enquiry

Any psychologist who wishes to study Daoism must be aware of the source material from which to draw their data. There are two primary sources of Daoist material potentially amenable to study by the psychological community: (1) the living Daoist tradition; and (2) textual sources such as those included in the Daozang (Daoist canon). The purpose of this section is to elucidate these two sources in order to provide a background for the current thesis.

Despite its 2000 year history, leading up to the present day, and widespread influence on one of the most populous nations on the planet (i.e., China), Daoism is one of the least understood religious and philosophical traditions. However, scholarship in the last 20 years has gone a long way toward addressing this issue, thanks to the contributions of Kirkland (2004), Kohn (2000a), Pregadio (2008a), Robinet (1997), and a multitude of others. Without delving too much into the political, cultural, and academic reasons for the misinformation about Daoism that permeated much of 19th and 20th century scholarship, what is presented here is a brief overview of what might be considered Daoist for the purposes of psychological study.

Daoism is a complex syncretic tradition (i.e., it has absorbed outside elements and ideas, which then became identified with Daoism), that has evolved over thousands of years within a complex cultural, social, and political climate. The term, Daoism (Daojia), was first used in the second century B.C.E. by historians and bibliographers to bring together a collection of writings that they concluded belonged together (Kirkland, 2004). These included the famous Dao De Jing (otherwise known as the Laozi after its alleged author) and Zhuangzi, but it is
important to note that these texts were grouped together retrospectively and that there was no coherent Daoist tradition before this time. This is not to say that the *Dao De Jing*, the *Zhuangzi*, and other early Daoist texts are not related through common themes. Indeed, eminent scholars of Daoism such as Kirkland (2004) and Robinet (1997) have suggested that there may have existed a tradition of mystical and psychospiritual cultivation, which included meditation and other *yangsheng* (nourishing life) techniques found in much later Daoist movements. They have further suggested, giving examples, that references to the techniques common to this tradition can be found in the *Zhuangzi* (e.g., *zuowang*—sitting and forgetting), the *Dao De Jing* (e.g., *baoyi*—embracing unity), the Neiye and Xinshu sections of the Guanzi (e.g., *xiuxin*—cultivating the heart-mind), and several other texts of around the same period (circa fifth to third century B.C.E.), including works related to the *fangshi* (court magicians) and *wu* (shamans) such as the *Chuci* (Songs of Chu). Thus, while Daoism as a distinct tradition did not exist prior to the Han dynasty (206 B.C.E. to 220 C.E.), texts like the *Dao De Jing* may represent a movement loosely based around a set of beliefs and practices that became the basis for, and indeed permeated much of, what later became known as Daoism.

Over the next 2000 years Daoism continued to develop, producing four relatively distinct movements; Tianshi, Shangqing, Lingbao, and Quanzhen Daoism. Two of these (Tianshi and Quanzhen) continue to exist today. Furthermore, the Lingbao school was later subsumed under the Shangqing school (Yamada, 2000), which was subsequently subsumed under the Tianshi movement (Robinet, 2000); thus the beliefs and practices of all four movements survive today in some form or another.

To give a very cursory overview, Tianshi (also, Wudoumi, also, Zhengyi) was
the first institutionalised form of Daoism, emerging during the second century C.E. It places great emphasis on the *Dao De Jing* and the Tianshi commentary on it, the *Xiang'er* (approximately half of which survives today thanks to textual fragments uncovered at the Dunhuang archaeological site and reconstructions from quotations in other sources; Kleeman, 2008). Tianshi has strong moral and liturgical elements, and individual practice is limited when compared with other Daoist movements (e.g., Chen, 2008; Nickerson, 2000; Robinet, 1997). The second tradition to emerge was Shangqing, which began with a series of teachings and texts purportedly revealed toward the end of the fourth century C.E. Shangqing practices are largely individual and involve, among other elements, a great deal of visualization and so-called ecstatic journeying, reminiscent of much earlier traditions such as those expressed in the Chuci (e.g., Robinet, 2000, 2008).

The Lingbao tradition is somewhat more difficult to trace. Lingbao texts began to appear around the late fourth century and early fifth century C.E. (possibly as a reaction to Shangqing, just as Shangqing may have been a reaction to the import of Tianshi into southern China). However, some of these were redactions of earlier texts and there existed texts prior to this time with Lingbao in their title, such as the *Lingbao Wufu Jing* cited in Ge Hong's (283–343 C.E.) *Baopuzi* (Bokenkamp, 2008a). Lingbao texts borrowed heavily from a wide variety of sources, so much so that they were sometimes accused of plagiarism by Buddhists and even other Daoists, such as the famous Shangqing patriarch Tao Hongjing (Bokenkamp, 2008b). Influences on Lingbao thought and practice include *fangshi* practices, Han dynasty apocrypha, the tradition of psychospiritual practices and immortality techniques represented by Ge Hong, Tianshi and Shangqing Daoism, and Buddhism (see e.g., Bokenkamp, 2008a; Robinet, 1997; Yamada, 2000). Finally, Quanzhen was originated around 1170 by
Wang Zhe. Quanzhen has a strong tradition of individual practice, in particular neidan or internal alchemy (a form of energetic meditation utilizing the terminology of alchemy to describe internal processes), and it was not uncommon for Daoists of other schools to spend time in Quanzhen communities in order to gain access to this tradition (e.g., Goossaert, 2008; Yao, 2000).

To facilitate study and understanding of these four main lines of Daoism and their companion texts, Kohn (2000b) suggested a categorical simplification into four main subject areas: philosophy, history and literature, ritual, and practices and techniques. The philosophical element is already largely addressed by scholars such as Graham (1989) and Hansen (1992), and will no doubt continue to be addressed by many more. Similarly, the historical and literary elements of Daoism are receiving a great deal of attention from scholars such as Kohn (2000a), Kirkland (2004), Robinet (1997) and others. Daoist ritual may be of some interest to psychologists, especially from a social or cross-cultural psychology perspective. However, the areas that are likely to be of most interest to psychologists are the practices and techniques of Daoism. These practices (and the beliefs upon which they are based), as they are represented in the living tradition of Daoism (i.e., in Tianshi, Quanzhen, and in some of the smaller yet no less important lines of Daoism that still exist), are perhaps the most valuable source for psychologists wishing to engage in a serious study of Daoism.

Aside from this living tradition, one further source of Daoist material is textual data, in particular as represented in the Daozang, the Daoist canon.8 While several

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8 Of course the received version of the Daozang is not exhaustive in regards to ancient texts that may be considered Daoist. For example, any text included in earlier editions of the Daozang but absent from the current one, or some texts excavated from archaeological sites that had previously been thought to be lost, such as some of the Dunhuang manuscripts, may also arguably be considered Daoist. Similarly, smaller Daoist collections, such as the Zangwai Daoshu, should also be consulted.
Daoist canons have been compiled over the history of Daoism, the only one that survives has an extremely convoluted organizational structure, making it difficult to study even for scholars devoted entirely to the task. Fortunately, through the efforts of the Tao-tsang Project, including scholars such as Despeux, Goossaert, Pregadio, Robinet, and Schipper, and culminating in a three volume work edited by Schipper and Verellen (2004), the canon has become somewhat more accessible. Schipper and Verellen re-organized the canon into chronological divisions, which are, in turn, organized into typological classifications, making it much easier to find and relate texts from a certain era, within a certain tradition, regarding a certain topic (e.g., Litanies, of the Lingbao tradition, from the Sui, Tang, and Five Dynasties eras). Furthermore, for each text in the received Daozang, there is a title in both pinyin and Chinese characters, a work number indicating their original order in the Daozang, an approximate date, where applicable an author, and an article discussing historical information relating to the text and summarizing its contents.

Needless to say, the majority of the texts present in the Daozang have not been translated in full, but Schipper and Verellen (2004) have gone a long way toward opening up the Daozang for study. Furthermore, many of the important Daoist texts have been translated and these present a preliminary source of data pending further translations. However, caution must be taken when interpreting textual data relating to Daoism. There is a strong tradition of oral transmission in Daoism, and an equally strong tradition of secrecy. Thus, many Daoist texts are either incomplete or deliberately encoded in such a way that they cannot be interpreted without the corresponding oral transmission. This further emphasizes the importance of textual studies being conducted in conjunction with studies of the living tradition of Daoism, as outlined above. The potential difficulty in using textual sources in the study of
Daoism from a psychological perspective does not negate their usefulness, however they must certainly be approached with appropriate care and caution.

In summary, given the preceding outline of Daoist source material, psychologists wishing to study Daoism have two primary sources at their disposal. The first is the living Daoist tradition as represented primarily by the Quanzhen and Tianshi lineages that exist today. The second is the textual tradition as preserved in the Daozang and other smaller collections such as the Zangwai Daoshu. The next section will discuss some of the issues that must be taken into consideration when attempting to study Daoism, before going on to review previous psychological research that has investigated the living Daoist tradition and/or the textual tradition.

**Issues with Studying Daoism**

**Cultural context: Eastern mind vs. Western mind.** One of the primary considerations when studying elements of a different culture, especially Western to Eastern, or vice-versa, is differences in thought-processes and worldview. Richard Nisbett (2003) has been a pioneer in this field, utilising a variety of well designed and well implemented studies to highlight some of the distinct differences between Eastern and Western thought.

The most salient differences between Eastern and Western cultures, collectivist (Eastern) versus individualist (Western) tendencies, can be found in even introductory social psychology textbooks (e.g., Vaughan & Hogg, 2002). Briefly, individualist cultures tend to focus on the individual, viewing the self as a unitary free-agent, which deserves individual liberty and freedom of self-expression. Collectivist cultures, on the other hand, tend to focus more on the group, viewing the
self as part of a greater whole, and sacrificing individual expression and personal gain for group harmony and collective benefit. However, while these types of general characteristics of Eastern and Western cultures are relatively well known in the psychological community, Nisbett’s research seems to suggest that they may be expressions of more pervasive, underlying mechanisms. For example, Masuda and Nisbett (2001; Masuda & Nisbett, 2002, as cited in Nisbett, 2003) found that, compared to University of Michigan students, who tended to de-emphasise or ignore the background when shown simple vignettes, students from Kyoto University recognise a great deal more background objects and relationships between events, and even relied on these for recall. These studies and others like them (e.g., Ji, Peng, & Nisbett, 2000) seem to indicate that Eastern cultures are much more dependent on context, and literally view the world as a complex series of relationships, rather than a series of independent elements.

Another element highlighted by Nisbett and his colleagues is that Easterners seem to prefer to group objects based on relationships, where Westerners prefer categories. Ji, Zhang, and Nisbett (2004) showed students from mainland China and Taiwan and students from the U.S. groups of three words (e.g., panda, monkey, banana), two of which were from the same category (e.g., panda and monkey are both animals) and two of which were thematically related (e.g., monkeys eat bananas). When asked to choose which two words went together, the Western students displayed a preference for grouping by categories, whereas the Eastern students showed a preference for thematic relationships. Similar studies (e.g., Norenzayan, Smith, Kim, & Nisbett, 2002) have reinforced these preferences for categories in Westerners and familial resemblance in Easterners. One interesting example of these types of preferential differences in classification was highlighted
by Imae and Gentner (1994). They showed Japanese and American participants an object of a particular shape and a particular substance, then asked participants to choose the object that was the same as theirs, giving them two choices. One of the choices was the same shape as the original object, but made of a different substance, and the other object was made of the same substance as the original object, but was a different shape. Japanese participants showed a preference for selecting based on substance, whereas American participants displayed a preference for selecting based on shape.

The consequence of these differences for the psychological study of Daoism is that we must view Daoist materials in this light. Elements of Daoist 'science' are likely to be highly integrated with each other in a holistic manner, and we certainly find this to be the case. The three primary elements of Daoist 'alchemy', jing, qi, and shen, can all be transformed into one another and are more accurately viewed as different stages or manifestations of a single element. Likewise, mind and body are not easily distinguished as distinct entities in Daoism, and this creates obvious issues for an 'atomistic', Western scientific perspective. Obviously there is a need to develop operational definitions of certain elements if we are to subject Daoism to scientific study, but it is important to realise that Daoists never viewed this as a necessity, and indeed it would most likely have been seen as nonsensical from a Daoist perspective. Those who wish to study Daoism then must walk a fine line between staying true to Western scientific principles and turning Daoism into something it is not by artificially reifying Daoist constructs in a Western light.

**Translation.** There are several issues that immediately present themselves whenever one attempts to study a tradition primarily developed in another language,
especially when that language is no longer in common use (e.g., Sanskrit, Classical Chinese). Classical Chinese proves particularly difficult for translators, given the uniqueness (some might say sparsity) of its grammar and multiple possible translations for single words (Pulleyblank, 1995). For example, in the first line of the Dao De Jing, [ 道可道 非常道 ], the character 道 (Dao) appears three times. The first and third times appear to have the same meaning, the 'Dao' of 'Dao De Jing' and 'Daoism' (ref. The underlying principles of Daoism section of this thesis). However, the second time this character appears it seems to take the form of a verb. The second character [ 可 = ke ] can be taken as 'can' or 'able', so the first part of the line reads something like 'The Dao that can Dao'. This first line has been rendered as “The way that can be spoken of is not the constant way” (Lau, 1963, p. 3), “The Way that becomes a way is not the Immortal Way” (Pine, 1996, p. 1), “The Way that can be told of is not an Unvarying Way” (Waley, 1958, p. 141), “The Tao that can be trodden is not the enduring and unchanging Tao” (Legge, 1891/1997, p. 1), “The reason that can be reasoned is not the eternal Reason” (Carus, 1913/2000, p. 30), and countless other variations in the excess of Dao De Jing translations. The lack of an explicit subject and tense for the verb form of 'Dao' further adds to the difficulty of interpretation.

It is understandably the desire of most translators to present something that is clear and coherent, however it is quite possible that this was not the intention of the author of the Dao De Jing. Had the author wished to be clearer they most likely could have been, and it may be that such an apparently paradoxical statement, the Dao that can Dao is not the Dao, was the best way to express what they wanted to say. Without knowing what the author of the Dao De Jing wanted to say, interpretation of such a cryptic text is understandably daunting. It is at this point that
it may be prudent to turn to modern-day practicing Daoists for help, something that has not been a common trend in the past. It is likely that current Daoists may be able to clarify, to some degree at least, the intended meaning of certain textual material, assisting translators in choosing appropriate terms in which to express ancient writings. Indeed, the current author was told by one practicing Daoist that modern English translations, when presented to his masters, were met with an amused smile at best (D. Verdesi, personal communication, August 6, 2009). If this is any indication, modern translators certainly have room for improvement and given their cooperation, modern Daoists may have a good deal to offer in this regard.

**Obscurity and metaphor.** There is a strong tradition of poetry and metaphor in Daoism. Many of the most prominent Daoist texts, including the *Dao De Jing* and much of the *Zhuangzi*, are written as poems. Likewise, many of China's most famous poets have been Daoists (Van Over, 1984), so it would appear that at least part of this function was aesthetic (and probably also mnemonic, in the sense that it is easier to remember a poem than a piece of prose). However, Daoists also used metaphor to protect their secrets from the uninitiated. For example, in one form of Daoist subtle energy practice, the union of two primary 'subtle energies' is called, "the 'deep intercourse of the dragon and tiger'; or else the 'metal and wood jointed together'; or else the 'tortoise and snake encoiled', or the 'red and black pitched in together'," and the list goes on (Bertschinger, 1994, p. 30). Similarly, processes and energies are often referred to via the hexagrams and trigrams of the *Yi Jing* (groups of three or six lines, respectively, which represent different combinations of *yin* and *yang*; Cleary, 1986b). This use of metaphor not only protected the secrets of Daoists, but also allowed them to use the same phrases to explain different processes at
different times, according to the lesson the teacher wished to present (Bertschinger, 1994). This is possible due to the Daoist view of what might be called 'harmonics' between all levels of reality. That is to say, *yin* and *yang*, for example, are present in all levels of being and activity, from the movements of the sun and moon, to the inner workings of mind and body (Cleary, 1986a). This may be convenient for Daoist teachers, but presents obvious difficulties when attempting to study these texts from a Western scholarly approach. In general, if something cannot be clearly delineated then it does not readily lend itself to Western scientific study, because we cannot be sure whether, in any particular case, we are talking about one thing or another.

**Ineffability.** Another issue that presents itself when dealing with many, if not all, mystical traditions is the problem of ineffability. That is to say, it is often reported that the most profound mystical experiences are not amenable to verbal expression, which means that they are not communicable from one person to another in any ordinary sense of the word. This presents obvious difficulties for the scientific study of such states, for if they cannot be expressed, then they cannot readily be operationalised. One approach to addressing this issue is to treat ineffability itself as a variable, and studying its presence or absence along with other variables that can be expressed with words. Another method is to approach these ineffable states indirectly, through symbolic language, and this seems to have been the method most commonly adopted by Daoists in the past.

Crawford (1996) suggests that philosophical aspects of Daoist texts may utilise paradoxes in order to express something which, by nature, cannot be put into a logical, linear linguistic framework. For example, the union of opposites, *yin* and
yang, is a common theme in both practical and philosophical Daoism (which are never far apart). However, to a linear thought process (e.g., syllogistic reasoning), the temporal and special identity of opposites such as 'is' and 'is not', or 'full' and 'empty', is logically incoherent (and therefore impossible according to many Western sensibilities). By the use of linguistic techniques such as paradox, the authors of such texts may be attempting to move the reader to a mental space in which such logical impossibilities become possible.

**Philosophical issues.** The psychological study of Daoist practices may benefit from at least a cursory consideration of several philosophical issues. Due to the differing cultural and philosophical roots of Daoism, to attempt to 'slot' Daoism into existing Western philosophical categories is likely to lead to errors and misunderstandings. For example, Daoism does not clearly fit into either a Monist or a Dualist position in regards to the 'mind-body problem'. Different schools of Daoism take different positions on this but the lines are more often than not drawn in completely different ways to what we are familiar with in the West. The author of the *Secret of the Golden Flower* (Cleary, 1991), taken as an example, draws a distinction between two minds, (a celestial, 'true' mind and a mundane 'human' intellect), while making very little reference to the body. Other classics of Daoism, such as the *Nei Ye*⁹ (Roth, 1999), discuss subtle energies that do not seem to appear in Western literature and are not easily classified as either 'physical' or 'mental' phenomena.

Another consideration that psychological researchers of Daoism must address is their position regarding the epistemological status of Daoist constructs. While this

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⁹ The *Nei Ye* is the earliest text to make reference to subtle forces such as jing and qi, and appears to be the earliest work from a school of thought that influenced much of later Daoism. However, due to its categorisation as 'miscellaneous', rather than 'Daoist' in early taxonomies (produced in the absence of consultation with the 'Daoist leaders' of the period), it has often been overlooked as an important text to Daoism (Kirkland, 2004).
is largely the domain of philosophy and not psychology, it is important in that it will, for example, inform how a researcher views classic texts of Daoism. If the researcher takes a constructivist approach (i.e., that the phenomena discussed in Daoist texts are largely a construction of the author’s mental set and the socio-cultural milieu in which they are situated; see e.g., Katz, 1978), then the researcher is likely to view texts written by different authors from different time periods and socio-cultural climates as distinct works, and attempt to draw meaning from the texts independent of other texts. If, however, the researcher takes a decontextualist approach (i.e., that the phenomena discussed in Daoist texts have a common ontological reality separate from the author’s mental set and socio-cultural context; see e.g., Forman, 1990), then they are more likely to look for a common element underlying texts from different time periods and socio-cultural climates, which the different authors have ‘tapped into’ and are simply attempting to express in their own words.

**Prior Psychological Research into Daoism**

There has been very little research into Daoism by Western psychologists to date by comparison to other related traditions such as Buddhism. There were some early explorations by major figures such as Jung and Maslow, but these are limited. In the last decade, however, a small group of scholars have begun to examine the relationship between Daoist ideas and Western psychology in more detail. For example, an edited volume was recently released by Kohn (2011) in which psychologists and Daoist studies scholars collaborated in order to explore what Western psychology might learn from Daoism and vice-versa. This is an encouraging work and hopefully the beginning of a trend towards greater interest in Daoism by
Western psychological researchers. Some of the work that has been done in regards to this relationship will now be summarised, beginning with the work of Jung and his followers.

Analytical Psychology and the contribution of Jung. Perhaps the first Western psychologist to attempt a serious study of Daoism was Jung, in his commentary on the Taiyi Jinhua Zongzhi (translated as The Secret of the Golden Flower; Wilhelm & Jung, 1931/1962), a classical Daoist text translated by Richard Wilhelm. Jung essentially interpreted this text as a commentary on the nature and function of what he deemed to be psychological constructs, namely hun and po (also, p’o). Wilhelm and Jung disagreed to some extent regarding whether hun should be translated as animus or logos. Jung rendered hun as animus in females, and logos (i.e., the “masculine clarity of consciousness and reason”; p. 117) in males, and po as anima, the feminine, emotive aspect of man, unthinking and independent of the conscious mind (Jung & Storr, 1983). It would seem Jung decided to render hun differently for males and females because, he suggested, the Chinese neglected to address the “female mind” (Wilhelm & Jung, 1931/1962, p. 117) in any great detail and consequently overlooked the need for such a distinction. Despite considerable evidence to the contrary, if one accepts Jung’s position that Daoists tended to only consider the male mind, then the Taiyi Jinhua Zongzhi is likely to only be discussing male psychology and so hun may be rendered as logos and po as anima.

Jung’s (and Wilhelm’s) decision to render hun and po as logos and anima, respectively, was in the current author’s opinion an error, as from this point on the

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10 From the outset, the importance of the feminine in Daoism was made clear. Female and maternal characteristics are held up as desirable and necessary in the Dao De Jing. Consequently females have had at least an equal standing in Daoist institutions throughout the history of the tradition. For a discussion of the roles of women in Daoism see Despeux (2000). For a selection of writings attributed to prominent female Daoists see Cleary (1989).
terms of Jung's textual analysis were vis-à-vis set a priori. In other words, if Jung were conducting a qualitative analysis of the text, his approach imposed certain limited criteria on the text, rather than allowing the meaning of terms such as hun and po to be drawn from the text itself. Furthermore, a new translation of the text (Cleary, 1991) has demonstrated Wilhelm's translation of the Taiyi Jinhua Zongzhi not only to be incomplete but, in many places, textually inaccurate. Thus, the use of an inaccurate translation and a constrained qualitative methodological approach, coupled with lacunae in Daoist scholarship prior to the past 20 years or so (see above), led to an inevitably limited interpretation of the text.

In response to the apparent insufficiency of prior analyses, Cott and Rock (2011) conducted a thematic analysis on the text of the Taiyi Jinhua Zongzhi, translating the text in light of current understandings of literary Chinese (e.g., Pulleyblank, 1995) and Daoist scholarship, and eliciting from the text itself the meaning of the concepts discussed in the text. The results of this analysis suggest that the author of the Taiyi Jinhua Zongzhi considered the hun and po to be, rather than purely psychological constructs, two of the five souls of some Daoist worldviews, to which Daoists attribute a metaphysical reality (e.g., Pregadio, 2008b). Hun facilitates seeing by day and dreaming by night, and thus appears to be related to the conscious experience of something, particularly in relation to visual phenomena. Po is the source of emotions and desires and is what binds the self to the physical body and ordinary worldly experience. Interestingly, if one interprets logos as essentially relating to consciousness and anima as relating to the individual unconscious, then Jung has effectively attributed consciousness to hun and unconsciousness to po. However, as we can see in Cleary's (1991) translation, “The lower soul (po) functions in association with consciousness, and consciousness
develops based on the lower soul” (p. 14). Of course Jung did not have access to this particular translation, but this passage would seem to suggest that the majority of human psychological experience, under ordinary circumstances, is the domain of the po. Indeed, under ordinary circumstances the po is allowed to subjugate the hun, resulting in the ordinary mind, the conscious spirit, the light of consciousness. What the text compels the reader to do is to invert the position of hun and po, refine the hun and control the po. This configuration will, in turn, bring about, rather than the ordinary mind, the celestial mind, rather than the conscious spirit, the original spirit. This celestial mind is the final goal, and the text associates it with a multitude of lofty spiritual attainments. Even this cursory summary demonstrates the inadequacies of Jung’s treatment of the text. Furthermore, hun and po are only two of many important constructs in the original text, details of which can be found in Cott and Rock (2011).

Following up on Jung’s initial work, several authors (e.g., Cambray, 2005; Zabriskie, 2005) have commented on the significance of Daoism to Jung in particular and analytical psychology in general. The primary focus of these authors has been Jung’s work with another classical Chinese text, the Yi Jing, and its influence on his concept of synchronicity. Jung argued that the Yi Jing, a manual for understanding the laws of nature and forecasting the changes they bring about, relied not on causality, but on a principle of acausal correspondence between the internal world of the individual and the external world of the cosmos (Jung, 1930). It was this principle, asserted Jung, that led to momentary acausal correlations between the internal and external, an event for which he coined the term synchronicity. Jung contended that this principle was essential to understanding the relationship between the collective unconscious and the external world, in that, through some sort of
harmonic resonance it formed an implicit link between the two domains (Coward, 1996). Consequently, it was through understanding this principle of synchronicity that a balance could be found between tendencies toward introversion (or excessive focus on the internal world and, at its extreme, the collective unconscious) and extroversion (or excessive focus on the external world; Coward, 1996). Indeed, Coward has argued that the movement from ego to Self in Jung’s psychotherapy could only occur once this balance was achieved.

Undoubtedly, the initial work of Jung paved the way for Western psychologists to learn from the philosophies and religions of the East, and this trend continues today. Shifting focus from analytical psychology to what has been called the third force in psychology, one can see that the humanistic psychologies of Rogers, Maslow, and others seem to be even more closely related to traditional Eastern trends and, in particular, Daoism.

**Humanistic Psychology.** A prime example of comparisons between humanistic theories and philosophical Daoism can be found in Lee (2003). Lee contrasted humanistic psychology with seven principles of classical Daoist philosophy: *wu wei*\(^1\) or non-interference, allowing nature to take its course and answers to appear of themselves; openness and tolerance; a water personality, water flowing downward to assume the lowest position and yet benefiting all, while its softness is able to overcome even the hardest things (such as stone); high regard for females and the female principles of softness and receptivity; moderation in all things; concern for the welfare of others and the world; and opposition to war and conflict. Lee

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\(^1\)There has been a great deal of debate over the meaning of the term *wu wei* in the philosophical and anthropological literature, but non-interference is used here as this is the primary meaning Lee (2003) attributed to *wu wei*. Interested readers should refer to Graham (1989) for a useful introduction to the topic.
contended that sensitivity to these principles will serve to advance modern, Western humanistic psychology and bring it closer to a global, acultural psychology. The contribution of Lee and others like him is certainly a service to Western psychology and may assist in furthering our understanding of the human condition. However, as stated above, the present author would caution against placing too great an emphasis on a few, early philosophers (e.g., Laozi in the case of Lee, 2003) at the risk of overlooking the rest of Daoism’s rich history. The principles expounded in texts such as the Dao De Jing are without a doubt fundamental to Daoism, but to focus solely on these would result in the oversight of a great deal of valuable philosophical and psychological material.

While Lee (2003) at least provided an in depth and considered treatment of the one Daoist text he focused on (the Dao De Jing), others have been less thorough. Rosen and Crouse (2000), for example, contrasted the fundamental theoretical positions of Jung, Erikson, and Maslow with what they understood to be the essential viewpoint of Daoism. While there may initially appear to be considerable similarities between these four perspectives (e.g., movement toward a more integrated self-concept), when examined more thoroughly it becomes evident that the similarities between Jung, Erikson, and Maslow’s standpoints on the one hand, and Daoism on the other hand, are only present on a superficial level. Indeed, each point of view emphasizes the importance of one becoming a whole and balanced individual. However, the nature of this goal, and the process leading to it, is viewed rather differently within Daoism as compared to the Western approaches, especially when a broader range of Daoist material than the early texts of philosophical Daoism (e.g., Dao De Jing, Zhuangzi) are taken into consideration.

As an example, an examination of the Jindan Sibaizi Jie (translated in Cleary,
1986a) reveals a fundamental distinction between Erikson and Maslow's views of human development and one exemplary Daoist view. In brief, the Daoist conception of human development presented in the Jindan Sibaizi Jie consists of seven stages. The first stage is prior to birth, where there is no differentiation of individual aspects of the person, called "primordial, true, unified generative energy" (p. 60). The second stage is that of the infant, where the duality of primordial (that which is pure) and temporal (that which is conditioned and therefore sullied) first appears, but they are still fundamentally one (the primordial is related to hun and the temporal to po in the Taiyi Jinhua Zongzhi; see above). The third stage is that of the child, in which discrimination and cognition first arise, however the child is still spontaneous and primarily led by the primordial. The fourth stage is the first in which discrimination truly begins to take effect, the artificial and acquired enter into the original and true, and distinctions between good and bad arise. In the fifth stage, all that confuses the mind takes over, discriminatory awareness arises, the temporal takes control and the primordial is subdued. The sixth stage is the conquest of the primordial by the temporal, the pure by the conditioned, emotions and desires confuse the mind, and acquired conditioning rules affairs. In the final stage the mundane gradually increases and original purity gradually decreases, until eventually it is completely exhausted, at which point death ensues. While this is the ordinary condition for humans, the author, Liu Yiming, appears to believe that by practicing his methods people can reverse the process, travel back through the seven stages and reach original, primordial purity (Cleary, 1986a). This is distinct from humanistic theories not only in the appearance of the stages described, but in the concept of reversal. Maslow and Erikson put forward progressive, hierarchical models, such as progression from birth, to satisfaction of basic survival needs, social and
interpersonal needs, and finally to satisfaction of personal growth and spiritual needs (Maslow, 1968). On the other hand, this particular Daoist model considers movement away from a unified center toward entanglement in the world degenerative, whereas the opposite movement, a return toward unification, is considered positive (Cleary, 1986a). Indeed, the idea of reversal has permeated Daoism from the beginning, as exemplified by the *Dao De Jing* advocating a return to the state of the infant.

Taking a somewhat different approach from Rosen and Crouse (2000), Chang and Page (1991) simply compared Rogers' and Maslow's self-actualized person with the sage of Laozi's Daoism. Unfortunately, as Piechowski (1991) pointed out, Chang and Page (1991) committed the error of assuming that Rogers' fully functioning person and Maslow's self-actualizing person are the same. Furthermore, while Rogers and Maslow may have included Daoist sages as self-actualizers/fully functioning people, Laozi may not have recognized all self-actualizers as sages, so self-actualization cannot necessarily be equated with sagehood. Furthermore, there is a great deal of difference between most of Daoist praxis as outlined in texts such as the *Taiyi Jinhua Zongzhi* (Cleary, 1991), the *Zuowanglun* (Kohn, 1987), or the *Wu Zhen Pian* (Cleary, 1987; e.g., the emphasis on individual practice, and indeed the nature of such practices) and the methods used by Rogers and Maslow (such as the facilitation of others through counselling). Similarly, there are subtle distinctions that may set Daoists apart from other self-actualizers, such as withdrawal from society (not necessary but common in Daoism, as evidenced by the preponderance of Daoist hermits; e.g., Blofeld, 1978). It would therefore seem that, on a more thorough examination, self-actualizers/fully functioning individuals are not synonymous with Daoist sages.
Counselling. Over the last decade a small number of researchers and practitioners have been attempting to bring Daoist ideas into the therapy room. Perhaps primary among these is Robert Santee. In his volume (Santee, 2007), he discusses Daoism, along with Buddhism and Confucianism, and how it can be used to alleviate stress and other mental health issues. Santee (2008) focuses particularly on the *Zhuangzi*, and argues that it proposes the reason for stress is the creation of artificial dichotomies (e.g., good/bad, right/wrong, etc.) and clinging to the perceived positive of these, such as wealth, fame, status, and so on. *Zhuangzi*’s solution then, according to Santee, is to embrace change, rather than resist it and to examine our false dichotomies and realise that they are always relative and never absolute. Every one of us is going to live and die, money and status will come and go, if a person embraces this change and does not put any absolute value on one side or another, the source of stress and suffering dissolves and they can be happy. Santee (2011) further elaborates on this position and applies the ideas presented in the *Zhuangzi* to counselling in general, examining issues such as attitudinal change, cognitive restructuring, and what might be termed ‘self-actualisation’.

Davis (2011) also discussed possible intersections between Daoism and modern Western psychology, in particular focusing on positive psychology. For example, Davis notes the potential relationships between Daoist thinking style and optimism, and lists many of the positive mental and physical health benefits that have been documented in relation to optimism. Similarly, Davis highlights the many benefits of positive affect and suggests that Daoism may foster these also. Thus, according to Davis, there is already a great deal of support for the positive effects of Daoism on mental and physical health, albeit indirect, which is rationale enough to further examine the relationships between Daoism and modern Western psychology.
more directly.

**Empirical studies.** To date, the experimental study of the psychology of Daoism has been rather limited, and has primarily been in the form of *qigong* studies. The term *qigong* is used to refer to certain sets of exercises designed to develop and manipulate either the breath, and/or the *qi*, a form of subtle energy (Zhang, 2004). While not solely, or even strictly, Daoist,¹² studies of *qigong* phenomena may inform psychological researchers regarding concepts common to Daoism (e.g., *qi*). One of the major contributors to the study of *qigong* practices is Myeong Soo Lee and his colleagues (Lee et al., 2001; Lee, Kang, Lim, & Lee, 2004; Lee, Rim, & Kang, 2004). While primarily involved in the study of the physiological effects of various *qi* practices, Lee has conducted several studies that included psychological variables. For example, Lee et al. (2001) examined the effects of a Korean *qi* therapy (ChunSoo Energy Healing) on anxiety, mood, and several physiological variables such as blood cortisol levels. A *qi* master either conducted *qi* therapy (experimental condition) or mimicked the movements of *qi* therapy without any intent to heal (sham placebo control) on 20 participants. Despite the small sample size, Lee et al. found significant group-by-time interactions (across Pre-intervention, Post 1 [15min], and Post 2 [70min]) for decreases in state anxiety (p < .05) and total (negative) mood score (p < .01). Utilizing a similar design and the same *qi* therapy, but this time with a repeated-measures design (i.e., participants served as their own controls), Lee, Rim, et al. (2004) found higher levels of satisfaction (vs. dissatisfaction; p < .05), relaxation (vs. boredom; p < .001), and calmness (vs. excitation; p < .001) in experimental vs. sham conditions. One caveat

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¹² Indeed, there is evidence to suggest that the idea of *qigong* is a modern invention, with the same or similar sets of exercises being referred to historically by different names, such as *daoyin* (Palmer, 2007; Zhang, 2004).
with between groups designs such as Lee et al. (2001) is that care must be taken to avoid what may be referred to as selection-testing threat. Selection-testing threat occurs when there is a differential effect between conditions in post-test scores due to the effects of the pre-test in and of itself. That is, it is plausible that the pre-test primed the participants in each condition differently. Consequently, it is arguable that observed post-test differences cannot necessarily be attributed to the treatment; the differences could be the result of selection-testing (Trochim, 2006). One way to avoid selection-testing threat would be to include a treatment condition that is administered the pre- and post-test and a treatment condition that is only administered the post-test. If there are no significant differences between the two treatment conditions with regards to the post-test scores, then one may conclude that the results are not attributable to selection-testing (Trochim, 2006).

Lee, Kang, et al. (2004) chose to take a somewhat different approach to that described above. Instead of participants receiving treatment from a qi master, they learned a set of practices (from the same school as ChunSoo Energy Healing) aimed at self-treatment. A placebo condition was also included, whereby participants learned the same set of exercises taught in the experimental condition, but without any conscious effort to gather or move qi. A significant group-by-time interaction was found, whereby anxiety was reduced in the experimental group pre- to post-intervention, but not in the placebo group (p < .005). In other words, the practice of Korean ChunDoSunBup qi training (but not a similar placebo version) reduced anxiety in those practicing it. As with the study mentioned above, Lee and colleagues’ design does not control for selection-testing threat.

Johansson, Hassmén, and Jouper (2008) also examined the effects of self-treatment. However, this study investigated a different practice referred to as Jichu
Gong. They found significant group-by-time reductions in anxiety (p < .01), depression (p < .005), anger (p < .0005), and fatigue (p < .0005). However, this study was considerably less sophisticated than that by Lee, Kang, et al. (2004), lacking, for example, a placebo condition. That is to say, instead of undertaking an alternative form of physical exercise, the control condition merely sat and watched a lecture, while the treatment condition practiced the Jichu Gong exercises. It is possible that doing any exercise might have had the same effect as the Jichu Gong exercise when compared with participants sitting and watching a lecture. Furthermore, the participants in the study were self-selected, so one must be careful in interpreting these results due to the possibility of extraneous influences on the data (e.g., bias due to vested interest in supporting the efficacy of the school to which participants belong).

In another study (Jouper, Hassmén, & Johansson, 2006), a self-report questionnaire was administered to ascertain whether qigong practice was associated with improved health. Positive correlations were found between the current level of perceived health and the number of qigong courses completed (p < .05), level of concentration (p < .01), the length of each qigong session (p < .01), and years of practice (p < .05). However, as participants were self-selected and every variable was self-rated on a send-home questionnaire (including current health level, concentration, etc.), there is a possibility of bias acting on participants’ responses. For example, participants who have invested more time, money, and energy into their qigong practice may be more inclined, albeit unconsciously, to respond in the positive, regardless of actual outcomes.

Although not exclusively Daoist, another practice that is closely related to Daoism and has demonstrated health benefits is Tai Chi or Taijiquan. A recent meta-
analysis of eight English and three Chinese databases found that between one hour and one year of *Taijiquan* practice resulted in, among other things, reductions in stress (effect size [ES], 0.66; 95% confidence interval [CI], 0.23 to 1.09), anxiety (ES, 0.66; 95% CI, 0.29 to 1.03), and depression (ES, 0.56; 95% CI, 0.31 to 0.80), and enhanced mood (ES, 0.45; 95% CI, 0.20 to 0.69; Wang et al., 2010). Another meta-analysis by Jahnke, Larkey, Rogers, Etnier, and Lin (2010) demonstrated similar benefits to both mental and physical health. While not all the studies included in the analysis included appropriate comparison or placebo control groups, Jahnke et al. found general support for improved bone density, cardiopulmonary health, physical function, fall and related risk factor prevention, quality of life, self-efficacy, psychological health, immune function, and other miscellaneous patient-reported benefits as a result of *Taijiquan* or *qigong* practice. In cases where there was no significant differences between the *Taijiquan* or *qigong* group and an alternative treatment group, both the *Taijiquan* or *qigong* group and the comparison group generally showed significant improvements, indicating that *Taijiquan* or *qigong* might be equivalent alternatives to the already accepted treatment method.

Another study that warrants mentioning, as its author describes their study with references to Daoism, is a phenomenological analysis of ‘authentic experiences’ by Rahilly (1993). However, while Rahilly proposed that what she termed ‘authentic experiences’ may be fostered by the theory and praxis of Daoism, among other things, there is no theoretical or empirical basis for supposing that the ‘authentic experiences’ of her participants/co-researchers (members of a psychotherapist training group) are in any way related to the experiences of Daoist practitioners and the experiences described in the extant Daoist literature. As such, Rahilly’s analysis unfortunately cannot contribute a great deal to an understanding of Daoism and the
results of its practices.

There is undoubtedly a great deal more to be learned from empirical examinations into Daoist practices. Research into mindfulness meditation, a technique originally derived from Buddhism, has elicited a number of useful findings and additions to Western clinical practice. For example, recent meta-analyses (Eberth & Sdlmeier, 2012; Sdlmeier et al., 2012) have revealed, amongst other things, reductions in stress, anxiety, and negative emotions and improved attention, well-being, and emotion regulation as a result of mindfulness and other forms of meditation, as well as Western derivatives such as Mindfulness Based Stress Reduction. It is likely that many of the practices unique to Daoism may further expand on this research and benefit both Eastern and Western psychological clients.

Asian Psychologies. Having discussed western psychological interpretations of Daoism, on the other end of the spectrum are Asian interpretations of western psychologies. Emerging from the ostensible similarities between humanistic principles and Daoist principles, a new therapeutic approach termed ‘Tao Psychotherapy’ has developed out of Korea (Craig, 2007). Tao Psychotherapy attempts to integrate the principles of Daoism with psychoanalytic, existential, humanistic, and transpersonal paradigms to create a holistic ‘East meets West’ approach. According to Craig, the approach centres around four primary emphases. The first is the personal development of the therapist through western ‘depth psychology’ and eastern approaches aimed at emptying and purifying the mind. The second emphasis is on empathic attunement with, and compassion for, the client, particularly as understood from eastern perspectives including Buddhism. The third
is an emphasis on 'nuclear feelings', "a highly charged affective complex originating in childhood as a primary motivational influence throughout one’s life' (p. 124). The final emphasis is on the lived experience as a fundamental background to therapy, without which the first three emphases cannot be carried out with genuineness and understanding. Unfortunately, the majority of material relating to Tao Psychotherapy is only available in Korean, so it seems it will be some time before it will be possible to adequately study and validate this approach in the West.

Psychological theory and practice in China has also unavoidably been influenced by the social background of Daoist and Confucian values inherent in Chinese culture (Jenni, 1999). Although the specifics might be refined or altered, ‘Daoistic cognitive psychotherapy’ (DCP; Young, Zhou, & Zhu, 2007) is a promising attempt at marrying Daoist ideas with modern psychotherapy. Like ‘Tao Psychotherapy’, is based on the principles of philosophical Daoism but developed independently out of China. Essentially, DCP is similar to standard cognitive-behavioural therapies, but emphasises Daoist principles and virtues as the primary source for cognitive change. Xiao, Young, and Zhang (1998) utilised DCP on 21 neurotic patients from Hunan Provincial Mental Hospital. Not surprisingly, Xiao et al. found a decrease in ‘dis-Taoistic values’ after expounding the benefits of Daoist values for several weeks. A pre- to post-intervention reduction in ‘competition/hostility’ and ‘time hurry’ on the Type A Behavioural Pattern Questionnaire was also reported. Unfortunately, this study contained no control group, nor did it compare ‘Taoistic cognitive psychotherapy’ with other forms of therapy, so the results must be interpreted with caution.

In a similar design, Zhang et al. (2002) compared the effects of DCP alone, DCP in conjunction with medication, and medication alone for short- and long-term
efficacy in the treatment of generalized anxiety disorder. Results demonstrated that medication alone had fast acting short-term benefits but very little effect at six month follow-up. DCP alone reduced symptoms more slowly than medication alone but had more lasting effects. The combination of DCP and medication appeared to be most efficacious, with both fast acting and long-term benefits. This is a common pattern for psychological treatments, with a combination of drugs and therapy generally providing the most satisfactory results. However, Zhang et al. did not have a placebo control condition in their study, nor did they compare DCP with other types of psychotherapy, so it is unclear how much of the effect of DCP was attributable to the placebo effect and how DCP performs in comparison with other treatments.

In a related vein, recognising Daoism as a fundamental background to the Chinese way of thought, Yip (2005) offers an explanation of how a Chinese American with a Daoist background might manage threats to mental health differently from a caucasian American. Yip notes that, by not recognising and catering to these differences, many mental health professionals are failing to offer adequate care to Chinese Americans with mental health issues. For example, when faced with a threat or conflict, a Western therapy might encourage confronting it head on. However, someone with a Daoist background may prefer to accommodate and ‘flow around’ the obstacle, rather than engage in confrontation. Yip offers up numerous ways in which Daoist thought might differ, sometimes dramatically, from Western notions of therapy. Social workers and mental health professionals who deal with those from a Chinese or Daoist background would do well to familiarise themselves with these differences in order to make sure they are offering the most suitable care possible.

Modern psychology in Japan has also been heavily influenced by Daoism,
particularly through the work of Fujio Tomoda, the forefather of client-centred therapy in Japan (Hayashi et al., 1998). For example, Tomoda equates Roger’s ‘nondirective’ attitude\textsuperscript{13}, necessary for creating a therapeutic environment conducive to growth, with *mui shizen* (*wu wei* in Chinese, something akin to simply allowing events to flow naturally with the course of the *Dao*), a concept taken directly from, and central to, Daoism. Furthermore, Tomoda's view of ‘self’, although originally based upon Roger’s theory, has adopted a distinctly oriental flavour through reference to eastern philosophies such as Daoism and Zen. Tomoda has a tendency to refrain from explicitly using terms such as ‘self’ and ‘I’ to avoid reifying an interdependent construct (i.e., a self-concept that emerges from the interplay of multiple dependent factors, and thus lacks ‘self-existence’) in a constant state of flux (a typically Buddhist view). Hermsen (1996) also notes that the direct import of humanistic psychology from the West to Japan may have led to some misunderstandings due to cultural and language differences. For example, the roles of client and therapist may have been interpreted differently in Japan based upon traditional models of authority. Occurrences such as these indicate the necessity of taking into account cultural differences and appropriately adapting theories when importing them from one culture into another.

**Summary**

The previous chapter offered a general definition of Daoism and discussed some of the core concepts of Daoist philosophy. Chapter 4 expanded on this by identifying some of the material that might be considered Daoist and amenable to

\textsuperscript{13} Rogers believed that human beings inherently contained the ability to develop to their maximum potential on their own, given an environment of unconditional positive regard (Rogers, 1961; Rogers, Dorfman, Gordon, & Hobbs, 1951).
psychological study, namely the texts of the Daoist canon and other subsidiary collections such as the *Zangwai Daoshu*, and the living Daoist tradition. Following this, some potential issues that might be met with by psychologists attempting to study Daoism were highlighted. These include the necessity for understanding the cultural context and translation issues, as well as issues specific to Daoism such as the ostensible ineffability of many Daoist concepts, the use of metaphor, and other philosophical concerns. After highlighting these preliminary considerations, a summary of psychological research into Daoism to date was offered. This research came from the Analytic and Humanistic psychological traditions, as well as more recent empirical studies. A brief discussion was also presented of how Western psychology has been introduced to the East through a cultural lens that includes many Daoist elements.

To this point, the basic concepts of stress and coping, and prior research pertaining to them, have been introduced. Likewise, Daoism has been introduced and issues relevant to the psychological study of it and prior attempts at this study have been discussed. The following chapter will bring this information together in discussing how Daoism might be related to stress and coping.
Part C – Daoist Coping
Chapter 5 – Daoist Models of Coping

Having now examined both Western notions of stress and coping, and some of the fundamental concepts of Daoism, it has hopefully become evident that there is some level of potential overlap between the two. This chapter will highlight some of these areas of overlap as a rationale for conducting further empirical investigations. It will begin with a summary of how an individual holding a Daoist thinking style might experience day to day life. Following this a discussion of how Daoism might relate to appraisal, coping, and hardiness is presented. Finally, a proposal for a series of empirical studies investigating the relationship between Daoism, stress, and coping is suggested.

Before discussing potential Daoist ‘coping strategies’, it is important to point out that Daoists did not, in most cases, develop these specifically as methods of dealing with stress. Indeed, these ideas are considered more as ways of ‘living well’, and ultimately techniques aimed towards transcending life. Daoism is, after all, primarily a spiritual pursuit. However, despite the different context of their development, these Daoist ideas may still be beneficial to people trying to cope with psychological stress.

The Daoist Experience

It may be useful at this point to put the above in context by outlining how a Daoist may present in their day to day experience of life. Although Daoism is an extremely eclectic tradition, and those who might rightly be called Daoists range from hermits living in caves, to communities of monks living in the middle of the
city, to lay people living otherwise ordinary lives, there are common threads that run through most of these. The primary factor that constitutes a Daoist identity is the Daoist worldview. Daoists look at and interpret the world in a certain manner that is characteristic of the tradition and is largely captured in what has been described above. A Daoist will live their life under the understanding that there is a fundamental principle that permeates all life and transcends being and nothingness. They will hold that this cannot be understood with the conceptual mind, but that it can nonetheless be directly experienced, and they will aim to do just that. They will attempt to identify a natural flow of events and align their actions to this in order to follow the path of least resistance. They will value simplicity and avoid having excessive desires and attachments to objects, relationships, status, and so on. They will understand events in terms of certain basic principles, such as *yin yang*, the idea that there are two opposing forces at play in any given event or subdivision of that event. They may participate in some form of praxis, such as meditation or certain forms of ‘moving meditation’, in order to regulate their thoughts, emotions, and body-mind as they understand it (i.e., in terms of subtle energies like *qi*).

A combination of most or all of these factors is what makes a Daoist a Daoist. They need not necessarily belong to a Daoist community in any particular form. Indeed, many of the most famous Daoist poets and scholars were lay people who simply became famous due to their understanding and exposition of the fundamental principles of Daoism. It may therefore be possible to identify those who act like Daoists, even if they do not call themselves Daoists or even necessarily know what Daoism is, by examining whether their beliefs and actions match those outlined above. In turn, those who hold this Daoist thinking style may gain some of the same benefits that Daoists ostensibly enjoy, such as improved health, longevity, a peaceful
disposition free of worry, and so on.

**Appraisal**

The Daoist worldview in many ways determines how events will be appraised. There is a famous Daoist proverb that runs something like this. A farmer’s only horse escapes and runs away. All the farmer’s neighbours visit him to console him but he simply replies, ‘who knows if this is good or bad’. Later the horse returns with a wild mate, thus the farmer’s stock has doubled. The neighbours visit again to offer their congratulations, but again the farmer says ‘who knows if this is good or bad’. Later, the farmer’s son falls from the wild horse while trying to tame it and breaks his arm, thus being unable to work for a time. Again the neighbours come and again the farmer offers the same reply. Shortly afterward the army comes to the town and recruits all the healthy young men to go off to war. Given that the farmer’s son has a broken arm, he is allowed to stay. And so it goes on.

This typifies the Daoist approach to what we would call appraisal. It is a part of Daoist philosophy that nothing is either good or bad in and of itself; it is people’s perceptions that make things good or bad. Thus, if people reserve their judgement regarding events, they can simply act appropriately to the situation as it is at the time. This type of appraisal, while allowing people to respond to events according to the situation, eliminates speculation about future events and consequently any stress or anxiety that may thereby be experienced. Thus, it may be beneficial from a psychological perspective to train people to think in this way and thereby reduce unnecessary stress. Of course this does not preclude the possibility of planning, but only based upon the information available at the time.
Coping Strategies

Perhaps one of the primary coping strategies used by Daoists is to cultivate a sense of peace and calm. Many Daoists use meditation on a daily basis in order to maintain a sense of calm in their lives. Stress and the stress response are characterised by heightened arousal, so any technique to reduce arousal, such as meditation, will help to reduce the impacts of the stress response. Furthermore, it is common practice in Daoism to attempt to gain control over one’s emotions and desires. Conscious control over emotions is again of potential benefit in dealing with stressful situations, as emotions such as hostility and anxiety, which may elevate the stress response, can be kept in check. Recall also that control is one of the three components of psychological hardiness, which serves as a buffer to the stress response.

A further trait characteristic of Daoism is non-resistance. Daoists tend to try to find ways of dealing with problems that align with the natural flow of events, rather than going against the flow. This too is likely to serve as a buffer to the stress response, in as much as Daoists will tend to follow the line of least resistance, and the greater the resistance, the greater the energy and effort required to deal with a problem. More energy and effort spent trying to solve a problem is likely to result in greater levels of stress. This should not be confused with being swept along by emotions and desires, resulting in ineffective coping strategies such as avoidance or self-medication. On the contrary, a Daoist will aim not to be adversely affected by emotions such as repulsion or fear that might cause these types of coping reactions. The idea of going with the flow simply refers to using clear judgement and
sensitivity to situational stimuli in order to follow the most efficient route to a specific goal.

Non-attachment, to both material things as well as outcomes, may also benefit Daoists in reducing stress levels. Recall that Lazarus and Folkman (1984) outlined four ways in which an event may be appraised: benign, threat, challenge, and loss. Only two of these appraisals result in strain; those of threat and loss. By not being attached to possessions, situations of loss no longer have any relevance and thus become benign. This can even apply to relationships, such as the loss of family members. It is important to note here that an absence of attachment does not equate to an absence of love and appreciation. Indeed, the absence of attachment can strengthen love and appreciation; by not being possessive one can appreciate the time spent together all the more and let someone go freely when it is time to do so. Similarly with threat situations, regardless of whether it is a threat to one’s material possessions, position of influence, reputation, or even one’s own physical health, without attachment threats to these things become meaningless in terms of stress. Again, one can take action to address potential threats but if, through circumstances beyond one’s control, these things are lost, one can accept this as the way things are and move on.

Daoists also have an element of faith that has been shown to be a benefit in research on religious and spiritual coping (see chapter 2). Putting faith in a higher power, the will of heaven, the natural order of things, can remove some of the psychological burden of dealing with what seems to be unfair circumstances. A person with faith can speculate that there must be a reason for what’s happening to them, may actively seek out lessons to be learned in adverse circumstances, and may have hope that a higher power will intervene to alleviate their suffering, all of which
may reduce stress levels and/or lead to more positive coping efforts. Aside from all these, and possibly other benefits of Daoism in regards to coping, Daoism may also foster some aspects of hardiness in individuals, which may further reduce the adverse effects of stress.

**Hardiness**

Interestingly, Daoist thinking style does not neatly fit into the typical hardiness model of challenge, commitment, and control, and may even appear contrary to it. For example, Kobasa (1979) indicates that someone high on hardiness will have "a strong tendency toward active involvement in [their] environment" (p.9). However, Daoism has typically been characterised by avoiding becoming overly involved in events where possible. This may be because Daoist thinkers tend not to ‘buy in’ to the situations that may cause stress in the first place. If one is going to play the game, then control, challenge, and commitment may be assets in reducing or dealing with stress. But if one does not play the game in the first place, any potential stress involved is mitigated from the outset. There are, however, more subtle ways in which Daoist thinking does fit the hardiness model. According to Kobasa (1979), the most important aspect of commitment is commitment to self, including one's own values, goals, and capabilities. By this definition, a Daoist thinker may be committed to their own beliefs about the way the world is, etc., without being committed to a specific outcome.

In regards to having an internal locus of control, this is an ambiguous area when it comes to Daoist thinkers. Daoists follow the idea of 'going with the flow', however this does not mean they are simply swept along by external events. Instead
of being controlled by external influence and internal emotions and desires, they learn to identify the path of least resistance and follow that. Whether this can be categorised as an internal or external locus of control is not clear to the author. Indeed, a study that examined correlations between the Daoist thinking style questionnaire introduced below and measures of locus of control would be interesting and welcome.

It would appear, given the current level of study in the area, that Daoist thinking style perhaps fosters some aspects of Kobasa's (1979) hardiness and not others. Those areas in which Daoist thinkers do not conform to the standard model of hardiness, they do not necessarily fall into the opposite category of 'not hardy', but may instead display an alternative form of hardiness, such as minimising stress by not being overly invested in particular outcomes. However, the relationship between Daoist thinking style and hardiness certainly merits further research.

The Studies

One way of investigating the potential effect of Daoist thinking on stress and coping would be to develop a reliable method of measuring Daoist thinking in the general public and then comparing results on that measure to the results of commonly used stress and coping measures. While the Dao itself and many of the concepts related to it are not amenable to quantification, it could be argued that the degree to which individuals subscribe to these ideas might be measured by asking them about their beliefs and behaviours. For example, researchers might pose the question, “On a scale from 0-10, to what extent do you agree with the statement: 'There is an ineffable, universal force underlying all of creation'”. Those who
respond close to 10 on this question might be argued to hold a thinking style closer to that of a Daoist than those who respond close to 0.

Following this line of thinking, the author proposed a series of studies, the objective of which was to develop a questionnaire made up of questions like the above in conjunction with Daoist masters in China. The resulting questionnaire would then be tested for its psychometric properties in a sample of Chinese laypeople. Once the questionnaire had be refined into a valid, reliable measure with good psychometric properties, it would be compared with measures of stress and coping to ascertain whether those who scored high on this Daoist thinking style questionnaire would score lower on measures of stress than those who scored low on the Daoist thinking style questionnaire, indicating that high Daoist thinking is associated with lower levels of stress. Ethics approval for conducting this series of studies was sought and received from the Deakin University Ethics Committee and the resulting studies are presented in the next section.

Summary

This chapter first summarised what the day to day experience of someone holding a Daoist thinking style might be like, then went on to examine some of the ways in which Daoism might act as a buffer against stress, discussing appraisal, coping, and hardiness in turn. It then provided a brief proposal of a series of empirical studies that might be carried out in order to further explore this relationship between Daoism and stress. The following chapter details the first in this series of studies, in which the initial questionnaire was developed and validated with Daoist masters in China.
Part D – Studies
Chapter 6 – Study 1: Developing the Questionnaire

One approach to exploring the relationship between Daoism and stress, and the one taken in this thesis, is to find some way of quantifying Daoist tendencies in an individual and then comparing the outcome of that process to preexisting quantifiable measures of stress and coping. Study 1 therefore focussed on developing a quantifiable measure of Daoist thinking style. This was done by first amassing a series of statements relating to Daoist thinking based on Daoist textual sources. These items were then refined and pruned with the help of the second primary source of Daoist material, the living Daoist tradition. This resulted in a series of items that could be taken to be good measures of Daoist thinking, which could then be subjected to further analysis to ascertain and improve their psychometric properties.

Method

Participants

Participants included nine ordained Daoist practitioners from Sichuan province in China, including both male and female respondents ranging in age from 31 to 82. Six practitioners agreed to go through the questionnaire and make comments on individual questions, and the other three gave more general advice about Daoism and how one might go about measuring Daoist constructs. A variety of temples and holy mountains were visited in order to gain feedback from Daoists with diverse backgrounds. All temples were officially Quanzhen temples, but many paid homage to Tianshi beliefs and practices. For example, one respondent was the head Daoist at
He Ming mountain, which is now a Quanzhen mountain but was originally a Tianshi mountain, being the place where Zhang Daoling, the founder of Tianshi Daoism, allegedly received the scriptures from the deified Laozi in 142 CE. Another example is Tianshi Gong, a temple on Qing Cheng mountain, which has a number of halls devoted to Tianshi patriarchs. Thus, it is felt that the sample was fairly representative of Daoism in general.

Materials

The questionnaire contains a set of quantitative statements with an 11-point Likert scale response format. An initial set of 72 items was developed based upon Daoist textual sources, with reference to the authors own understanding and experience of Daoism. This experience was gained through extensive reading of Daoist traditional texts, scholarly material, and practical experience in seminars, conferences and personal practice, all over a 10 year period. These 72 items were designed to capture nine theoretical constructs that the author deemed to be relevant to a Daoist coping style; ziran, wu wei, wisdom over intellect, simplicity, yin yang, non-attachment, faith in Dao, praxis, and equanimity.

Ziran is the Daoist philosophical idea of ‘suchness’ or things ‘as they are’. Subscribing to this idea and accepting things ‘as they are’ would theoretically result in lower stress levels. That is to say, given that one would not be resistant to the ‘adverse’ conditions one finds oneself in, one might therefore feel less threatened and be more relaxed about needing to change circumstances. The following items were aimed at capturing this construct:
"I accept things as they are"

"Things are as they are and I feel no need to change them"

"I accept myself as I am"

"I accept people for what they are"

"I try to change things I don't agree with" (reverse coded)

"People and events have a particular nature and I accept that without judging them"

"Regardless of how they affect me I accept things as they occur"

"I often disagree with the way things are" (reverse coded)


**Wu wei** is the Daoist philosophical idea of non-interference; that there is a natural flow to things and trying to go against this current will result in many more adverse outcomes and possibly the same result in the end anyway. Not resisting the natural flow of events will theoretically result in less stress as much less effort is required and there is less of an emotional investment in needing to change the circumstances 'right now'. One can still change circumstances, but one does so in a manner that goes naturally with the flow of events, rather than against it. The following items were aimed at capturing this construct:

"Sometimes it's better not to do anything"

"I think it's better not to try to go against the flow"

"I prefer to take the path of least resistance"

"Being able to bend and yield is important"

"Interfering with the flow of situations won't result in the best outcome"

"I usually feel like it is necessary for me to get involved" (reverse coded)
"Sometimes keeping silent brings about the best result"

"To overcome someone or something, confrontation is usually necessary"

(reverse coded)

*Wisdom over intellect* refers to the Daoist idea of valuing intuitive, natural 'wisdom' over intellect, or 'book knowledge'. Those who subscribe to this idea may theoretically experience less stress as they are not using their mental resources to come up with solutions but are simply sitting back and observing, waiting for an opportunity and an answer to present itself. The following items were aimed at capturing this construct:

"Thinking a problem out and coming up with a logical solution is better than observing events and doing what seems natural” (reverse coded)

"Sometimes I know what to do without knowing why"

"I look inside myself for the answers to my problems"

"I like to deal with things before they become a problem"

"I realise my opinions may change and therefore I do not cling to them"

"It’s always better to act quickly" (reverse coded)

"The more information I learn, the further from nature I become"

"I value intellectual knowledge over intuitive wisdom" (reverse coded)

*Simplicity* refers to the idea that the more we have, the more at risk we are of becoming attached to things and suffering in their loss or trying to prevent their loss. To put it another way, it is the idea that simplicity brings happiness, the less attachments we have (to material things, positions of power, wealth and fame,
prestige, impressions in the eyes of others, pride, etc.) the closer to nature we are.

Having fewer attachments means less to protect, less to complicate our lives, and therefore less to feel threatened about (i.e., less stress). The following items were aimed at capturing this construct:

"I value simplicity over extravagance"

"Sometimes it's better to have less rather than more"

"I believe in reducing what I have and decreasing what I want"

"A simpler lifestyle doesn't appeal to me" (reverse coded)

"I try to be content with what I have"

"I know what is enough and I stop there"

"I try to get as much as I can in this world" (reverse coded)

"There are only a few things we really need to be happy, everything else is excess"

_Yin yang_ refers to the Daoist philosophical theory of two polar opposites, which can be applied universally (e.g., light and dark, good and bad, up and down, important and unimportant, etc.). Viewing everything as both having two aspects, and being one of two aspects, will allow one to view a situation more objectively and may also offer ideas for how to overcome certain situations, e.g., using a soft approach to overcome something forceful and vice-versa. In other words, subscribing to the idea of _yin yang_ may give a person more tools to utilise when attempting to understand and deal with stressful situations. The following items were aimed at capturing this construct:
“There is ultimately no good or bad, everything is relative”

“Balance is important in everything I do”

“Sometimes we win, sometimes we lose, this is the natural order of things”

“Sometimes a soft approach can overcome a hard obstacle”

“Sometimes bad situations turn into good ones and good situations turn into bad ones”

“I think the idea of ‘beauty’ produces the idea of ‘ugliness’, the idea of ‘good’ produces the idea of ‘bad’”

“Sometimes there is only one side to a situation“ (reverse coded)

“There are always two opposing forces at play”

Non-attachment refers to the idea that psychological attachment goes against the natural flow of things (i.e., is not wu wei) and consequently causes suffering. This is closely related to the ideas of wu wei and valuing simplicity. Not being attached to material objects, such as the physical body, will result in less suffering when they are damaged or lost, and not being attached to ideas, perceptions, plans, etc., will result in less stress when things do not turn out as expected. The following items were aimed at capturing this construct:

“Sometimes, instead of trying to get something I want, I prefer to stop wanting it”

“Attachment to objects and status leads to unhappiness”

“I try to be free of self-interest”

“I try not to be possessive”

“Strong attachments interfere with the natural flow of life”
"When I do something for someone, I usually expect something in return" (reverse coded)

"It's always best to have a plan and stick to it" (reverse coded)

"I try to avoid being overly attached to a particular outcome"

*Faith in Dao* refers to faith in an ineffable force that underlies all things, from which all things come, to which all things return, and which all things ultimately are (i.e., *Dao*). Having faith in something greater than oneself can act as a buffer to psychological stress, and if all things are one, then benefit and harm no longer really apply to oneself, hence one will experience less stress regarding them. The following items were aimed at capturing this construct:

"I believe the universe will supply me with everything I really need"

"I believe there is some greater force that underlies all things"

"I believe I am part of a universal whole"

"I believe all things are ultimately One"

"I believe I am ultimately one with all things"

"I see the world as existing independent of any higher power" (reverse code)

"No matter what is happening around me, I try to keep faith in my heart"

"If I trust in myself and a higher power, my misfortune will turn to good fortune"

*Praxis* refers to the elements of mental and physical training relevant to Daoism, including meditation, etc. Using these types of techniques will allow one to remain calm and gain control over one’s thoughts, emotions, and actions, thus
making one better able to cope both emotionally and practically with potentially stressful events. The following items were aimed at capturing this construct:

"I use techniques like meditation to control my mind"
"It is important to gain control over my thoughts and feelings"
"I try to remain calm in all situations"
"I try to get in touch with the spiritual side of myself"
"I value having a clear, empty mind"
"I like to become still and quiet before I act"
"Knowing and controlling others is more important than knowing and controlling myself" (reverse code)
"I try to maintain a calm, composed attitude, rather than get emotionally involved in things"

Equanimity refers to the idea that one should remain equanimous in all circumstances, given that loss and gain go together, etc. This follows from the ideas of yin yang and non-attachment, and also from the Daoist idea that the world in which we are engaging is not the ultimate reality (the ultimate reality being 'Dao'), and may in fact be an illusion. Those who remain equanimous throughout both positive and negative events are ipso facto unlikely to be stressed by adverse occurrences. The following items were aimed at capturing this construct:

"I try to view all situations objectively without making judgements as to good and bad"
"Some people are just fundamentally better than others" (reverse code)
"I believe one should never go to excess"

"I try to remain unmoved by both winning and losing"

"Being humble is an obstacle to my goals" (reverse code)

"Going too far in one direction results in things turning back on themselves"

"I highly value compassion, moderation, and humility"

"Sometimes I curse the conditions I find myself in" (reverse code)

The entire questionnaire was translated by a professional translation service into Chinese for use with the Daoist masters. Translations were double-checked for accuracy with Chinese colleagues before beginning data collection.

**Procedure**

With the aid of a Chinese research assistant, participants were asked if they would fill-out the questionnaire and, while doing so, provide feedback on any questions they had difficulty with or felt were inappropriate to their Daoist way of thinking. Two of the participants were uncomfortable with the response format and refused to complete the questionnaire, but agreed to an informal interview regarding the idea. One participant had a look over the questionnaire and said that it was fine and that he felt it captured Daoist thinking very well. The participant and the author then had a detailed discussion about some of the Daoist ideas involved, which contributed to the author's understanding of Daoism and thereby his ability to improve the questionnaire. The other six participants all agreed to fill out the questionnaire and provide feedback. Feedback was both written down on the questionnaires and offered verbally. If the author did not understand any of the
feedback or was unclear on some particular point, further discussion was carried out with the help of the research assistant until both parties were satisfied that the author understood.

**Results**

Interviews with practicing Daoists resulted primarily in the deletion of inappropriate or problematic items from the questionnaire. Using the questionnaire responses, those items on which a number of Daoists answered in a manner outside of what was expected, either by answering on the opposite end of the spectrum from what was expected or by skipping the question entirely, were deleted. That is to say, if most or all of the practicing Daoists answered as was expected on an item, i.e., at least above five in the appropriate direction, then the item was retained. However, if one or more Daoists answered in the opposite direction to what was expected, or skipped the question because they found it difficult to answer, then the item was removed. Given the large number of items, generally if there was any ambiguity and an item might be problematic, it was simply deleted. The construct of *wisdom over intellect* was found to have a large number of problematic items and thus the entire construct was deleted. Several items from each of the other constructs were also deleted, and these are listed below by construct:

**Ziran**

"I try to change things I don't agree with" (reverse code)

"People and events have a particular nature and I accept that without judging them"
Wu Wei

"I prefer to take the path of least resistance"

"I usually feel like it is necessary for me to get involved" (reverse code)

"To overcome someone or something, confrontation is usually necessary"
(reverse code)

Simplicity

"There are only a few things we really need to be happy, everything else is excess"

Yin Yang

"I think the idea of 'beauty' produces the idea of 'ugliness', the idea of 'good' produces the idea of 'bad'"

"There are always two opposing forces at play"

Non-attachment

"Sometimes, instead of trying to get something I want, I prefer to stop wanting it"

"It's always best to have a plan and stick to it" (reverse code)

Faith in Dao

"I believe the universe will supply me with everything I really need"

"I believe there is some greater force that underlies all things"
"If I trust in myself and a higher power, my misfortune will turn to good fortune."

**Praxis**

"I use techniques like meditation to control my mind."

"Knowing and controlling others is more important than knowing and controlling myself" (reverse code)

**Equanimity**

"I try to view all situations objectively without making judgements as to good and bad."

"Some people are just fundamentally better than others" (reverse code)

Several minor changes were also made to some items based on the feedback of the Daoists. The item "I try to get in touch with the spiritual side of myself" was changed to "I am a spiritual person". The Daoists interviewed explained that the spirit and body, the entire person, is actually one whole, and therefore having a 'spiritual side' was problematic for them. The item "It is important to gain control over my thoughts and feelings" was changed to "It is important to regulate my thoughts and feelings". The Daoists explained that they do not 'control' anything, as this is against the principle of *wu wei*, but they may guide or regulate things. The item "I try not to be possessive" proved to be problematic in the original Chinese translation, and thus the question was retained but the Chinese translation amended to more clearly capture the intended meaning. The item "I try to remain calm in all situations" was changed to "I remain calm in all situations". The Daoists explained
that they do not ‘try’ to do anything, they simply follow their nature and do whatever it is that they do. Thus, they may remain calm in all situations but they will not wilfully try to do so. The item “I try to be content with what I have” was changed to “I am content with what I have” for the same reasons. Finally, the item “A simpler lifestyle doesn’t appeal to me” was changed to “A simple lifestyle doesn’t appeal to me”. The Daoists explained that they already had simple lifestyles and further that wanting something they didn’t already have or that wasn’t coming to them naturally would not have been following the natural course of things.

Discussion

Study 1 resulted in a series of 47 items that could all be taken to be good measures of Daoist thinking as verified by representatives of the living Daoist tradition. The study began by developing a series of 72 items organised into eight categories representing important Daoist constructs. This was done based on Daoist textual sources such as the *Dao De Jing* and the *Zuangzi*, as well as the author’s personal experience with Daoism over the past 10 years. These 72 items were then taken to a variety of Daoist masters living in Sichuan province in China, who, by responding to the items on an 11-point likert scale and/or discussing any changes that might need to be made, helped to refine these down into the 47 items that remained at the conclusion of the study.

Some of the items were found to be a good representation of the Daoist masters’ thinking styles in their existing condition. Others, upon the recommendations of the masters, required slight revisions or modifications in their wording. For example, in a number of items the word ‘try’ was removed as this went
against the principles like *wu wei*. Still other items were found to not accurately represent the masters' thinking styles, or to be unreliable measures thereof (e.g., some masters answered as would be expected, but others did not). Items that could be revised were, and those that were overly problematic were simply deleted. Through this process, it can be said with relative confidence that the resulting series of questions were an accurate and reliable representation of the general thinking style found in the living Daoist tradition, at least in Sichuan, China.

Study 2, presented in the next chapter, took these 47 items and subjected them to a variety of statistical analyses to ascertain and improve their psychometric properties. This included eliminating any items that did not fit well with the rest of the items or that were not reliable. The factor structure of the questionnaire was also tested and revised, grouping the items into a number of subscales within the overall Daoist thinking style questionnaire. The resulting questionnaire was then compared with a widely used measure of stress and a widely used measure of coping, in order to ascertain the relationship between Daoist thinking style and stress.
Chapter 7 – Study 2: Testing the Questionnaire with a Chinese Sample

The aim of Study 2 was further refine the Daoist thinking style questionnaire (DQ) through factor analysis with a Chinese sample. Given the form of the questionnaire that was validated with the Daoist masters was the Chinese language version, and that Daoism is more likely to be embedded in the Chinese culture (and thus items are more likely to be interpreted in a Daoist light), a Chinese sample was considered appropriate for developing the factor structure of the questionnaire, rather than a Western one. Following this refining and reliability testing of the questionnaire, it was compared with a coping measure and a stress measure to determine its convergent and divergent validity.

Method

Participants

Participants included 244 Chinese students of Sichuan Normal University, Sichuan, China. There were 203 females and 41 males in the sample, ranging in age from 18 to 24 years (M=20.43, SD=1.35). Participants were invited by an associate at Sichuan Normal University to complete the questionnaire in class.

Materials

Three measures were used in this study. The first was the 47 item Daoist
thinking style questionnaire developed in Study 1. The second was the 28 item Brief COPE (Carver, 1997). Participants were required to indicate how much or how frequently they had been doing each of the things mentioned in the items on a 4-point Likert scale anchored with 1 = "I haven't been doing this at all" and 4 = "I've been doing this a lot". The questionnaire has 14 subscales, with two items per scale, and Carver does not recommend summing the separate scores into an overall coping score. The third measure was the Perceived Stress Scale (PSS, Cohen, Kamarck, & Mermelstein, 1983). It is a 14-item scale scored on a 5-point Likert scale ranging from 1 = "Never" to 5 = "Very Often". Scores are summed into a total measure of perceived stress. The 47 item DQ and the Brief COPE were translated by a professional translation service, using a translation-back translation process. The PSS was translated by Chu (2005).

**Procedure**

The questionnaire battery, including the 47 item DQ, the Brief COPE, and the PSS, was presented to participants in paper and pencil format and they were invited to complete it during class time. The results were collected, collated, and analysed using the statistical packages SPSS and M-Plus. First the DQ was subjected to a factor analysis. Items that did not fit well in any factor solution were eliminated and the remaining items were reorganised until a factor structure with good model fit indices was determined. Once the factor analysis process was completed, the resulting DQ was subjected to reliability analyses. Following this the factor structures of the Brief COPE and PSS were tested in the Chinese sample. After the necessary adjustments were made to these two scales, all three measures were
correlated with one another. Finally, to further explore these relationships, the Brief COPE and DQ were regressed onto the PSS, with the DQ and its subscales being entered in separate regressions after the Brief COPE.

Results

**Determining a factor structure.** The first step that was taken in this study was to conduct an exploratory factor analysis (EFA) on the DQ using the program MPLus utilising an oblique GEOMIN rotation. Although rules of thumb are always problematic with factor analysis, the initial ratio of 244 participants to 47 items (5.2) was most likely sufficient to yield accurate results. The benefit of conducting EFAs in MPLus is that constraints on the number of factors for the solution can be selected as a range, resulting in, for example, solutions for a single factor structure through to a five factor structure. In order to eliminate problematic items that may corrupt the final factor structure, an EFA was conducted for one through four factor solutions, and any items that did not load well on any of the solutions (e.g., did not load above .3 on any factor in any solution) were removed. This process was repeated three times, resulting in items 4, 7, 11, 13, 25, 29, 32, 34, and 44 being removed. Following this, analyses were run for a variety of different solutions, including EFAs for one through five factor models, and CFAs on the original item groupings from Study 1 (minus the deleted items of course). These analyses were all used as a guide to get a flavour of how the items behaved and what items may group together. It was determined at the conclusion of this exploration that the original item groups contained some redundant distinctions and items were reorganised into a few larger

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14 Item correlations, means, and standard deviations can be found in appendix K.
groups. This resulted in the following four factor structure developed a priori based on the face validity of each of the items:

**Simplicity & Non-attachment**

3. I believe in reducing what I have and decreasing what I want
5. I try to be free of self-interest
17. I try to remain unmoved by both winning and losing
18. I try not to be possessive
19. Sometimes it's better to have less rather than more
20. I know what is enough and I stop there
23. I try to avoid being overly attached to a particular outcome
35. Sometimes we win, sometimes we lose, this is the natural order of things
36. I am content with what I have
38. I try to get as much as I can in this world
39. Attachment to objects and status leads to unhappiness
43. I value simplicity over extravagance
46. A simple lifestyle doesn't appeal to me

**Ziran**

1. I accept things as they are
10. Regardless of how they affect me I accept things as they occur
24. I accept people for what they are
30. Things are as they are and I feel no need to change them
37. I accept myself as I am
47. I often disagree with the way things are

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It is the belief of the author that factor analysis should be used as a guide only, not as an end in itself. Scores on a questionnaire are only an approximation of an underlying construct that cannot be directly measured, and should not be treated in the same way as exact, repeatable, mathematical values. There are too many unknown variables to take these figures, submit them to a mathematical procedure, and take the output as an accurate representation of what is occurring within the human mind.
Wu Wei

2. Being able to bend and yield is important
9. Balance is important in everything I do
14. Sometimes a soft approach can overcome a hard obstacle
15. Sometimes it's better not to do anything
21. Going too far in one direction results in things turning back on themselves
22. Sometimes bad situations turn into good ones and good situations turn into bad ones
27. Sometimes keeping silent brings about the best result
31. Interfering with the flow of situations won't result in the best outcome
41. I think it's better not to try to go against the flow

Daoist Worldview

6. I believe I am ultimately one with all things
8. I highly value compassion, moderation, and humility
12. It is important to regulate my thoughts and feelings
16. No matter what is happening around me, I try to keep faith in my heart
26. I value having a clear, empty mind
28. I try to maintain a calm, composed attitude, rather than get emotionally involved in things
33. I remain calm in all situations
40. I like to become still and quiet before I act
42. There is ultimately no good or bad, everything is relative
45. I believe all things are ultimately One

These were then submitted to a CFA in order to pare out less useful items. The item with the lowest loading was eliminated in a stepwise fashion until all items loaded above .45 in the standardised model output. Through this process, items 1, 2, 3, 5, 8, 12, 16, 19, 26, 30, 35, 38, 39, 42, 45, 46, and 47 were eliminated. This resulted in the following scale with reasonable model fit scores (CFI=0.844,
TLI=0.821, RMSEA Estimate=0.056, SRMR=0.067\(^{16}\):

**Simplicity & Non-attachment**

17. I try to remain unmoved by both winning and losing
18. I try not to be possessive
20. I know what is enough and I stop there
23. I try to avoid being overly attached to a particular outcome
36. I am content with what I have
43. I value simplicity over extravagance

**Ziran**

10. Regardless of how they affect me I accept things as they occur
24. I accept people for what they are
37. I accept myself as I am

**Wu Wei**

9. Balance is important in everything I do
14. Sometimes a soft approach can overcome a hard obstacle
15. **Sometimes it's better not to do anything**
21. Going too far in one direction results in things turning back on themselves
22. Sometimes bad situations turn into good ones and good situations turn into bad ones
27. Sometimes keeping silent brings about the best result
31. Interfering with the flow of situations won't result in the best outcome
41. I think it's better not to try to go against the flow

**Daoist Worldview**

6. I believe I am ultimately one with all things
28. I try to maintain a calm, composed attitude, rather than get emotionally involved in

\(^{16}\) Hu and Bentler (1999) suggest values of above .95 for CFI/TLI, below .08 for SRMR, and below .06 for RMSEA as indicators of good model fit.
things

33. I remain calm in all situations

40. I like to become still and quiet before I act

Subsequent examination of the modification indices suggested a number of further eliminations. Items 21, 31, 36, and 41 were eliminated, which resulted in the following scale with fairly good model fit scores (CFI=0.923, TLI=0.908, RMSEA Estimate=0.042, SRMR=0.058):

<table>
<thead>
<tr>
<th>Latent trait and items</th>
<th>Loading</th>
<th>Error</th>
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</thead>
<tbody>
<tr>
<td><strong>Simplicity &amp; Non-attachment</strong></td>
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<tr>
<td>17. I try to remain unmoved by both winning and losing</td>
<td>.572</td>
<td>.061</td>
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<tr>
<td>18. I try not to be possessive</td>
<td>.471</td>
<td>.062</td>
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<tr>
<td>20. I know what is enough and I stop there</td>
<td>.613</td>
<td>.058</td>
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<tr>
<td>23. I try to avoid being overly attached to a particular outcome</td>
<td>.569</td>
<td>.051</td>
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<td>43. I value simplicity over extravagance</td>
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<td>.060</td>
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<tr>
<td><strong>Ziran</strong></td>
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<tr>
<td>10. Regardless of how they affect me I accept things as they occur</td>
<td>.587</td>
<td>.063</td>
</tr>
<tr>
<td>24. I accept people for what they are</td>
<td>.674</td>
<td>.053</td>
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<tr>
<td>37. I accept myself as I am</td>
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<tr>
<td><strong>Wu Wei</strong></td>
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<td></td>
</tr>
<tr>
<td>9. Balance is important in everything I do</td>
<td>.570</td>
<td>.075</td>
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<tr>
<td>14. Sometimes a soft approach can</td>
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</tbody>
</table>
overcome a hard obstacle .508 .064

15.Sometimes it's better not to do anything .526 .069

22. Sometimes bad situations turn into good
ones and good situations turn into bad ones .483 .082

27. Sometimes keeping silent brings about
the best result .557 .070

Daoist Worldview

6. I believe I am ultimately one with all things .578 .065

28. I try to maintain a calm, composed attitude,
rather than get emotionally involved in things .668 .054

33. I remain calm in all situations .524 .066

40. I like to become still and quiet before I act .603 .065

Reliability analysis. Cronbach’s alpha, a measure of internal reliability
demonstrated that all of these factors, as well as the overall structure, had reasonable
reliability: Simplicity & Non-attachment (5 items; = .68); Ziran (3 items; = .67);
Wu Wei (5 items; = .66); Worldview (4 items; = .69); and Total Daoist thinking
style (17 items; = .84). A Cronbach’s alpha of around .7 or above is generally
considered an indication of a reliable set of items (de Vaus, 2002). All subscales
approached this score and Total Daoist thinking style scored well above this cutoff. It
is also worth noting that Cronbach’s alpha tends to increase with larger numbers of
items, so the subscales performed well considering the low number of items in each.
A test-retest was also conducted with 37 of the participants, two weeks apart. This
resulted in the following correlations: Simplicity & Non-attachment (r = .73, p <
.001); Ziran (r = .76, p < .001); Wu Wei (r = .52, p = .001); Worldview (r = .69, p <
.001); and Total Daoist thinking style (r = .72, p < .001). Test-retest coefficients of .7
are generally taken as an indication of good reliability. Thus it appears that the DQ
has adequate reliability in a Chinese sample, although the Wu Wei subscale may be somewhat problematic.

Validating the Brief COPE and PSS. Thus far we have established a strong factor structure with adequate factorial validity and reliability in a Chinese sample. Following this, scores from this revised version of the DQ were correlated with scores from the other two measures. Before making comparisons, however, it was necessary to check the factor structures of the Chinese versions of the Brief COPE and the PSS. A CFA on the Brief COPE revealed only moderate fit indices (CFI=0.838, TLI=0.763, RMSEA Estimate=0.057, SRMR=0.068). An examination of the modification indices indicated that the Planning subscale, made up of items 14 and 25, was problematic. When these two items were removed the fit improved substantially (CFI=0.909, TLI=0.865, RMSEA Estimate=0.043, SRMR=0.055), and the modification indices indicated no further major problems. Therefore, when comparing the DQ and the Brief COPE in the Chinese sample, the Planning subscale was removed from the analysis.

The second scale for comparison, the PSS, was found to have poor model fit when submitted to a CFA (CFI=0.678, TLI=0.620, RMSEA Estimate=0.111, SRMR=0.096). Examination of the factor loadings revealed that, while all other items loaded above at least .3 on the single overall factor, item 12 loaded at -0.069. Thus it appears that item 12 is either not related to the latent ‘stress’ variable, or possibly even opposed to it. It may be that this item, “In the last month, how often have you found yourself thinking about things that you have to accomplish?”, is being interpreted in a positive light, rather than as a measure of stress inducing events. That is to say, this may be more of a measure of ‘challenges’ rather than
‘threats’. This item may also not be functioning appropriately in a collectivist context, where the focus is more on the group than what each individual has to accomplish. It was therefore decided that this item should be removed from the analysis, and when this was done there was an improvement in model fit (CFI=0.721, TLI=0.666, RMSEA Estimate=0.109, SRMR=0.088).

However, even with item 12 removed, all model fit indices are still outside of a satisfactory range, so an EFA was carried out to see if a more appropriate model could be found to fit the data. Results of the EFA found a two factor structure with good model fit (CFI=0.929, TLI=0.896, RMSEA Estimate=0.061, SRMR=0.041), in which all the reverse scored items grouped together. Although it is possible that these two factors are measuring distinct constructs, such as stress versus coping (or the lack thereof), examination of the items reveals that both stress and coping are equally represented in both the positively and negatively worded items. It appears then that the poor model fit of the single factor structure of the PSS may largely be due to an item response format artefact. Based on this analysis the decision was made that these two factors were relatively meaningless in an interpretive context and to sum the items into a total score in the usual manner.

**Comparing the DQ to the Brief COPE and PSS.** Correlations between the DQ, PSS, Brief COPE, and age can be found in Table 1. It appears that all DQ subscales as well as the DQ total score are negatively correlated with stress. The weakest correlation can be found between the Wu Wei subscale and the PSS, which may be due in part to the lower reliability of that particular subscale. Given that the DQ is a measure of Daoist thinking style and not coping per se, the DQ correlations stand-up extremely well next to the Brief COPE in regards to stress. That is to say,
DQ x PSS correlations were all significant and negative (meaning the higher the DQ scores a person had, the lower their PSS score on average), ranging from $r = -.14$ to $r = -.40$. On the other hand, approximately half of the Brief COPE scales did not correlate significantly with the PSS, which is somewhat surprising given it is a coping scale meant to measure the ability to manage stress, so one would expect all the subscales to have at least some correlation with a stress scale such as the PSS. Furthermore, the magnitude of the correlations that were significant between the Brief COPE and PSS were comparable to the DQ x PSS correlations, ranging from $r = .16$ to $r = .44$.\footnote{The positive and negative signs before the correlations only affect the direction of the relationship, not the magnitude. For example, the positive correlation between the PSS Total and BC Denial indicates that higher Denial scores were associated with higher PSS total scores.}
### Table 1

**DQ, PSS, Brief COPE, and age correlations**

<table>
<thead>
<tr>
<th></th>
<th>DQ Tot</th>
<th>DQ Sim</th>
<th>DQ Zir</th>
<th>DQ Wu</th>
<th>DQ Wo</th>
<th>BC Dist</th>
<th>BC Act</th>
<th>BC Den</th>
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<td>-.40</td>
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</table>

Note: * $p<.05$, ** $p<.01$, *** $p<.001$

PSS Tot=PSS Total, DQ Tot=DQ Total, DQ Sim=DQ Simplicity & Non-Attachment, DQ Zir=DQ Ziran, DQ Wu=DQ Wu Wei, DQ Wo=DQ Daoist Worldview, BC refers to Brief COPE subscales, Dist=Self-distraction, Act=Active coping, Den=Denial, Sub=Substance use, Em=Use of emotional support, Ins=Use of instrumental support, Dis=Behavioural disengagement, Ven=Venting, Ref=Positive reframing, Hu=Humour, Acc=Acceptance, Rel=Religion, Sel=Self-blame.
In order to further explore these correlations, a hierarchical multiple regression was carried out with the DQ and the Brief COPE being regressed onto the PSS. Given that age was not significantly correlated with the PSS it was not included in the analysis. Similarly, gender was not included as an independent samples t-test indicated that there was no significant relationship between gender and stress, \( t(237)=.84, p>.05 \). All assumptions required for regression were met.

Table 2 indicates that the DQ Total score is explaining a significant amount of unique variance in PSS Total scores. By squaring the correlation from Table 1, we achieve an \( R^2 \) of .15 for PSS Total x DQ Total, meaning that approximately 15% of the variance in PSS Total scores can be explained by DQ Total scores when only these two variables are contrasted. However, given that there are a number of significant correlations between DQ scores and Brief COPE subscale scores in Table 1, we might expect that some of the variance explained in the PSS might be shared between the two scales. Therefore, when the Brief COPE is controlled for, the variance explained in the PSS by the DQ might drop. This was indeed the case, as when entered into a regression model after the Brief COPE, the \( R^2 \) Change for the DQ drops to .04, suggesting that approximately 11% of the variance in stress explained by the DQ is shared with the Brief COPE.\(^{18} \)

\(^{18}\) This may also be in part an artefact of Carver’s (1997) recommendation against summing the Brief COPE subscales into a total coping score. More items in a regression tend to explain more unique variance, as can be seen in the jump in variance explained by including the DQ subscales instead of the DQ Total score, despite DQ Total simply being a sum of all of the subscales. So, comparing the single DQ Total score to the 13 Brief COPE subscale scores may not be a fair comparison.
Table 2

*DQ Total and Brief COPE on PSS regression summary*

<table>
<thead>
<tr>
<th>Model</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>$F$ Change (df1,df2)</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
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<td>.392</td>
<td>.392</td>
<td>11.14 (13, 225)</td>
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</tr>
<tr>
<td>2</td>
<td>.431</td>
<td>.040</td>
<td>15.59 (1, 224)</td>
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</table>

*Note.* Model 1 includes all Brief COPE subscales except Planning, and model 2 includes the Brief COPE minus planning, and the total DQ score. The dependent variable was the PSS Total score.

A summary of the coefficients for each model can be found in Tables 3 and 4. At the final stage of the regression (Table 4), Denial and Self-blame seemed to significantly increase stress, and Active coping, Reframing, Humour, and DQ Total seemed to reduce stress. All other subscales of the Brief COPE did not appear to significantly affect stress in this Chinese sample. $sr^2$ coefficients from Table 4 will give an indication of the amount of unique variance in stress explained by each variable when all other variables are accounted for. Denial explained approximately 6%, Active coping and DQ Total explained approximately 4% each, Reframing explained approximately 2%, and Humour and Self-blame explained approximately 1% each.
Table 3

*Model 1: Brief COPE on PSS coefficients*

<table>
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<tr>
<td>BC Reframing</td>
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<tr>
<td>BC Humour</td>
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<td>-1.79</td>
<td>.075</td>
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</table>
Table 4

*Model 2: DQ Total and Brief COPE on PSS coefficients*

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<tbody>
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<td>t</td>
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<td>DQ Total</td>
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</table>

When the subscales of the DQ were entered instead of the total score (Table 5), a jump in explained variance was noted, up to 6% of unique variance being explained by the combined subscales, which again was found to be a statistically significant amount.

Table 5

*DQ subscales and Brief COPE on PSS regression summary*

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<th>$R^2$ Change</th>
<th>$F$ Change (df1, df2)</th>
<th>Sig.</th>
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</thead>
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<td>2</td>
<td>.456</td>
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<td>6.53 (4, 221)</td>
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</table>

*Note.* Model 1 includes all Brief COPE subscales except Planning, and model 2 includes the Brief COPE minus planning, and the four DQ subscales.

It would appear that the majority of this variance is attributable to the Ziran
subscale, with a further contribution from the Worldview subscale (see Table 6).
Indeed, Ziran was the only DQ subscale to significantly predict stress once the Brief COPE subscales had been controlled for. It predicted approximately 3% of unique variance in PSS scores.

Table 6
Model 2: DQ subscales and Brief COPE on PSS coefficients

<table>
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<td>4.52</td>
<td>.000</td>
</tr>
<tr>
<td>BC Substance use</td>
<td>.051</td>
<td>.93</td>
<td>.353</td>
</tr>
<tr>
<td>BC Emo. support</td>
<td>.084</td>
<td>1.21</td>
<td>.228</td>
</tr>
<tr>
<td>BC Inst. support</td>
<td>.033</td>
<td>.47</td>
<td>.641</td>
</tr>
<tr>
<td>BC Disengagement</td>
<td>.046</td>
<td>.85</td>
<td>.399</td>
</tr>
<tr>
<td>BC Venting</td>
<td>-.074</td>
<td>-1.11</td>
<td>.269</td>
</tr>
<tr>
<td>BC Reframing</td>
<td>-.162</td>
<td>-2.72</td>
<td>.007</td>
</tr>
<tr>
<td>BC Humour</td>
<td>-.128</td>
<td>-2.39</td>
<td>.018</td>
</tr>
<tr>
<td>BC Acceptance</td>
<td>.051</td>
<td>.91</td>
<td>.364</td>
</tr>
<tr>
<td>BC Religion</td>
<td>-.031</td>
<td>-.60</td>
<td>.552</td>
</tr>
<tr>
<td>BC Self-blame</td>
<td>.140</td>
<td>2.34</td>
<td>.020</td>
</tr>
<tr>
<td>DQ Simplicity</td>
<td>.035</td>
<td>.51</td>
<td>.610</td>
</tr>
<tr>
<td>DQ Ziran</td>
<td>-.240</td>
<td>-3.70</td>
<td>.000</td>
</tr>
<tr>
<td>DQ Wu Wei</td>
<td>-.003</td>
<td>-.05</td>
<td>.957</td>
</tr>
<tr>
<td>DQ Worldview</td>
<td>-.102</td>
<td>-1.60</td>
<td>.116</td>
</tr>
</tbody>
</table>
Study 2 achieved a number of outcomes. First, a revised version of the Daoist thinking style questionnaire was developed with a sample of Chinese university students. The original 47 items of the questionnaire were pared down into 17, and the eight constructs remaining from Study 1 collapsed down into four factors. The resulting DQ was demonstrated to have good model fit and reliability, although the Wu Wei subscale revealed lower test-retest reliability than the other subscales and the total DQ score. This may be an indication that commitment to the principle of *wu wei* (such as waiting for situations to resolve themselves, rather than trying to force a change) is less consistent across time than commitment to constructs measured by the other subscales. It is also possible that the degree to which people indicate that they subscribe to these ideas depends on them putting themselves in imagined or remembered scenarios and seeing how they act. These scenarios may in turn be more variable than those used for, for example, the Ziran subscale, and this may lead to the fluctuation across time. It is also worth noting that the word ‘sometimes’ appears in four out of the five items that make up the Wu Wei subscale, but nowhere else in the DQ. While it might be expected that the degree to which people feel that, for example, ‘Sometimes it’s better not to do anything’, should be consistent over time, it is possible that this phrasing may be affecting the consistency of responses.

Despite these limitations, the revised DQ was found to be sufficiently reliable and structurally valid to go on with further analyses. It was compared with two other measures, the Brief COPE (Carver, 1997), and the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). The factor structure of the Brief COPE was found to hold reasonably well in the Chinese sample, except for the Planning subscale,
which was removed from further analyses. Item 12 of the PSS was also found to be problematic and was likewise removed from further analyses. The factor structure of the remaining items of the PSS seemed to include a response format artefact, but it was determined that this would not affect interpretation of the results. Thus, the Brief COPE minus the Planning subscale, and the PSS minus item 12 were correlated with the revised DQ.

First, a simple correlation was conducted between the DQ and the PSS, revealing a small to average magnitude negative correlation between the two. That is to say, those who scored higher on the DQ, a measure of generalised Daoist thinking style, indicated lower levels of perceived stress. In particular, *ziran*, the acceptance of the ‘suchness’ of things, and holding a Daoist worldview seemed to predict decreased levels of stress. When the DQ was regressed onto the PSS alongside the Brief COPE, it was found to contribute 4% of unique variance explained in perceived stress. This indicates that a degree of the variance in stress explained by the DQ is already captured in measures such as the Brief COPE. The DQ subscales independently seem to predict more variance in stress than the total score alone, and again this effect appears to be largely due to the Ziran subscale, with a small contribution from the Worldview subscale. In the final analysis, it seems that active coping, positive reframing, and humour, from the Brief COPE, and *ziran* from the DQ significantly decrease stress, while self-blame and denial significantly increase it.

In order to further investigate the overlap between the Brief COPE and the DQ, and potentially to gain further insight into how the DQ subscales were being interpreted, a correlation was conducted between the subscales of each questionnaire. The relationships are discussed in detail in the General Discussion and Conclusions.
chapter below. Briefly, Simplicity & Non-attachment was positively correlated with Active Coping and Reframing, and negatively correlated with Disengagement. Ziran was correlated positively with Reframing and Acceptance, and negatively with Distraction, Denial, Use of Emotional Support, and Disengagement. Wu Wei was correlated positively with Reframing, Acceptance, and Self-blame, and negatively with Disengagement. Finally, Daoist Worldview was positively correlated with Active Coping and Reframing, and negatively correlated with Denial, Use of Emotional Support, Use of Instrumental Support, Disengagement, and Venting.

The preceding analyses have all contributed to a more valid and reliable scale and a deeper understanding of the constructs being measured. The DQ has been revised and has further been demonstrated to be a reasonable predictor of stress given that it is not a stress or coping scale per se, but a general measure of Daoist thinking style. The next study then set-out to determine whether a clinical sample might score lower on the DQ. If high scores on the DQ indicate an ability to manage problems that might otherwise lead to stress and poor mental health, it can be theorised that a clinical sample might score lower than a non-clinical sample of university students.
Chapter 8 – Study 3: Comparison of a Student and Clinical Sample on the DQ

The aim of Study 3 was to compare the DQ results from Study 2 with a clinical sample. Given the negative correlations between DQ scores and PSS scores, it might be argued that Daoist thinking style acts as a buffer against stress, and potentially other psychological maladies as well. It might therefore be expected that a clinical sample, which is struggling with such maladies, may score lower on the DQ than a sample of the general population. To test this hypothesis, the DQ means of the student sample from Study 2 were compared with the DQ means of a clinical sample from a Chinese mental health clinic.

Method

Participants

Aside from the student sample from Study 2, participants included 30 clients of the Shanghai City Psychological Health Centre (Shanghai Shi Jingshen Weisheng Zhongxin) complaining of a variety of stress, anxiety, depression, and relationship issues. This sample consisted of 17 males and 13 females with an age range of 18 to 29 years ($M=24.47$, $SD=3.31$). Participants were invited to complete the questionnaire by a colleague at the clinic.
Materials

Materials for Study 3 were comprised of a revised version of the DQ. It included all 47 items from Study 1 (in order to maintain consistency in regards to fatigue, item order effects, etc.) but had an extra question in the demographics section requesting that participants indicate the complaint for which they were attending the clinic.

Procedure

Participants were given a pencil and paper version of the DQ to complete in their own time. Once all the data was collected, it was entered into the SPSS statistical package and compared with DQ results from the student sample from Study 2.

Results

Pearson’s Chi-square test indicated that there was a significant difference between the groups in regards to gender distribution, \( \chi^2 (1, N = 274) = 11.88, p = .001 \). An independent samples \( t \)-test also indicated that the clinical sample (24.47) were significantly older on average than the student sample (20.43), \( t(30.19)=6.61, p<.001 \). To control for these differences, an analysis of covariance was performed (with age and gender as covariates) to compare the student and clinical sample on DQ Total score. No serious violations of assumptions were found. Results of this analysis can be found in Table 7. While Gender did not appear to affect DQ Total
scores, Age had a small but significant effect, explaining approximately 4% of the variance in DQ Total scores. Once the effect of Age and Gender where controlled for, which sample the participants belonged to had a significant effect on DQ Total scores, explaining approximately 37% of the variance in these scores.

Table 7

<table>
<thead>
<tr>
<th></th>
<th>Student</th>
<th>Clinical</th>
<th>df1</th>
<th>df2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DQ Total</td>
<td>112.52</td>
<td>59.40</td>
<td>270</td>
<td>157.94</td>
<td>.000</td>
<td>.37</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>1</td>
<td>270</td>
<td>1.11</td>
<td>.294</td>
<td>.00</td>
</tr>
<tr>
<td>Age</td>
<td>1</td>
<td>1</td>
<td>270</td>
<td>10.94</td>
<td>.001</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. (partial eta squared) is a measure of effect size and can be multiplied by 100 to give a percentage of the variance in the dependent variable explained by that factor. For example, approximately 4% of the variance in DQ Total was explained by age (Cohen, 1988).

A multivariate analysis of covariance (again, with age and gender as covariates) was performed to compare the student and clinical sample on the four subscales. Again, no serious violations of assumptions were found. The results of these analyses can be found in Tables 8 and 9. Again, Gender did not have a significant influence over combined DQ subscale scores, but Age had a small but significant effect, explaining approximately 5% of the variance in these scores. Which sample participants belonged to also had a significant effect on combined DQ subscale scores, explaining approximately 42% of the variance in these scores (see Table 8). When between-subject effects were examined (Table 9), all subscales were significantly different between the two samples. Group membership (student versus clinical) explained approximately 19% of the variance in Simplicity subscale scores, approximately 22% of variance in Worldview scores, approximately 31% of variance in Ziran scores, and approximately 35% of variance in Wu Wei scores.
Table 8

*Multivariate effects of Sample and covariates (Age and Gender) on combined DQ subscale scores*

<table>
<thead>
<tr>
<th></th>
<th>df 1</th>
<th>df 2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>.58</td>
<td>4</td>
<td>267</td>
<td>47.82</td>
</tr>
<tr>
<td>Gender</td>
<td>.99</td>
<td>4</td>
<td>267</td>
<td>1.05</td>
</tr>
<tr>
<td>Age</td>
<td>.96</td>
<td>4</td>
<td>267</td>
<td>3.18</td>
</tr>
</tbody>
</table>

Table 9

*DQ subscale comparisons for a Chinese student and Chinese clinical sample*

<table>
<thead>
<tr>
<th></th>
<th>Student</th>
<th>Clinical</th>
<th>df 1</th>
<th>df 2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplicity</td>
<td>32.91</td>
<td>20.50</td>
<td>1</td>
<td>270</td>
<td>62.74</td>
<td>.000</td>
</tr>
<tr>
<td>Ziran</td>
<td>18.04</td>
<td>5.47</td>
<td>1</td>
<td>270</td>
<td>122.00</td>
<td>.000</td>
</tr>
<tr>
<td>Wu Wei</td>
<td>37.50</td>
<td>20.27</td>
<td>1</td>
<td>270</td>
<td>142.91</td>
<td>.000</td>
</tr>
<tr>
<td>Worldview</td>
<td>24.09</td>
<td>13.17</td>
<td>1</td>
<td>270</td>
<td>76.16</td>
<td>.000</td>
</tr>
</tbody>
</table>

Discussion

The aim of Study 3 was to further validate the link between Daoist thinking style and mental health by comparing results on the DQ for clinical and non-clinical samples. DQ scores from the student sample in Study 2 were compared with a clinical sample from the Shanghai City Psychological Health Centre. As expected, the clinical sample scored lower on all aspects of the DQ, including total DQ scores and each of the Simplicity, Ziran, Wu Wei, and Worldview subscales. Furthermore, scores suggest that the difference between samples were characterised by considerable effect sizes, with group membership explaining between 19-37% of the variance in DQ scores.
The implications of these results will be discussed in more detail in the General Discussion and Conclusions chapter below, but briefly this may be taken as further evidence for the beneficial psychological effects of maintaining a Daoist thinking style. Given that the clinical sample may be taken to have a lower level of current mental health than the student sample, and that they also had significantly lower levels of Daoist thinking style as indicated by their DQ scores, it is possible that Daoist thinking style might act as a buffer against experiencing excessive levels of psychological distress.

To this point the DQ has been developed and validated with Daoist masters in China, factor structure and reliability have been tested with a sample of Chinese students, the relationship between DQ scores and coping and stress measures has been determined, and DQ scores for a clinical and non-clinical population have been compared. It appears that the Chinese DQ has good reliability and validity, and is capable of predicting psychological health to a certain extent. The next study will attempt to validate the English language version of the DQ with a sample of Australian students, and compare the DQ scores of Chinese and Australian students.
Chapter 9 – Study 4: Testing the Questionnaire with an Australian Sample

The aim of this fourth study was to determine whether the DQ developed in China could be used with a Western population. If this can be done the DQ could become a global scale allowing for comparisons across different cultures as well as within a wide variety of cultural groups. This might allow for determining to what extent Daoist thinking style is unique to East Asian populations, or whether it exists in varying degrees in other parts of the world. This in turn may provide insight into the degree to which Daoist thinking style is a learned or more innate mental attitude.

Method

Participants

A convenience sample of 165 participants was recruited in Australia for Study 4. Participants were recruited through advertisements on the Deakin University website and snowball sampling through word of mouth and social media networks. There were 43 males and 121 females in the sample, and one participant who did not provide their gender, with ages ranging from 18 to 62 years (M=26.99, SD=9.49).

Materials

Three measures were used in this study. The first was the revised 17 item DQ developed in Study 2. The second was the 28 item Brief COPE (Carver, 1997; see
Study 2), and the third scale was the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983; see Study 2).

**Procedure**

In order to increase the potential sample, both electronic and pencil and paper versions of the questionnaire battery were used. In order to maintain consistency with ordering effects, etc., the same 47 items from Study 2 were provided to participants, but only the 17 items from the revised version were analysed. Participants were invited to participate in the electronic version online by visiting a website through which they completed the questionnaire online. Participants were also invited to participate during lectures at Deakin University in Melbourne, Australia, and they could either take a hardcopy version of the battery or go to the website and complete the online version. Once the data was collected it was collated and analysed with the SPSS and M-Plus statistical packages. First the factor structure of the English language version of the DQ was tested using the Australian sample. To do this, a multiple groups confirmatory factor analysis was conducted in which the Australian and Chinese samples were compared on their DQ responses to see if there was any systematic measurement variance across the two groups. The smaller $n$ for the Australian participants may have meant this group yielded less stable estimates. However, given that only the revised version of the scale was analysed, the ratio of 165 participants to 17 items (9.7) was still most likely sufficient to provide accurate results. Once the factor structure and reliability of the DQ in the Australian sample was ascertained, the means of the two samples were compared. Analyses of covariance were conducted to compare the means of the Chinese and Australian
participants on the overall DQ score, as well as on each of the subscales. The DQ was then correlated with the PSS and Brief COPE in the Australian sample. To further explore these relationships, the DQ total score and the four subscales were entered into two separate regression equations, regressing the DQ onto the PSS after controlling for the Brief COPE.

**Results**

Testing the factor structure. When utilising questionnaires cross-culturally it is common practice to conduct a multiple groups CFA (MGCFA) in order to ascertain whether or not measurement invariance exists across the two samples (Byrne, Shavelson, & Muthén, 1989; Steinmetz, Schmidt, Tina-Booh, Wieczorek, & Schwartz, 2009). This is a process where the factor structure is compared across the two samples with increasing levels of constraint, with more constrained models being compared to an initial unconstrained model. The first model is the unconstrained model wherein the factor loadings and the item intercepts are allowed to vary across the two groups. This baseline model yielded reasonable model fit indices (CFI=0.875, TLI=0.853, RMSEA Estimate=0.052, SRMR=0.066). In the next model the factor loadings were constrained to equality across the two groups and this model still yielded reasonable model fit indices (CFI=0.863, TLI=0.850, RMSEA Estimate=0.053, SRMR=0.082). A chi-square difference test across the two groups is used to determine whether this change in model fit is significant or not, wherein the difference in chi-square across the two groups is compared to a critical value at the difference in the degrees of freedom for the two groups. The chi-square difference was 29.32 and the critical value at the difference in the degrees of freedom
(17) was 33.41 at p < .01. Therefore, the two models were not significantly different and there is ‘metric’ invariance across the two groups.

Next the item intercepts were also constrained, which lead to a considerable drop in model fit indices (CFI=0.452, TLI=0.435, RMSEA Estimate=0.102, SRMR=0.180). As might be expected, when compared to a critical value of 56.06 at 34 degrees of freedom, the chi-square difference of 500.73 was above the cut-off, meaning that the two models were significantly different from one another. That is to say, there is a certain degree of measurement variance between the Australian and Chinese responses on the DQ.

In order to determine whether some items in particular are responsible for this variance, it is possible to constrain each item individually in a stepwise fashion. It was found that there was no significant difference in chi-square (chi-square difference = 38.75, chi-square critical at df(23) = 41.64) in a model in which all factor loadings and the intercepts for items 9, 22, 28, 33, 37, and 43 were constrained to equality, with all other item intercepts free to vary. This model (CFI=0.860, TLI=0.850, RMSEA Estimate=0.053, SRMR=0.082) is outlined below for the Chinese and Australian samples:

<table>
<thead>
<tr>
<th>Chinese</th>
<th>Latent trait and items</th>
<th>Loading</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplicity &amp; Non-attachment</td>
<td>17. I try to remain unmoved by both winning and losing</td>
<td>.394</td>
<td>.018</td>
</tr>
<tr>
<td></td>
<td>18. I try not to be possessive</td>
<td>.437</td>
<td>.069</td>
</tr>
<tr>
<td></td>
<td>20. I know what is enough and I stop there</td>
<td>.474</td>
<td>.052</td>
</tr>
<tr>
<td></td>
<td>23. I try to avoid being overly attached</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
to a particular outcome  .551  .043
43. I value simplicity over extravagance  .497  .054

Ziran
10. Regardless of how they affect me
I accept things as they occur  .439  .018
24. I accept people for what they are  .641  .062
37. I accept myself as I am  .426  .047

Wu Wei
9. Balance is important in everything I do  .453  .024
14. Sometimes a soft approach can
overcome a hard obstacle  .450  .059
15. Sometimes it’s better not to do anything  .440  .059
22. Sometimes bad situations turn into good
ones and good situations turn into bad ones  .512  .061
27. Sometimes keeping silent brings about
the best result  .480  .064

Daoist Worldview
6. I believe I am ultimately one with all things  .355  .013
28. I try to maintain a calm, composed attitude,
rather than get emotionally involved in things  .560  .047
33. I remain calm in all situations  .468  .059
40. I like to become still and quiet before I act  .543  .048

Australian

Latent trait and items             Loading    Error
Simplicity & Non-attachment
17. I try to remain unmoved by
both winning and losing  .529  .018
18. I try not to be possessive  .397  .055
20. I know what is enough and
I stop there  .568  .054
23. I try to avoid being overly attached
to a particular outcome  .570  .040
43(C).  I value simplicity over extravagance  .506  .049

Ziran
10. Regardless of how they affect me
I accept things as they occur  .454  .019
24. I accept people for what they are  .574  .056
37(C). I accept myself as I am  .576  .063

Wu Wei
9(C). Balance is important in everything I do  .514  .021
14. Sometimes a soft approach can
overcome a hard obstacle  .540  .053
15. Sometimes it’s better not to do anything  .504  .061
22(C). Sometimes bad situations turn into good
ones and good situations turn into bad ones  .458  .062
27. Sometimes keeping silent brings about
the best result  .614  .058

Daoist Worldview
6. I believe I am ultimately one with all things  .539  .023
28(C). I try to maintain a calm, composed attitude,
rather than get emotionally involved in things  .675  .045
33(C). I remain calm in all situations  .540  .057

19 (C)=Constrained
This ‘partial’ invariance is not an ideal situation when comparing groups on a single questionnaire, given that a certain degree of the variance between groups will be due to differences in measurement rather than true differences in the underlying latent construct (in this case, Daoist thinking style).

However, given that all of the factor loadings and at least some of the item intercepts were found to be invariant, further analyses were pursued with the Australian data. A CFA on the Australian data alone again elicited model fit indices that were less than ideal (CFI=0.784, TLI=0.740, RMSEA Estimate=0.066, SRMR=0.074). Possible reasons for this deficit in model fit are discussed below, but it is now clear that it is at least partly due to a difference in the way the constructs are being measured. An examination of the factor loadings found that each item loads at at least .3 and most .4 or higher and modification indices highlighted no significant changes that could be made to improve the model. Given this fact, and the partial invariance demonstrated earlier, it may still be edifying to compare the Australian data on the DQ to the Chinese DQ means and to Australian responses to the Brief COPE and PSS. While these comparisons may still yield interesting results, they should be interpreted with caution given the degree of measurement variance and less than ideal model fit in the Australian data.

Australian reliability analyses. Before going on to comparisons of the Australian DQ scores with Brief COPE, PSS, and Chinese DQ scores, it was necessary to ascertain the reliability of the DQ in an Australian sample. Cronbach’s alpha’s were all lower than in the Chinese sample: Simplicity & Non-attachment (5
items; $= .60$); Ziran (3 items; $= .40$); Wu Wei (5 items; $= .62$); Worldview (4 items; $= .62$); and Total Daoist thinking style (17 items; $= .79$). The overall scale demonstrated good reliability but each of the subscales was below the generally accepted cutoff of .7 (de Vaus, 2002). Again this may be in part due to the low number of items in each subscale, but the Ziran subscale in particular was quite low, which may be due to different interpretations of the items by Chinese and Australian students. That is to say, if the Australian sample was interpreting the items in a slightly different way from the Chinese sample, then the items that make up the Ziran subscale may not be as closely related to each other in the Australian sample. A test-retest was also conducted with 35 of the participants, two to four weeks apart, yielding the following correlations: Simplicity & Non-attachment ($r = .55$, $p = .001$); Ziran ($r = .75$, $p < .001$); Wu Wei ($r = .58$, $p < .001$); Worldview ($r = .78$, $p < .001$); and Total Daoist thinking style ($r = .71$, $p < .001$). Similar to the Chinese sample, the Wu Wei subscale was again problematic, indicating that this subscale may be measuring more of a ‘state’ rather than ‘trait’ dimension. The simplicity subscale also demonstrated only average consistency over time. The other subscales as well as the total DQ score demonstrated reasonably good test-retest reliability.

A comparison of Australian and Chinese DQ scores. A comparison between Australian and Chinese DQ scores can be found below. Given that Daoism is a fundamental background to the Chinese way of thought (Nisbett, 2003), it might be expected that Chinese participants would score higher on the DQ on average than Australian participants. Pearson’s Chi-square test indicated that there was a significant difference between the groups in regards to gender distribution, $2 (1, N = 408) = 133.00, p < .001$. An independent samples $t$-test also indicated that the
Australian sample (26.99) were significantly older on average than the Chinese sample (20.43), \( t(164.30)=8.74, p < .001 \). To control for these differences, an analysis of covariance was performed (with age and gender as covariates) to compare the Australian and Chinese sample on DQ Total score. No serious violations of assumptions were found. Results of this analysis can be found in Table 10. Neither Gender nor Age appeared to have a significant effect on DQ Total scores. Once the effect of Age and Gender where controlled for, which sample the participants belonged to had a small but significant effect on DQ Total scores, explaining approximately 5% of the variance in these scores. However, given the above analyses revealing that the questionnaires may not be measuring the same thing, or may be measuring the construct in different ways, this comparison should be interpreted with caution.

Table 10

\[ DQ \text{ Total comparison for an Australian and Chinese sample} \]

<table>
<thead>
<tr>
<th></th>
<th>Australian</th>
<th></th>
<th>Chinese</th>
<th></th>
<th>df 1</th>
<th>df 2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DQ Total</td>
<td>101.86</td>
<td>19.91</td>
<td>112.52</td>
<td>19.12</td>
<td>1</td>
<td>402</td>
<td>22.73</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>402</td>
<td>.01</td>
<td>.937</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>402</td>
<td>2.22</td>
<td>.137</td>
</tr>
</tbody>
</table>

A multivariate analysis of covariance (again, with age and gender as covariates) was performed to compare the Australian and Chinese sample on the four subscales. Again, no serious violations of assumptions were found. The results of these analyses can be found in Tables 11 and 12. Again, Gender did not have a significant influence over combined DQ subscale scores, but Age had a small but
significant effect, explaining approximately 3% of the variance in these scores. Which sample participants belonged to also had a significant effect on combined DQ subscale scores, explaining approximately 19% of the variance in these scores (see Table 11). This is a considerable jump from the DQ Total score, suggesting that the subscales may have more utility when comparing Chinese and Australian samples.

Using a Bonferroni adjusted alpha of .013, when between-subject effects were examined (Table 12), all subscales were significantly different between the two samples. As expected, Chinese participants scored higher on average on Simplicity, Wu Wei, and Worldview. However, contrary to expectations, Australians scored significantly higher on the Ziran subscale than Chinese participants. Nationality (Australian versus Chinese) explained approximately 7% of the variance in Worldview subscale scores, approximately 6% of variance in Simplicity scores, approximately 5% of variance in Wu Wei scores, and approximately 2% of variance in Ziran scores. Again, given the apparent measure variance between the two samples, these results should be interpreted with caution.

Table 11

<table>
<thead>
<tr>
<th></th>
<th>df 1</th>
<th>df 2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>.81</td>
<td>4</td>
<td>399</td>
<td>23.39</td>
</tr>
<tr>
<td>Gender</td>
<td>.99</td>
<td>4</td>
<td>399</td>
<td>.97</td>
</tr>
<tr>
<td>Age</td>
<td>.97</td>
<td>4</td>
<td>399</td>
<td>3.31</td>
</tr>
</tbody>
</table>
Table 12

*DQ subscale comparisons for an Australian and Chinese sample*

<table>
<thead>
<tr>
<th></th>
<th>Australian</th>
<th></th>
<th>Chinese</th>
<th></th>
<th>df 1</th>
<th>df 2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simplicity</td>
<td>28.09</td>
<td>7.71</td>
<td>32.91</td>
<td>7.54</td>
<td>1</td>
<td>402</td>
<td>27.43</td>
<td>.000</td>
</tr>
<tr>
<td>Ziran</td>
<td>19.75</td>
<td>4.75</td>
<td>18.04</td>
<td>5.46</td>
<td>1</td>
<td>402</td>
<td>6.84</td>
<td>.009</td>
</tr>
<tr>
<td>Wu Wei</td>
<td>34.31</td>
<td>7.14</td>
<td>37.50</td>
<td>6.36</td>
<td>1</td>
<td>402</td>
<td>20.88</td>
<td>.000</td>
</tr>
<tr>
<td>Worldview</td>
<td>19.72</td>
<td>7.12</td>
<td>24.09</td>
<td>5.80</td>
<td>1</td>
<td>402</td>
<td>32.23</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Testing the factor structure of the Brief COPE and PSS in an Australian sample.** Before comparing DQ scores to Brief COPE and PSS scores, these two scales were subjected to CFAs. The Brief COPE was found to have good model fit in the Australian sample (CFI=0.930, TLI=0.898, RMSEA Estimate=0.056, SRMR=0.054) and thus was retained in its original form. As with the Chinese sample, item 12 of the PSS loaded poorly on the single factor structure (0.046 standardised with all other items loading above .3, and 11 out of 14 items loading above .6). This item was again excluded from further analysis. With item 12 removed the model fit for the single factor structure was still fairly poor (CFI=0.795, TLI=0.754, RMSEA Estimate=0.124, SRMR=0.076) and again, as with the Chinese sample, the two factor structure with positively and negatively worded items grouped resulted in much improved model fit (CFI=0.916, TLI=0.897, RMSEA Estimate=0.080, SRMR=0.056). Under the same rationale provided for the Chinese analysis, the PSS, minus item 12, was utilised as an overall measure of stress.

**Comparing the DQ to the Brief COPE and PSS.** Correlations between the DQ, the Brief COPE subscales, Age, and the total PSS scores can be found in Table
13. As with the Chinese analysis, the Wu Wei subscale yielded the lowest correlation, failing to reach statistical significance in the Australian sample. The Simplicity & Non-attachment subscale also yielded a weak correlation, but the Ziran and Worldview subscales scored on par with the Brief COPE subscales.
Table 13
*DQ, PSS, Brief COPE, and age correlations*

|       | DQ  | DQ  | DQ  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | BC  | Age |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PSS   | -.27|.17 |-.36 |-.04 |-.30 |.26 |-.36 |.31 |-.22 |-.12 |-.21 |-.43 |.16 |-.37 |-.22 |-.27 |-.12 |-.42 |-.20 |
| Tot   | *** |*** |*** |*** |*** |**  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| DQ    | .83 |.62 |.67 |.84 |-.01 |.27 |.04 |.09 |.07 |.10 |-.05 |.34 |.02 |.25 |.36 |-.08 |.07 |
| Tot   | *** |*** |*** |**  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| DQ    | .39 |.35 |.66 |.01 |.08 |.12 |-.01 |.00 |.00 |.05 |-.13 |.27 |.06 |.17 |.30 |.00 |.05 |
| Sim   | *** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| DQ    | .21 |.43 |-.02 |.34 |-.08 |.16 |.21 |.20 |-.18 |.11 |.43 |.01 |.33 |.15 |.20 |-.11 |
| Zir   | **  |*** |*** |*   |*** |*   |**  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| DQ    | .38 |.00 |.19 |.03 |-.07 |.06 |.09 |.01 |.01 |.20 |-.11 |.09 |.16 |.01 |.06 |
| Wu    | *** |*   |*** |*   |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| DQ    | -.01|.27 |.00 |.07 |.01 |.05 |-.08 |.16 |.35 |.10 |.21 |.43 |-.08 |.16 |
| Wo    | *** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.08|.14 |.06 |.09 |.09 |.26 |.05 |.01 |.09 |.07 |-.01 |.28 |.29 |
| Dist  | *** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.08 |.23 |.31 |.31 |.05 |.51 |.17 |.40 |.30 |.16 |.10 |
| Act   | *** |**  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | .41 |.09 |.24 |.44 |.26 |-.02 |.08 |.29 |.07 |.31 |-.02 |
| Den   | *** |**  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.03 |.06 |.23 |.11 |-.03 |.11 |-.24 |-.18 |.26 |-.12 |
| Sub   | **  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | .76 |.09 |.24 |.32 |.03 |.15 |.05 |.03 |.10 |
| Em    | *** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.24 |.22 |.35 |.01 |.27 |.06 |-.01 |.01 |
| Ins   | **  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | .18 |.15 |.04 |.16 |.02 |.27 |.08 |
| Dis   | *   |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.05 |.04 |.02 |.03 |.13 |.08 |
| Ven   | *** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | .24 |.47 |.35 |-.16 |.17 |
| Ref   | **  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | .17 |.03 |.11 |.01 |
| Hu    | *   |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | .19 |.02 |.07 |
| Acc   | *   |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.02 |.24 |
| Rel   | **  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |
| BC    | -.22 |**  |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |*** |

*Note.* *p* < .05, **p* < .01, ***p* < .001

PSS Tot=PSS Total, DQ Tot=DQ Total, DQ Sim=DQ Simplicity & Non-Attachment, DQ Zir=DQ Ziran, DQ Wu=DQ Wu Wei, DQ Wo=DQ Daoist Worldview, BC refers to Brief COPE subscales, Dist=Self-distraction, Act=Active coping, Den=Denial, Sub=Substance use, Em=Use of emotional support, Ins=Use of instrumental support, Dis=Behavioural disengagement, Ven=Venting, Ref=Positive reframing, Hu=Humour, Acc=Acceptance, Rel=Religion, Sel=Self-blame.
In order to measure the unique variance in stress attributable to Daoist thinking style, the DQ was regressed along with the Brief COPE onto the PSS. The Brief COPE Use of Instrumental Support and Use of Emotional Support subscales exceeded Tabachnick and Fidell’s (2001) suggested bivariate correlation cut-off of .07, suggesting that they may violate the multicollinearity assumption if entered into a regression together. Given that Use of Emotional Support was not significantly correlated with the PSS Total score, it was not entered into the regression analysis. Age was significantly correlated with PSS Total and so was entered into a hierarchical regression at stage 1 to control for its effects. An independent samples t-test also indicated that gender significantly influenced stress, t(98.38)=3.12, p<.01, with females (M=37.16) experiencing significantly more stress than males (M=32.88), so gender was also entered at stage 1. The Brief COPE subscales minus Use of Emotional Support were entered at stage 2, and the DQ Total score was entered at stage 3.

Squaring the correlation coefficient from Table 13 produces a coefficient of determination of $R^2 = .07$, indicating that the DQ Total score alone explains approximately 7% of the variance in PSS Total score in the Australian sample. However, given the correlations between some of the DQ and Brief COPE scores, it might be expected that some of the variance in PSS scores explained by the DQ is shared with the Brief COPE. A multiple regression (Table 14) demonstrates that approximately 9% of variance is explained by age and gender, approximately 38% by the Brief COPE minus Use of Emotional Support, and only around 1% of unique variance is explained by the DQ, which was not a statistically significant amount. Thus, it would appear that approximately 6% of the variance explained by the DQ in
the Australian sample is already captured by the Brief COPE.20

Table 14

_DQ Total and Brief COPE on PSS regression summary_

<table>
<thead>
<tr>
<th>Model</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>$F$ Change (df1,df2)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.091</td>
<td>.091</td>
<td>7.99 (2, 159)</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>.471</td>
<td>.380</td>
<td>8.63 (12, 147)</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>.482</td>
<td>.011</td>
<td>3.48 (1, 146)</td>
<td>.075</td>
</tr>
</tbody>
</table>

*Note.* Model 1 includes gender and age, model 2 gender, age, and the Brief COPE subscales minus Use of Emotional Support, and model 3 gender, age, the Brief COPE subscales minus Use of Emotional Support, and the DQ Total score.

A summary of the coefficients for each model can be found in Tables 15, 16 and 17. At the final stage of the regression (Table 17), females were significantly more likely to experience stress, Disengagement and Self-blame seemed to significantly increase stress, and Humour seemed to significantly reduce stress. Self-blame explained approximately 5% of unique variance, Humour explained approximately 4%, and Disengagement and Gender approximately 2% each.

Table 15

_Model 1: Gender and Age on PSS coefficients_

<table>
<thead>
<tr>
<th></th>
<th>$t$</th>
<th>Sig.</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>10.33</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.229</td>
<td>3.02</td>
<td>.003</td>
</tr>
<tr>
<td>Age</td>
<td>-.219</td>
<td>-2.88</td>
<td>.004</td>
</tr>
</tbody>
</table>

20 Again, this may not be a fair comparison, given the large number of BC subscales in the regression compared with the single DQ Total variable. However, it is definitely an indication that some explanatory value is shared between the two scales.
Table 16
*Model 2: Gender, Age, and Brief COPE on PSS coefficients*

<table>
<thead>
<tr>
<th></th>
<th>$t$</th>
<th>Sig.</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.36</td>
<td>.000</td>
<td>.03</td>
</tr>
<tr>
<td>Gender</td>
<td>.175</td>
<td>2.67</td>
<td>.008</td>
</tr>
<tr>
<td>Age</td>
<td>-.047</td>
<td>-.69</td>
<td>.492</td>
</tr>
<tr>
<td>BC Distraction</td>
<td>.132</td>
<td>1.93</td>
<td>.056</td>
</tr>
<tr>
<td>BC Active Coping</td>
<td>.000</td>
<td>.00</td>
<td>.997</td>
</tr>
<tr>
<td>BC Denial</td>
<td>.020</td>
<td>.24</td>
<td>.812</td>
</tr>
<tr>
<td>BC Substance use</td>
<td>.068</td>
<td>.95</td>
<td>.344</td>
</tr>
<tr>
<td>BC Inst. support</td>
<td>-.109</td>
<td>-1.44</td>
<td>.152</td>
</tr>
<tr>
<td>BC Disengagement</td>
<td>.179</td>
<td>2.36</td>
<td>.020</td>
</tr>
<tr>
<td>BC Venting</td>
<td>.102</td>
<td>1.46</td>
<td>.147</td>
</tr>
<tr>
<td>BC Reframing</td>
<td>-.140</td>
<td>-1.56</td>
<td>.122</td>
</tr>
<tr>
<td>BC Planning</td>
<td>-.096</td>
<td>-1.08</td>
<td>.283</td>
</tr>
<tr>
<td>BC Humour</td>
<td>-.206</td>
<td>-3.20</td>
<td>.002</td>
</tr>
<tr>
<td>BC Acceptance</td>
<td>-.022</td>
<td>-.28</td>
<td>.781</td>
</tr>
<tr>
<td>BC Religion</td>
<td>-.016</td>
<td>-.23</td>
<td>.820</td>
</tr>
<tr>
<td>BC Self-blame</td>
<td>.280</td>
<td>3.93</td>
<td>.000</td>
</tr>
</tbody>
</table>
When the subscales of the DQ were entered instead of the total score (Table 18), a jump in explained variance was noted, up to 3% of unique variance in stress being explained by the combined subscales. However, this was still not a statistically significant amount.
Table 18

*DQ subscales and Brief COPE on PSS regression summary*

<table>
<thead>
<tr>
<th>Model</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>$F$ Change (df1,df2)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.091</td>
<td>.091</td>
<td>7.99 (2, 159)</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>.471</td>
<td>.380</td>
<td>8.06 (13, 146)</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>.498</td>
<td>.027</td>
<td>1.88 (4, 142)</td>
<td>.117</td>
</tr>
</tbody>
</table>

*Note.* Model 1 includes gender and age, model 2 gender, age, and all Brief COPE subscales except Use of Emotional Support, and model 3 gender, age, the Brief COPE minus Use of Emotional Support, and the four DQ subscales.

As with the Chinese sample, it would appear that the majority of this variance is attributable to the Ziran subscale (see Table 19). However, none of the subscales explained a statistically significant amount of the variance in PSS scores.
Table 19
*Model 3: Gender, Age, Brief COPE, and DQ subscales on PSS coefficients*

<table>
<thead>
<tr>
<th></th>
<th>$t$</th>
<th>Sig.</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.78</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.144</td>
<td>2.06</td>
<td>.041</td>
</tr>
<tr>
<td>Age</td>
<td>-.076</td>
<td>-1.09</td>
<td>.277</td>
</tr>
<tr>
<td>BC Distraction</td>
<td>.130</td>
<td>1.90</td>
<td>.059</td>
</tr>
<tr>
<td>BC Active Coping</td>
<td>.002</td>
<td>.02</td>
<td>.985</td>
</tr>
<tr>
<td>BC Denial</td>
<td>.050</td>
<td>.60</td>
<td>.551</td>
</tr>
<tr>
<td>BC Substance use</td>
<td>.052</td>
<td>.72</td>
<td>.471</td>
</tr>
<tr>
<td>BC Inst. support</td>
<td>-.092</td>
<td>-1.22</td>
<td>.224</td>
</tr>
<tr>
<td>BC Disengagement</td>
<td>.161</td>
<td>2.12</td>
<td>.035</td>
</tr>
<tr>
<td>BC Venting</td>
<td>.071</td>
<td>1.02</td>
<td>.312</td>
</tr>
<tr>
<td>BC Reframing</td>
<td>-.074</td>
<td>-.80</td>
<td>.427</td>
</tr>
<tr>
<td>BC Planning</td>
<td>-.127</td>
<td>-1.41</td>
<td>.161</td>
</tr>
<tr>
<td>BC Humour</td>
<td>-.206</td>
<td>-3.16</td>
<td>.002</td>
</tr>
<tr>
<td>BC Acceptance</td>
<td>.006</td>
<td>.08</td>
<td>.937</td>
</tr>
<tr>
<td>BC Religion</td>
<td>.021</td>
<td>.28</td>
<td>.779</td>
</tr>
<tr>
<td>BC Self-blame</td>
<td>.257</td>
<td>3.62</td>
<td>.000</td>
</tr>
<tr>
<td>DQ Simplicity</td>
<td>-.061</td>
<td>-.71</td>
<td>.479</td>
</tr>
<tr>
<td>DQ Ziran</td>
<td>-.134</td>
<td>-1.68</td>
<td>.095</td>
</tr>
<tr>
<td>DQ Wu Wei</td>
<td>.065</td>
<td>.93</td>
<td>.352</td>
</tr>
<tr>
<td>DQ Worldview</td>
<td>-.062</td>
<td>-.64</td>
<td>.523</td>
</tr>
</tbody>
</table>

**Discussion**

Study 4 set-out to determine whether the Daoist thinking style questionnaire developed in China could be used with a Western population. The first step was to conduct a MGCFA and test for measurement invariance across the Australian and Chinese samples. The analysis revealed only partial invariance across the groups, indicating that in some systematic way the groups differed in the way they responded...
to the questionnaire. Specifically, while the items tended to group together in the same way for each sample, approximately two thirds of the item intercepts could not be constrained to equality, meaning that one or other group had scored systematically higher or lower on each of these items for reasons other than the underlying latent variables the items were supposed to measure (i.e., *ziran*, etc.). This difference in measurement across groups may be due to a number of factors, many of which have already been discussed in Chapter 4 and will be further elaborated upon in the General Discussion and Conclusions chapter that follows.

Despite the relatively low model fit in the Australian data, given that partial measurement invariance was found, and that the factor loadings were all at least .3 and most .4 or higher, it was decided to go ahead with the analysis in the Australian data using the Chinese factor structure. Reliability measures indicated that the overall DQ had good internal and test-retest reliability, but that some of the subscales were problematic. The Ziran subscale had a relatively low Cronbach’s alpha, suggesting that the items in that subscale were not holding together as well as they should. As with the Chinese version of the questionnaire, the Wu Wei subscale did not have as strong test-retest reliability as some of the other subscales and the overall DQ score. This is likely for the same reasons as outlined above for the Chinese sample. However, the Simplicity & Non-attachment subscale also had relatively low test-retest reliability in the Australian sample. Why this would be the case in the Australian sample but not the Chinese sample is not entirely clear. This may be a further indication that the items are being interpreted differently. The items that make up the Simplicity & Non-attachment scale may be more contextual for the Australian participants, meaning they aim for simplicity and non-attachment in certain situations but not others, and more global for the Chinese participants, meaning that
they apply these principles regardless of the situation. It may be edifying to delve further into this topic in future research to uncover how Simplicity & Non-attachment might differ cross-culturally.

Having decided that despite its limitations, the Australian version of the DQ had adequate reliability and validity to still provide meaningful and interesting results, the Australian and Chinese samples were compared on their DQ responses. Given that Daoism is rooted in the Chinese culture (see Nisbett, 2003), it might be expected that Chinese would on average score higher on the DQ than Australians. As predicted, ANCOVA results demonstrated that Chinese participants scored significantly higher than Australian participants on overall Daoist thinking style. Chinese participants also scored higher than Australian participants on Simplicity & Non-attachment, Wu Wei, and Daoist Worldview. However, contrary to expectations, Australian participants scored significantly higher than Chinese participants on the Ziran subscale. Thus, it would appear that those in the Australian convenience sample are more accepting of things as they are than their Chinese counterparts. Chinese university students, on the other hand, were more open to simplicity and not being attached to things and events, more likely to practice wu wei, and more likely to see themselves as one with all things, and to cultivate a calm, composed attitude, than Australian participants. Of course, given the apparent measurement variance between the two groups, these results should be interpreted with caution. For example, the Ziran subscale may be measuring a different underlying construct in the Australian and the Chinese samples (and furthermore had a particularly low Cronbach’s alpha in the Australian sample, so may not be measuring a coherent construct at all in this group).

Following the comparison of Australian and Chinese DQ scores, the DQ was
also assessed in comparison to the Brief COPE and PSS in the Australian sample. The Brief COPE was found to have good model fit indices in the Australian sample, but the Use of Emotional Support subscale was removed to avoid violation of the assumption of multicollinearity. As with the Chinese sample, item 12 of the PSS was found to be problematic and was thus excluded from further analyses. Simple correlations between the PSS and DQ found a similar pattern of relationships to the Chinese analysis. No significant correlation was found between the PSS and the Wu Wei subscale, and the Simplicity & Non-attachment subscale elicited only a mild negative correlation with perceived stress. This may in part be due to the low test-retest reliability of these two subscales. The overall DQ score and the other two subscales demonstrated reasonable negative correlations and again the Ziran subscale elicited the highest negative correlation with the PSS. However, a multiple regression reveals that very little unique variance in stress is explained by the DQ in the Australian sample when the Brief COPE is also included. Indeed, neither the total DQ score nor any of the subscales reached a statistically significant level of variance explained in this analysis. It may be that Daoist thinking style is not a coherent enough system in the cognition of the Australian participants to provide an adequate buffer against stress. Alternatively, it may be that Daoist thinking style doesn’t exist as a construct in the majority of Australian participants and that they are therefore simply interpreting the items in a way that is meaningful for them, and that is already captured in other Western measures.

This study began by testing the factor structure of the English language version of the DQ in an Australian sample. It was found that there were some issues with the factor structure and reliability of the English language DQ, however, it was decided that further analyses might still yield useful results. DQ results were compared for
the Australian and Chinese samples and it was found that, as expected, Chinese scored higher on the DQ Total score as well as most of the subscales. Contrary to expectations, however, the Australian sample averaged higher on the Ziran subscale. The DQ was also correlated with the PSS and revealed that, as in the Chinese sample, Daoist thinking style is negatively correlated with stress. However, when included in a regression equation along with the Brief COPE, no significant amount of variance is explained by the DQ alone, suggesting that the variance in stress explained by the DQ is already captured by existing measures in Australian samples. The following chapter will summarise and discuss the general findings of these four studies before concluding the thesis.
Chapter 10 – General Discussion and Conclusions

This thesis began by discussing Western notions of stress and coping and introducing some core elements of Daoism. It was argued that some aspects of Daoist philosophy and thinking style might act as inherent coping mechanisms and that Daoist thinking style might therefore be inversely related to stress. The notion was explored through a series of studies that attempted to develop a questionnaire to measure Daoist thinking style, and then correlate scores on that measure with scores on other widely used stress and coping measures. Study 1 developed the questionnaire then refined and validated it with Daoist masters in China. Study 2 administered the resulting questionnaire to a large sample of Chinese students and used factor analysis and other statistical methods to further revise the questionnaire and test its reliability. Study 2 then went on to compare the revised version of the questionnaire (the DQ) with a widely used stress scale (the PSS) and a widely used coping measure (the Brief COPE). The results of this analysis revealed that, as expected, the DQ was negatively correlated with the stress measure, and while much of the variance in stress explained by the DQ is already captured by measures like the Brief COPE, the DQ still contributed some unique explanatory value. That is to say, even after accounting for the effects captured by a questionnaire specifically dedicated to measuring coping, Daoist thinking style was still associated with lower levels of stress. There is clearly then some unique value in Daoist thinking style in regards to stress that is not yet captured by at least one of the major current coping measures. This in itself is reason enough to continue to explore the relationship between Daoism and stress.

Study 3 further explored the relationship between Daoism and mental health by
comparing the DQ results of the student sample from Study 2 with a sample of clients from a mental health clinic in Shanghai, China. It was hypothesised that, if Daoist thinking style acts as a buffer against stress and potentially other mental health concerns, the clinical sample that was having trouble dealing with these sorts of issues would score lower on the DQ than the student sample. As expected, the student sample scored significantly higher on average than the clinical sample. Clinical participants indicated a variety of complaints from work and study related stress, to relationship difficulties, to depressive type symptoms such as lack of energy and negative mood. Although, given the correlational nature of this study, other interpretations are possible, this might be taken as evidence that Daoist thinking style is acting as a buffer, preventing the student sample from experiencing excesses of these types of symptoms, or allowing them to deal with them appropriately so as not to require treatment. To put it another way, if the clinical sample adopted a Daoist thinking style, they may be better equipped to deal with their issues and require less in the way of psychological attention. For example, one participant indicated that she had experienced a betrayal and was unable to let go of it. If this participant adopted a Daoist approach to viewing the problem she may be more likely to accept things as they are (ziran) and not resist the natural flow of the situation. This is not to say that she would not necessarily experience negative emotion upon experiencing such a betrayal, but she may be more likely to accept the experience and move on than to ruminate upon it to the point of requiring attention from a professional psychologist.

The results of Study 3 might be taken as further evidence of the benefit to psychological health that holding a Daoist thinking style can have. Of course Study 3 was correlational, so no causal effect can be established (e.g., it may be that lower
levels of stress predispose one to adopt a Daoist thinking style, rather than the other way round, or there may be some other factor that contributes to both the use of a Daoist thinking style and lower levels of stress). Although beyond the scope of this thesis, future research might adopt an experimental design whereby randomly assigned participants are taught how to use a Daoist approach to dealing with stress and the results of this are compared with other groups who are taught appropriate comparative techniques.

Up to this point the DQ had only been tested in its Chinese language version with samples of Chinese participants. In order to test whether the DQ could be used with a Western sample, Study 4 administered the English language version of the DQ to a sample of Australian participants. The English language DQ was found to have a number of issues with its factor structure and reliability, which will be elaborated on below. Despite these difficulties, however, Study 4 seemed to indicate that the Chinese sample generally scored significantly higher on the DQ than the Australian sample. This was expected given that Daoism has exerted a considerable influence over the evolution of collective Chinese psychology and worldview (Nisbett, 2003). As with the Chinese sample, DQ results were found to negatively correlate with PSS results in the Australian sample, indicating that adopting a Daoist thinking style is associated with lower levels of stress in Australians as well. However, in the Australian sample, when the DQ was entered into a regression equation after the Brief COPE was accounted for, the DQ did not explain any unique variance. This means that any coping mechanisms captured by the DQ are already explained by existing measures in the Australian sample.

The final version of the DQ was a 17 item questionnaire with four subscales as well as a cumulative total Daoist thinking style score. By working together with
Daoist masters in China in Study 1, it can be said with relative confidence that the DQ is a good representation of authentic Daoist thinking. Indeed, although a proper comparison cannot be made given that they filled out an earlier version of the questionnaire, the Daoist masters DQ scores would have put each of them above the 97.5th percentile in the student sample. Given that the questionnaire was revised based on their responses and suggestions, they may even have scored higher on the final version of the DQ. Study 2 also demonstrated that the Chinese language version of the questionnaire has good reliability and validity and a strong factor structure for the four subscales.

In order to further examine what underlying constructs the subscales might be measuring in regards to coping, the DQ was correlated with the Brief COPE subscales. Simplicity & Non-attachment was positively correlated with Active Coping and Positive Reframing. Active Coping is made up of the items “I’ve been concentrating my efforts on doing something about the situation I’m in” and “I’ve been taking action to try to make the situation better”. The correlation between Simplicity & Non-attachment and these two items highlights an active element to this construct. This is not a passive resignation or laziness but an active effort to lead a less complicated life and not to be overly attached to the outcomes of our actions. Positive Reframing is made up of the items “I’ve been trying to see it in a different light, to make it seem more positive” and “I’ve been looking for something good in what is happening”. The reason for this correlation is somewhat more elusive. It may be related to the item “I try to remain unmoved by both winning and losing”, in that, by finding something positive in the situation, losing is taken in the same positive light as winning. Simplicity & Non-attachment was also negatively correlated with Disengagement, again highlighting that it is not a simple denial or avoidance of
problems, but an active process of reducing unnecessary or unhelpful attachment to objects and outcomes.

Ziran was positively correlated with Positive Reframing and Acceptance. Indeed all four subscales of the DQ, as well as the total DQ score, were correlated with Positive Reframing, which may indicate an overarching tendency of those with Daoist thinking styles to interpret all things in a positive light. Certainly in the case of Ziran, accepting all things in their natural course is likely to result in ‘reframing’ potentially negative events as simply being what they are, and therefore being less afflicted by them emotionally. Acceptance is made up of the items “I’ve been accepting the reality of the fact that it has happened” and “I’ve been learning to live with it”. The correlation between Ziran and Acceptance is also to be expected, given that these two items are essentially a specific application of the general ziran concept of accepting things as they are. Ziran was also negatively correlated with Distraction, Denial, Use of Emotional Support, and Behavioural Disengagement. A negative correlation between Ziran and Distraction is logical given that in ziran one is aware of events and accepting them as they are, rather than trying to avoid them or distract oneself from thinking about them. Likewise with Denial and Behavioural Disengagement, one is not denying or avoiding ‘stressful’ events but accepting them for what they are. The negative correlation with Use of Emotional Support may be through necessity, or the lack thereof. If acceptance of these events is acting as a buffer against stress, emotional support may simply not be required.

Wu Wei was positively correlated with Positive Reframing, Acceptance, and Self-blame. As mentioned above, Positive Reframing may be related to a general attitude of taking things in a positive light, especially in items such as “Sometimes bad situations turn into good ones and good situations turn into bad ones” in the Wu
Wei subscale. The correlation between Wu Wei and Acceptance is likely due to the close relationship between \( ziran \) and \( wu\ we\), with \( wu\ we\) really being an application of \( ziran \). That is to say, one does not take deliberate action but allows things to occur in a natural manner (\( wu\ we\)) because one accepts things as they naturally are (\( ziran \)). The Self-blame subscale of the Brief COPE is made up of the items “I’ve been criticizing myself” and “I’ve been blaming myself for things that have happened”. Its correlation with Wu Wei may be due to items such as “Sometimes it’s better not to do anything” and “Sometimes keeping silent brings about the best result” in the Wu Wei subscale. It is possible that participants had taken some action that led to negative consequences and were blaming themselves for these outcomes (Self-blame) and feeling that they would have been better off doing nothing (Wu Wei). This may also go some way towards explaining the lower test-retest reliability for the Wu Wei subscale, as if this had happened in the recent past participants might be answering more highly on the Wu Wei subscale, but as the event became more distant they may return to an attitude of wanting to take action rather than subscribing to \( wu\ we\). Wu Wei was also negatively correlated with Disengagement, again indicating that these Daoist constructs are not about avoiding or disengaging from situations, but acting in a way that is not contrary to the natural flow of things.

Daoist Worldview was positively correlated with Active Coping and Positive Reframing. Given a number of the items in the Worldview subscale relate to actively managing emotions and arousal, it is to be expected that it should correlate with Active Coping. As with the previous subscales of the DQ, the positive correlation between Worldview and Positive Reframing may again be due to a general tendency to take things in a positive light, although it does not appear explicitly in any of the Worldview items. Daoist Worldview also correlated negatively with Denial, Use of
Emotional Support, Use of Instrumental Support, Disengagement, and Venting. As with Ziran, the negative correlation with the use of emotional and instrumental support may simply be due to a lack of necessity if indeed Worldview is acting as a buffer against stress. Despite items such as “I try to maintain a calm, composed attitude, rather than get emotionally involved in things”, the negative correlations with Denial and Disengagement again demonstrate that this is not about denial or avoidance, but about dealing with things in a calm, measured manner. Furthermore, the negative correlation with Venting is to be expected given that a number of Worldview items are related to maintaining emotional calm, rather than experiencing aggravation and arousal, and then venting in order to relieve stress.

This final version of the DQ may prove useful to researchers wishing to measure Daoist thinking style in Chinese language populations. Unfortunately, it seems the DQ cannot simply be translated into English and used in its current form without encountering some issues regarding the factor structure and reliability of the questionnaire. There are a number of reasons why the items may be behaving differently in Chinese and Australian samples. One reason may be problems with linguistics and translation. This is an inherent issue with comparing an ideogrammatic language, made up of symbols that represent meaning, with a phonetic language, made up of symbols that represent sounds. These are two fundamentally different forms of written expression and the less simplistic and constrained the concept being discussed, the more amplified these problems may become. Daoist ideas are by necessity obtuse, as exemplified by the often cited opening lines from the Dao De Jing, which highlight the ineffability of the Dao.

A second issue may be an interpretive one. Indeed, it was argued earlier in this thesis that Daoist thought would be more embedded in the Chinese culture than in
Australian or Western culture. It may be that, while Chinese participants are interpreting the items in a Daoist light, Australian participants, without that cultural background, are interpreting the items in a different and perhaps much more varied light. Although beyond the scope of this thesis, it would be edifying to conduct a CFA on the results of Westerners with training in Daoism, to see if the factor structure was confirmed with them. Undoubtedly, if the items are being interpreted differently between groups, this leads to the question of whether other items might be used that can only be interpreted in a single manner. While this may be possible with simpler constructs such as stress or eating behaviour, the complex and obtuse nature of Daoist thought may make this an impossible task. Researchers into the psychology of Daoism may have to either accept a degree of measurement error in their questionnaires, or opt for alternative data collection techniques such as qualitative methods.

The next step in this line of research may be to attempt to develop interventions that foster Daoist thinking. This thesis has demonstrated that Daoist thinking is associated with reduced levels of stress, and Study 3 further indicates that it may act as a buffer against other psychological health problems as well. In order to establish whether there is a causal relationship between Daoist thinking style and reduced levels of stress, a sample of clinical participants might be randomly allocated to a Daoist thinking style intervention, a placebo control, and possibly some other well established interventions for comparison. The DQ could be used to assess the efficacy of such an intervention in regards to increasing levels of Daoist thinking style. Pre- and post-tests on a variety of mental health concerns could then be conducted and any reduction in symptoms above and beyond the level of the placebo condition could be attributed to Daoist thinking style. Chinese and other
East Asian populations may be particularly amenable to this type of intervention, given they already have something of a background for it in their cultural and psychological development. It is also possible that Western populations may benefit from such an intervention for the very fact that they do not have a background for it. Given that Daoist thinking style may not be particularly prevalent in Western populations, its introduction may have a considerable effect, filling a gap that exists in the cultural psychology of the West.

The Daoist thinking style questionnaire developed in this thesis is a preliminary step in a potentially fruitful area of research. It is the first quantitative measure of Daoist thinking style to exist in any language. The Chinese language version of the questionnaire has been demonstrated to have good reliability and validity and a solid factor structure. With further revisions an English language version of the questionnaire may be developed. It has been demonstrated that Daoist thinking style may act as a buffer against stress and possibly some other mental health issues as well. Building on this foundation of empirical investigation, it is likely that a great deal more can be learned from Daoism and that Eastern and Western psychology alike may benefit from the knowledge contained in this ancient tradition. This thesis constitutes an early contribution towards that goal.
References


Visions from the East and West. *Counseling and Values, 36*(1), 2-10.


Conger, R. D., & Conger, K. J. (2002). Resilience in midwestern families: Selected...
findings from the first decade of a prospective, longitudinal study. *Journal of Marriage & Family, 64*, 361-373.


Davis, D. (2011). Daoism and positive psychology: Healing self, healing society. In L. Kohn (Ed.), *Living authentically: Daoist contributions to modern*
psychology (pp. 158-174). Dunedin: Three Pines Press.


Miller, S., & Mangan, C. E. (1983). Interacting effects of information and coping style in adapting to gynecological stress: When should the doctor tell all?


Columbia University Press.


University of British Columbia Press.


Schipper, K., & Verellen, F. (2004). *The Taoist Canon: A historical companion to the...*
Darozang. Chicago: The University of Chicago Press.


Personality and Social Psychology, 86, 320-333.


Zhang, Y., Young, D., Lee, S., Li, L., Zhang, H., Xiao, Z., Hao, W., Feng, Y., Zhou,

Appendix A – Daoist Thinking Style Questionnaire version 1 English

The following statements describe certain behaviours an individual might engage in or certain attitudes or beliefs that they might hold. We are interested in how closely each statement relates to you when you are faced with a challenging or threatening situation. That is to say, how likely are you to engage in that behaviour, or how strongly do you hold that belief, when you are faced with challenging or threatening situations. Some statements also reflect more general opinions about lifestyle choices but again, we want to know how strongly you hold these opinions, if at all, when you are faced with a challenge. Please check the box under the number between 0 to 10 to indicate how closely each statement resembles your behaviours or beliefs, with 0 meaning not at all and 10 meaning completely.

When I am faced with a challenging or threatening situation...

1. I accept things as they are

   Not at all like me  Mixed  Exactly like me

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>
   [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

2. Being able to bend and yield is important

3. I realise my opinions may change and therefore I do not cling to them

4. I believe in reducing what I have and decreasing what I want

5. Sometimes there is only one side to a situation

6. I try to be free of self-interest

7. I believe I am ultimately one with all things

8. I try to get in touch with the spiritual side of myself

9. I highly value compassion, moderation, and humility

10. Some people are just fundamentally better than others

11. Balance is important in everything I do

12. Sometimes I know what to do without knowing why

---

For the sake of space the response table is only presented under the first item of the questionnaire. In the actual questionnaire it was, of course, under each item.
13. Regardless of how they affect me I accept things as they occur
14. To overcome someone or something, confrontation is usually necessary
15. When I do something for someone, I usually expect something in return
16. It is important to gain control over my thoughts and feelings
17. I believe one should never go to excess
18. Sometimes a soft approach can overcome a hard obstacle
19. I believe the universe will supply me with everything I really need
20. I prefer to take the path of least resistance
21. Sometimes it’s better not to do anything
22. I value intellectual knowledge over intuitive wisdom
23. Sometimes, instead of trying to get something I want, I prefer to stop wanting it
24. No matter what is happening around me, I try to keep faith in my heart
25. I try to remain unmoved by both winning and losing
26. I try not to be possessive
27. Sometimes it’s better to have less rather than more
28. Thinking a problem out and coming up with a logical solution is better than observing events and doing what seems natural
29. I know what is enough and I stop there
30. There are always two opposing forces at play
31. Knowing and controlling others is more important than knowing and controlling myself
32. Going too far in one direction results in things turning back on themselves
33. Sometimes bad situations turn into good ones and good situations turn into bad ones
34. I try to avoid being overly attached to a particular outcome
35. I accept people for what they are

36. There are only a few things we really need to be happy, everything else is excess

37. Strong attachments interfere with the natural flow of life

38. I value having a clear, empty mind

39. I try to change things I don’t agree with

40. Sometimes keeping silent brings about the best result

41. I try to maintain a calm, composed attitude, rather than get emotionally involved in things

42. Sometimes I curse the conditions I find myself in

43. I think the idea of ‘beauty’ produces the idea of ‘ugliness’, the idea of ‘good’ produces the idea of ‘bad’

44. I look inside myself for the answers to my problems

45. Things are as they are and I feel no need to change them

46. Interfering with the flow of situations won’t result in the best outcome

47. Being humble is an obstacle to my goals

48. I try to remain calm in all situations

49. I believe I am part of a universal whole

50. If I trust in myself and a higher power, my misfortune will turn to good fortune

51. Sometimes we win, sometimes we lose, this is the natural order of things

52. I try to be content with what I have

53. I like to deal with things before they become a problem

54. I accept myself as I am

55. I try to get as much as I can in this world

56. Attachment to objects and status leads to unhappiness

57. I like to become still and quiet before I act
58. I try to view all situations objectively without making judgements as to good and bad.

59. I believe there is some greater force that underlies all things.

60. The more information I learn, the further from nature I become.

61. I think it’s better not to try to go against the flow.

62. There is ultimately no good or bad, everything is relative.

63. I value simplicity over extravagance.

64. It’s always best to have a plan and stick to it.

65. I see the world as existing independent of any higher power.

66. I use techniques like meditation to control my mind.

67. I believe all things are ultimately One.

68. A simpler lifestyle doesn’t appeal to me.

69. People and events have a particular nature and I accept that without judging them.

70. I usually feel like it is necessary for me to get involved.

71. I often disagree with the way things are.

72. It’s always better to act quickly.
Appendix B – Daoist Thinking Style Questionnaire version 1 Chinese

以下描述了作为个人可能表现出的某些行为或者可能持有的某种态度或观点。我们希望了解，当你面临挑战或者威胁时，以下的这些描述在多大程度上与你相符合。也就是说，当面对挑战或者威胁时，你产生这种行为的可能性有多大，或者你对这种观点的认同程度有多强。有些叙述反映的是关于生活方式的更为泛泛的观点，但是我们同样想知道，当你面临挑战时，如果你持有这种观点的话，那么你对它的认同程度有多强。请从0到10中进行选择并勾选下方的方框，以此说明该描述与你的行为或信念的相似程度，0表示完全不符，10表示完全一致。

当我面临挑战或者威胁时……

1. 我顺其自然

<table>
<thead>
<tr>
<th>根本不像我</th>
<th>部分符合</th>
<th>和我完全一样</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. 能屈能伸非常重要

3. 我知道自己想法会改变，因此不会坚持己见

4. 我认为应该安贫乐道

5. 有时，有的事只有一面性

6. 我努力将个人利益抛诸脑后

7. 我认为我是一个兼容并蓄的人

8. 我努力与自己的心灵沟通
9. 我非常珍视善良、温和和谦逊

10. 有些人从根本上就比其他人好

11. 我做任何事都力求保持平衡

12. 有时，我会莫名其妙地知道自己该怎么做

13. 无论自己会受到什么样的影响，我都会接受现实

14. 要想战胜某个人或者某件事，对抗常常必不可少

15. 当为别人做事情时，我往往认为应该得到回报

16. 控制自己的思想和感情十分重要

17. 我认为人不应该走极端

18. 有时温和的方式可以解决棘手的困难

19. 我相信上苍会赐予我真正所需的一切

20. 我愿意选择阻力最小的途径

21. 有时，无为胜于有为

22. 如果与灵感相比较，我更重视学术知识

23. 有时，我不会去争取自己想要的东西，而是会抑制自己的欲望

24. 无论身边发生什么事，我都会努力坚守心中的信念

25. 我尽量做到胜不骄败不馁
26. 我努力控制自己的占有欲

27. 有时，寡胜于多

28. 遇到问题积极思考并提出合理解决方案，要胜于静观其变，顺其自然

29. 我知“足”，并适可而止

30. 所有事物都包含彼此对立的两股力量

31. 了解、控制他人比了解、控制自己更重要

32. 物极必反

33. 有时候，祸兮福所倚，福兮祸所伏

34. 我会尽量避免过于执着于某个结果

35. 无论对方是什么样的人，我都能坦然接受

36. 真正值得我们高兴的只有为数不多的几件事，其他的都是多余的

37. 强烈的执着会打乱生命的自然节奏

38. 我崇尚空无的心境

39. 我试图改变不合我意的事情

40. 有时，沉默是金

41. 我尽量保持冷静、自若的态度，而不是感情用事

42. 有时，我对自己的境遇怨天尤人
43. 我相信因“美”生“丑”，因“善”生“恶”

44. 遇到问题，我会自我内省以寻求答案

45. 万物应随遇而安，我认为没有必要改变它们

46. 干扰事物的自然发展过程不会带来最好的结果

47. 谦虚是我实现目标的障碍

48. 我尽量在所有情况下都保持冷静

49. 我相信我是宇宙整体的一部分

50. 如果我相信自己，笃信神明，厄运就会变为好运

51. 我们时赢时输，这是事物发展的自然规律

52. 我尽量保持知足常乐

53. 我喜欢未雨绸缪提前解决问题

54. 我坦然接受自己的一切

55. 我要在世上得到尽可能多的东西

56. 执着于物质和地位会使人失去快乐

57. 我喜欢在行动前取得镇定和平静

58. 我尽量客观地观察所有情况，不做是非判断

59. 我相信存在主宰所有事物的某种更强大的力量
60. 我了解的信息越多，距离自然就越远

61. 我认为最好不要刻意而为

62. 没有绝对的好与坏，万物都是相对的

63. 我崇尚简朴而不是奢华

64. 最好是制定计划并严格遵守

65. 我认为这个世界没有更高的主宰它的力量

66. 我通过冥想等方法来控制自己的思想

67. 我相信万物终将归一

68. 更为简朴的生活方式对我没有吸引力

69. 人和事都有其特殊本性，我全盘接受，不妄自评判

70. 我通常感到我有必要参与其中

71. 我常常对事物的现状持有异议

72. 迅速行动总是更好
The following statements describe certain behaviours an individual might engage in or certain attitudes or beliefs that they might hold. We are interested in how closely each statement relates to you when you are faced with a challenging or threatening situation. That is to say, how likely are you to engage in that behaviour, or how strongly do you hold that belief, when you are faced with challenging or threatening situations. Some statements also reflect more general opinions about lifestyle choices but again, we want to know how strongly you hold these opinions, if at all, when you are faced with a challenge. Please check the box under the number between 0 to 10 to indicate how closely each statement resembles your behaviours or beliefs, with 0 meaning not at all and 10 meaning completely.

When I am faced with a challenging or threatening situation...

1. I accept things as they are

<table>
<thead>
<tr>
<th>I never think this way</th>
<th>Mixed</th>
<th>Exactly like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>0         1         2         3         4         5         6         7         8         9         10</td>
<td></td>
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</tr>
<tr>
<td>[ ]         [ ]         [ ]         [ ]         [ ]         [ ]         [ ]         [ ]         [ ]         [ ]         [ ]</td>
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2. Being able to bend and yield is important

3. I believe in reducing what I have and decreasing what I want

4. Sometimes there is only one side to a situation

5. I try to be free of self-interest

6. I believe I am ultimately one with all things

7. I am a spiritual person

8. I highly value compassion, moderation, and humility

9. Balance is important in everything I do

10. Regardless of how they affect me I accept things as they occur

11. When I do something for someone, I usually expect something in return

12. It is important to regulate my thoughts and feelings

13. I believe one should never go to excess
14. Sometimes a soft approach can overcome a hard obstacle
15. Sometimes it’s better not to do anything
16. No matter what is happening around me, I try to keep faith in my heart
17. I try to remain unmoved by both winning and losing
18. I try not to be possessive
19. Sometimes it’s better to have less rather than more
20. I know what is enough and I stop there
21. Going too far in one direction results in things turning back on themselves
22. Sometimes bad situations turn into good ones and good situations turn into bad ones
23. I try to avoid being overly attached to a particular outcome
24. I accept people for what they are
25. Strong attachments interfere with the natural flow of life
26. I value having a clear, empty mind
27. Sometimes keeping silent brings about the best result
28. I try to maintain a calm, composed attitude, rather than get emotionally involved in things
29. Sometimes I curse the conditions I find myself in
30. Things are as they are and I feel no need to change them
31. Interfering with the flow of situations won’t result in the best outcome
32. Being humble is an obstacle to my goals
33. I remain calm in all situations
34. I believe I am part of a universal whole
35. Sometimes we win, sometimes we lose, this is the natural order of things
36. I am content with what I have
37. I accept myself as I am

38. I try to get as much as I can in this world

39. Attachment to objects and status leads to unhappiness

40. I like to become still and quiet before I act

41. I think it's better not to try to go against the flow

42. There is ultimately no good or bad, everything is relative

43. I value simplicity over extravagance

44. I see the world as existing independent of any higher power

45. I believe all things are ultimately One

46. A simple lifestyle doesn’t appeal to me

47. I often disagree with the way things are
Appendix D – Daoist Thinking Style Questionnaire revised Chinese

以下描述了作为个人可能表现出的某些行为或者可能持有的某种态度或观点。我们希望了解，当你面临挑战或者威胁时，以下的这些描述在多大程度上与你相符合。也就是说，当面对挑战或者威胁时，你产生这种行为的可能性有多大，或者你对这种观点的认同程度有多强。有些叙述反映的是关于生活方式的更为泛泛的观点，但是我们同样想知道，当你面临挑战时，如果你持有这种观点的话，那么你对它的认同程度有多强。请从0到10中进行选择并勾选下方的方框，以此说明该描述与你的行为或信念的相似程度。0表示完全不符，10表示完全一致。

当我面临挑战或者威胁时……

1. 我顺其自然

从不这样想 部分符合 和我完全一样
0  1  2  3  4  5  6  7  8  9  10

2. 能屈能伸非常重要

3. 我认为应该安贫乐道

4. 有时，有的事只有一面性

5. 我努力将个人利益抛诸脑后

6. 我认为我是一个兼容并蓄的人

7. 我是有神论者

8. 我非常珍视善良、温和和谦逊
9. 我做任何事都力求保持平衡

10. 无论自己会受到什么样的影响，我都会接受现实

11. 当为别人做事情时，我往往认为应该得到回报

12. 调节自己的思想和感情十分重要

13. 我认为人不应该走极端

14. 有时温和的方式可以解决棘手的困难

15. 有时，无为胜于有为

16. 无论身边发生什么事，我都会努力坚守心中的信念

17. 我尽量做到胜不骄败不馁

18. 我支配欲不强

19. 有时，寡胜于多

20. 我知“足”，并适可而止

21. 物极必反

22. 有时候，祸兮福所倚，福兮祸所伏

23. 我会尽量避免过于执着于某个结果

24. 无论对方是什么样的人，我都能坦然接受

25. 强烈的执着会打乱生命的自然节奏
26. 我崇尚清静

27. 有时，沉默是金

28. 我尽量保持冷静、自若的态度，而不是感情用事

29. 有时，我对自己的境遇怨天尤人

30. 万物应随遇而安，我认为没有必要改变它们

31. 干扰事物的自然发展过程不会带来最好的结果

32. 谦虚是我实现目标的阻碍

33. 我在所有情况下都保持冷静

34. 我相信我是宇宙整体的一部分

35. 我们时赢时输，这是事物发展的自然规律

36. 我知足常乐

37. 我坦然接受自己的一切

38. 我要在世上得到尽可能多的东西

39. 执着于物质和地位会使人失去快乐

40. 我喜欢在行动前取得镇定和平静

41. 我认为最好不要违背自然

42. 没有绝对的好与坏，万物都是相对的
43.我崇尚简朴而不是奢华

44.我认为这个世界没有更高的主宰它的力量

45.我相信万物终将归一

46.简朴的生活方式对我没有吸引力

47.我常常不接受事物的现状
The following statements describe certain behaviours an individual might engage in or certain attitudes or beliefs that they might hold. We are interested in how closely each statement relates to you when you are faced with a challenging or threatening situation. That is to say, how likely are you to engage in that behaviour, or how strongly do you hold that belief, when you are faced with challenging or threatening situations. Some statements also reflect more general opinions about lifestyle choices but again, we want to know how strongly you hold these opinions, if at all, when you are faced with a challenge. Please check the box under the number between 0 to 10 to indicate how closely each statement resembles your behaviours or beliefs, with 0 meaning not at all and 10 meaning completely.

When I am faced with a challenging or threatening situation..."

<table>
<thead>
<tr>
<th>Statement</th>
<th>Scale</th>
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<tbody>
<tr>
<td>1. believe I am ultimately one with all things</td>
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<tr>
<td>I never think this way</td>
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<tr>
<td>Mixed</td>
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<tr>
<td>Exactly like me</td>
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<td>0 1 2 3 4 5 6 7 8 9 10</td>
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<td>□□□□□□□□□□</td>
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<td>2. Balance is important in everything I do</td>
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<td>3. Regardless of how they affect me I accept things as they occur</td>
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<tr>
<td>4. Sometimes a soft approach can overcome a hard obstacle</td>
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<tr>
<td>5. Sometimes it’s <strong>better not to do anything</strong></td>
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<tr>
<td>6. I try to remain unmoved by both winning and losing</td>
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<td>7. I try not to be possessive</td>
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<tr>
<td>8. I know what is enough and I stop there</td>
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<tr>
<td>9. Sometimes bad situations turn into good ones and good situations turn into bad ones</td>
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<tr>
<td>10. I try to avoid being overly attached to a particular outcome</td>
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</tbody>
</table>
11. I accept people for what they are
12. Sometimes keeping silent brings about the best result
13. I try to maintain a calm, composed attitude, rather than get emotionally involved in things
14. I remain calm in all situations
15. I accept myself as I am
16. I like to become still and quiet before I act
17. I value simplicity over extravagance

Coding:
Simplicity & Non-attachment – 6, 7, 8, 10, 17
Ziran – 3, 11, 15
Wu Wei – 2, 4, 5, 9, 12
Worldview – 1, 13, 14, 16
以下描述了作为个人可能表现出的某些行为或者可能持有的某种态度或观点。我们希望了解，当你面临挑战或者威胁时，以下的这些描述在多大程度上与你相符合。也就是说，当面对挑战或者威胁时，你产生这种行为的可能性有多大，或者你对这种观点的认同程度有多强。有些叙述反映的是关于生活方式的更为泛泛的观点，但是我们同样想知道，当你面临挑战时，如果你持有这种观点的话，那么你对它的认同程度有多强。请从0到10中进行选择并勾选下方的方框，以此说明该描述与你的行为或信念的相似程度。0表示完全不符，10表示完全一致。

当我面临挑战或者威胁时……

1. 我认为我是一个兼容并蓄的人

从不这样想 部分符合 和我完全一样
0 1 2 3 4 5 6 7 8 9 10

2. 我做任何事都力求保持平衡

3. 无论自己会受到什么样的影响，我都会接受现实

4. 有时温和的方式可以解决棘手的困难

5. 有时，无为胜于有为

6. 我尽量做到胜不骄败不馁

7. 我支配欲不强
8. 我知“足”，并适可而止

9. 有时候，祸兮福所倚，福兮祸所伏

10. 我会尽量避免过于执着于某个结果

11. 无论对方是什么样的人，我都能坦然接受

12. 有时，沉默是金

13. 我尽量保持冷静、自若的态度，而不是感情用事

14. 我在所有情况下都保持冷静

15. 我坦然接受自己的一切

16. 我喜欢在行动前取得镇定和平静

17. 我崇尚简朴而不是奢华

编码:

简易和非附着 – 6, 7, 8, 10, 17

自然 – 3, 11, 15

无为 – 2, 4, 5, 9, 12

世界观 – 1, 13, 14, 16
Appendix G – Brief COPE English

These items deal with ways you have been coping with the stresses in your life. There are many ways to try to deal with problems. Obviously, different people deal with things in different ways, but I'm interested in how you try to deal with stress. Each item says something about a particular way of coping. I want to know to what extent you do what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you do it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I don't do this at all
2 = I do this a little bit
3 = I do this a medium amount
4 = I do this a lot

1. I turn to work or other activities to take my mind off things.
   1  2  3  4

2. I concentrate my efforts on doing something about the situation I'm in.
   1  2  3  4

3. I say to myself "this isn't real".
   1  2  3  4

4. I use alcohol or other drugs to make myself feel better.
   1  2  3  4

5. I get emotional support from others.
   1  2  3  4

6. I give up trying to deal with it.
   1  2  3  4

7. I take action to try to make the situation better.
   1  2  3  4
8. I refuse to believe that it has happened.
   
   1  2  3  4

9. I say things to let my unpleasant feelings escape.
   
   1  2  3  4

10. I get help and advice from other people.
    
    1  2  3  4

11. I use alcohol or other drugs to help me get through it.
    
    1  2  3  4

12. I try to see it in a different light, to make it seem more positive.
    
    1  2  3  4

13. I criticise myself.
    
    1  2  3  4

14. I try to come up with a strategy about what to do.
    
    1  2  3  4

15. I get comfort and understanding from someone.
    
    1  2  3  4

16. I give up the attempt to cope.
    
    1  2  3  4

17. I look for something good in what is happening.
    
    1  2  3  4

18. I make jokes about it.
    
    1  2  3  4

19. I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
    
    1  2  3  4

20. I accept the reality of the fact that it has happened.
    
    1  2  3  4

21. I express my negative feelings.
    
    1  2  3  4

22. I try to find comfort in my religion or spiritual beliefs.
    
    1  2  3  4

23. I try to get advice or help from other people about what to do.
    
    1  2  3  4
24. I learn to live with it.
   1   2   3   4

25. I think hard about what steps to take.
   1   2   3   4

26. I blame myself for things that happened.
   1   2   3   4

27. I pray or meditate.
   1   2   3   4

28. I make fun of the situation.
   1   2   3   4
这些条目是关于您在生活中如何应对压力的。处理问题的方法有很多。显然，不同的人处理问题的方式不同，但我希望了解您是如何应对压力的。每一条都体现了一种特定的应对方式。我想知道，您在多大程度上会按照条目中所说的去做，这么做的次数有多少或者说频率有多高。在回答的时候，不要告诉我这种方法是否行得通，只需告诉我您是否会这么做。请使用以下选项进行回答。请在心中单独思考每一个选项。尽可能让你的回答反映真实的你。

1 = 我从不这么做
2 = 我偶尔这么做
3 = 我这么做的频率中等
4 = 我经常这么做

1. 为了转移注意力，我会去工作或者做其他事。
   
   1  2  3  4

2. 我会全力以赴应对我所面临的处境。

   1  2  3  4

3. 我对自己说：“这不是真的。”

   1  2  3  4

4. 我使用酒精或其他药物令自己感到舒服些。

   1  2  3  4
5. 我从别人那里获得精神支持。

6. 我放弃解决这个问题。

7. 我会采取行动努力改善境况。

8. 我拒绝相信这件事真的发生过。

9. 我通过倾诉来排解忧愁。

10. 我从别人那里获得帮助和指点。

11. 我使用酒精或其他药物帮助我度过难关。

12. 我试图从一个不同的角度去看待这件事，以便让它显得更加乐观。

13. 我会自我批评。

14. 我会想出一个解决问题的对策。

15. 我从别人那里获得安慰和理解。

16. 我会放弃积极应对的想法。

17. 我会在所发生的事情中寻找好的方面。
18. 我会拿它开玩笑。

19. 为了不去想它，我会去做其他事，比如看电影、看电视、阅读、发呆、睡觉，或者购物。

20. 我接受事情已经发生这一现实。

21. 我会把消极情绪表达出来。

22. 我试图在宗教或精神信仰中寻求慰藉。

23. 我会试图从他人那里就如何做取得建议或帮助。

24. 我会学着逆来顺受。

25. 我会为了下一步该采取什么措施而冥思苦想。

26. 我会因为发生的事而自责。

27. 我祈祷或者冥想。

28. 我会在这种情境中寻开心。
Appendix I – Perceived Stress Scale English

The questions in this scale ask you about your feelings and thoughts during THE LAST MONTH. In each case, you will be asked to indicate your response by placing an “X” over the option representing HOW OFTEN you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don’t try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

1 = Never
2 = Almost Never
3 = Sometimes
4 = Fairly Often
5 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you dealt successfully with day to day problems and annoyances?

5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
   1  2  3  4  5

7. In the last month, how often have you felt that things were going your way?
   1  2  3  4  5

8. In the last month, how often have you found that you could not cope with all the things that you had to do?
   1  2  3  4  5

9. In the last month, how often have you been able to control irritations in your life?
   1  2  3  4  5

10. In the last month, how often have you felt that you were on top of things?
    1  2  3  4  5

11. In the last month, how often have you been angered because of things that happened that were outside of your control?
    1  2  3  4  5

12. In the last month, how often have you found yourself thinking about things that you have to accomplish?
    1  2  3  4  5

13. In the last month, how often have you been able to control the way you spend your time?
    1  2  3  4  5

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
    1  2  3  4  5
### Appendix J – Perceived Stress Scale Chinese

這份量表是在詢問在最近一個月來，您個人的感受和想法，請您於每個題項上作答時，去指出您感受或想到某一特定想法的頻率。雖然有些問題看是相似，實則是有所差異，所以每一題均需作答。而作答方式盡量以快速、不假思索方式填答，亦即不要去思慮計算每一題分數背後之意涵，以期確實反應您真實的壓力知覺狀況。而每一題項皆有下列五種選擇：

<table>
<thead>
<tr>
<th>從不</th>
<th>偶爾</th>
<th>有時</th>
<th>時常</th>
<th>總是</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 一些無法預期的事情發生而感到心煩意亂</td>
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<tr>
<td>2. 感覺無法控制自己生活中重要的事情</td>
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<td>3. 感到緊張不安和壓力</td>
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<tr>
<td>4. 成功地處理惱人的生活麻煩</td>
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<td>5. 感到自己是有效率地處理生活中所發生的重要改變</td>
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<td>6. 對於有能力處理自己私人的問題感到很有信心</td>
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<td>7. 感到事情順心如意</td>
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<td>8. 發現自己無法處理所有自己必須做的事情</td>
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<tr>
<td>9. 有辦法控制生活中惱人的事情</td>
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<tr>
<td>10. 常覺得自己是駕馭事情的主人</td>
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<td>11. 常生氣，因為很多事情的發生是超出自己所能控制的</td>
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<td>12. 經常想到有些事情是自己必須完成的</td>
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<td>13. 常能掌握時間安排方式</td>
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<td>14. 常感到困難的事情堆積如山，而自己無法克服它們</td>
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### Appendix K – DQ Item Correlations, Means, and Standard Deviations

<table>
<thead>
<tr>
<th>DQ 1</th>
<th>DQ 2</th>
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<td>DQ 3</td>
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** Note. ** * p<.05, ** p<.01 **
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Appendix L – Ethics Approval

DEAKIN UNIVERSITY

Human Ethics Advisory Group – Faculty of Health, Medicine, Nursing and Behavioural Sciences

221 Burwood Highway,
Burwood Victoria 3125 Australia
Telephone +61 3 2517174
Facsimile +61 3 9251 7425
hbsethic@deakin.edu.au

Memorandum

To
Prof. David Mellor
School of Psychology

From
Secretary – HEAG-H
Faculty of Health, Medicine, Nursing, and Behavioral Sciences

Date
17 February, 2011

HEAG-H 05_2011: Creating the Daoist Coping Questionnaire

Approval has been given for Prof. David Mellor, School of Psychology, to undertake this project for a period of 2 years from 17 February, 2011.

Please note that sampling may only commence once you have supplied the letter of support from Sichuan University

The approval given by the Deakin University HEAG-H is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Secretary immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time
- Any events which might affect the continuing ethical acceptability of the project
- The project is discontinued before the expected date of completion
- Modifications that have been requested by other Human Research Ethics Committees

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

HEAG-H may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007). An Annual Project Report Form can be found at http://www.deakin.edu.au/research/admin/ethics/human/forms/ which you will be required to complete in relation to this research. This should be completed and returned to the Administrative Officer to the HEAG-H, Dean’s office, Health, Medicine, Nursing & Behavioural Sciences, Burwood campus by Tuesday 22nd November, 2011 and when the project is completed.

Good luck with the project!

Steven Sawyer
Secretary
HEAG-H

Cc Mr Christopher Cott, Dr Xiaoyan Xu.
Memorandum

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<th>To</th>
<th>Date</th>
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<tr>
<td>Prof David Mellor</td>
<td>31 May, 2011</td>
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<td>School of Psychology</td>
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<td>Secretary – HEAG-H</td>
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<td>Faculty of Health</td>
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<td>HEAG-H 05_2011: Creating the Daoist Coping Questionnaire</td>
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Approval has been given to Professor David Mellor, of the School of Psychology, to undertake this project with the modifications that were requested on the 29 May, 2011.

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Steven Sawyer
Secretary
HEAG-H

cc Mr Christopher Cott, Dr Xiaoyan Xu.
Memorandum

To       Prof. David Mellor
         School of Psychology

Date     27 September, 2011

From     Secretary – HEAG-H
         Faculty of Health

Subject   HEAG-H 05_2011: Creating the Daoist Coping Questionnaire

Approval has been given to Prof. David Mellor, of the School of Psychology, to undertake this project with the modifications that were requested on the 26 September, 2011.

Steven Sawyer
Secretary
HEAG-H

cc Mr Christopher Cott, Dr Xiaoian Xu

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