An Investigation of Virtues (Derived from Character Strengths) in Relation to
Psychological Adjustment among Chinese International College Students

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Dedication

I dedicate this dissertation to

My parents Jinliang Xie and Xiaorong Li, the mountain of stability, rock of steadiness,

and river of flexibility in my life.

Abstract

Understanding Chinese international students' psychological adjustment and acculturation is important in providing effective counseling services for this population. Historically, international students have been viewed from a pathological model by focusing on the problems they experience in the adjustment process. This study was an examination of how predictive Chinese international students' virtues (values that are composed of character strengths) were of the two measures that are related to adjusting to their lives in the United States. These two measures are psychological distress and psychological well-being.

A principal components analysis (PCA) with a Varimax rotation was conducted with the 24 character traits identified by Peterson and Seligman (2004) and measured by the VIA-IS-72 (VIA-IS; Peterson & Seligman, 2004, 2009; VIA Institute, 2014). Four principal components representing virtues, agency/proactivity, conscientiousness, interpersonal strengths/sociability, and vitality, were retained. The results of two stepwise regression analyses indicated that Chinese international students with more vitality experienced greater psychological well-being and less psychological distress; however, counter to expectations, students with greater agency experienced less psychological well-being and more psychological distress. Results and recommendations will be discussed in light of multicultural theory, specifically regarding the cultural conflicts among Chinese international students studying in the United States.

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Chapter 1

Introduction

College years can be a critical developmental period for students. Critical incidents during this period include students leaving their parental home and starting a life of their own. They have more freedom and autonomy to make independent decisions and they learn to assume adult responsibilities. They explore their own identities and who they see themselves to be in light of their careers, peers, communities and society.

Psychological Adjustment

Along with these developmental tasks faced by college students in general, international college students also need to go through the process of exploring and adapting to a new cultural and social environment. During this period, they may encounter adjustment challenges due to differences between the academic and socio-cultural norms of their home country and those of the United States. For example, international students frequently report challenges such as loneliness, anxiety, depression, disappointment, somatic complaints, homesickness and other difficulties that impact their psychological well-being in a negative way (Artcher, Ireland, Amos, Broad, & Vurrid, 1998; Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005; Rajapaksa & Dunde, 2003). These challenges are magnified among international students because they tend to have fewer supports and social resources (such as friends from their own countries or family close by) than do U.S. students (Wang & Mallinckrodt, 2006).

Among international students in the U.S., Chinese international students occupy a unique position. Among the 750,000 international students in colleges and universities in

the U.S., Chinese international students from Mainland China, Taiwan, and other Chinese

speaking regions/countries constitute the largest group of international students in the U.S.

(Institute of International Education Open Doors Report, 2012).[1] Studies conducted with

Chinese international college students on their psychological adjustment are important

because research has consistently shown that they encounter greater acculturative stress

than European international students because they experience greater differences between

the academic and social cultural norms of their country and the U.S. (Myers-Walls, Frias,

Kwon, Ko, & Lu, 2011, Wei et al., 2007). For example, when interacting in social

situations (including classroom discussions), the American style of social conversation

features an assertive expression of opinions and a direct expression of feelings; however,

Chinese students, who are raised in a collectivistic culture, are socialized to believe that

humbleness, emotional restraint, and self-effacement are proper ways to interact with

others. They are more likely to withhold expressing their thoughts or feelings (Nilsson &

Wang, 2008), and they are less likely than Americans to use humor to navigate social

situations (Gudykunst, 2000). For example, in a study on Chinese college students from

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[1] While recognizing that there are sociopolitical differences between students from
Chinese-speaking countries and regions, students from these countries are often
considered as being part of the same population group for research purposes (e.g. Wang
et al., 2012; Wei, Heppner, Mallen, & Wu, 2007; Wei, Liao, Heppner, Chao, & Ku,
2011). This is because there is a fairly large overlap of historical and cultural
backgrounds among students from Chinese-speaking countries and regions (e.g., shared
collective values and philosophies and having the same spoken language, which is
Chinese Mandarin). Therefore, this current study will follow the precedent set by
previous researchers who consider Chinese students from Chinese-speaking countries and
regions as constituting the same population group.

Mainland China and Hong Kong, researchers have shown that the important characteristics for humor are fundamentally different from those characteristics that are the most highly valued among Chinese people, and that Chinese students are self-perceived as lacking a sense of humor (Xiao, 2011). Thus, given these cultural and communication style differences, Chinese international students are likely to have difficulty adjusting to western academic situations. Therefore, the process of adapting to social life, as well as to college life, in the U.S. can cause considerable distress for many Chinese students (e.g., Wang & Mallinckrodt, 2006).

Ward and Kennedy (1994) proposed that international students encounter different types of adjustment difficulties. These are psychological adjustment and sociocultural adjustment. For this paper, I focused on the type of adjustment that is in the purview of counseling psychology, psychological adjustment, which focuses on the emotional component of adjustment. Positive psychological adjustment refers to one's psychological well-being, and can be measured by obtaining scores on indicators of general positive affect, emotional ties, and life satisfaction (Veit & Ware, 1983). Negative psychological adjustment refers to psychological distress, and can be measured by obtaining scores on indicators of anxiety, depression, and loss of behavioral/emotional control (Veit & Ware).

Research has also examined factors contributing to psychological adjustment. Authors have proposed that psychological adjustment is strongly influenced by personality traits, life changes, social support variables (Searle & Ward, 1990; Ward &

Kennedy, 1994; Ward & Rana-Deuba, 1999), coping styles, and acculturation strategies (Berry, 1997).

Character Strengths

Psychological adjustment has also been shown to be related to character strengths (Karris, 2007; Lounsbury, Fisher, Levy, & Welsh, 2009; Park, Peterson, & Seligman, 2004). Character strengths are morally and universally valued character traits that "encompass our capacities for helping ourselves and others and produce positive effects when we express them" (Peterson & Seligman, 2004; VIA Institute on Character Strengths, 2015). Character strengths are evident in how individuals approach their interactions with themselves and with others. They are positive personality traits that are reflected in a person's thoughts, feelings, and behaviors.

The classification of character strengths has been called the "backbone" of positive psychology (Peterson & Seligman, 2004). A focus on character strengths is a focus on the way these strengths can help young people overcome a wide variety of challenges and attain a wide range of successful outcomes, such as psychological adjustment, happiness, and satisfaction (Peterson & Seligman, 2004; Lounsburry, Fisher, Levy, & Welsh, 2009).

In Peterson and Seligman's theory, character strengths are naturally grouped into virtues (Peterson & Seligman, 2004). These virtues are hypothesized to be socially desirable, individual difference constructs. Virtues are qualities that are recognized across time and across cultures as being necessary for happiness and well-being. A person who

is virtuous is a person who approaches life with moral excellence. A virtuous person is committed to doing right, no matter what the cost.

In Peterson and Seligman's rubric, there are 24 character strengths. These are the appreciation of beauty, bravery, creativity, curiosity, honesty, hope, humor, humility, judgment, gratitude, love, love of learning, kindness, forgiving, fairness, leadership, perseverance, perspective, prudence, social intelligence, spirituality, self-regulation, teamwork and zest. The virtues that they comprise are wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. Factor analysis has confirmed that strengths are naturally grouped together. However, factor analysis has also shown that these natural groupings of strengths vary among populations (Dahsgaard, 2005; Duan 2012; McGrath, 2012; Park & Peterson, 2005, 2006; Peterson & Park, 2004; Peterson et al., 2008; Shryack, Steger, Krueger, & Kallie, 2010), thus indicating that personality formation as well as what is valued as important among various character strengths may be culturally dependent. For example, Shryack et al. (2010) termed groupings of character strengths as agency, conscientiousness, and interpersonal strengths. McGrath (2012) termed these groupings as intellectual strengths, emotional strengths, interpersonal strengths, restraint and future orientation.

There is also evidence that self-reported character strengths have been positively related to a wide range of successful adjustment outcomes, such as happiness and life and college satisfaction (Gillham et al., 2011; Lounsbury et al., 2009), confidence (Clifton, 1997), hope (Snyder, 1996), academic engagement and retention (Cantwell, 2005), and academic success (Williamson, 2002) among college students. Nascent studies have

shown that almost every strength in Peterson and Seligman's (2004) classification system is related to positive adjustment outcomes (Karris, 2007; Lournsbury, et al., 2009; Park, et al., 2004). Self-reported character strengths have also been inversely related to a wide range of psychological problems (e.g., depression) (Gander, Proyer, Ruch, & Wyss, 2012; Karris, 2007). Studies on international students' adjustment outcomes have found that good psychological adjustment is related in expected directions to personality traits that are conceptually similar to character strengths, such as less neuroticism, greater agreeableness, and greater conscientiousness (Park, et al., 2004; Swagler & Jome, 2005; Ward & Low, 2000).

Thus, the study of college students' strengths and how these strengths can be developed can contribute to our understanding of how to assist college students to adjust to their college experience by alleviating psychological distress and fostering well-being. It is particularly helpful to understand this process among Chinese international students in order to assist them in meeting the potentially greater challenges that they face in adjusting to college.

Having said that, the current study is designed to investigate the character strengths and virtues in relation to psychological adjustment of international students studying in the United States. More specifically, I hypothesized that there would be 3-5 virtues that are composed of all the character strengths, and stronger virtues would predict greater psychological well-being, and less psychological distress.

Organization of the Study

In the current chapter, I presented the context for this study, including the psychological issues that students face, focusing specifically on international and then on Chinese students. I also presented an overview from the current literature about how psychological difficulties are inversely related to character strengths and virtues. This includes the importance of studying psychological adjustment's relations to character strengths among Chinese international students.

In Chapter 2, I will review and critique extant literature regarding 1) how the constructs of psychological adjustment and character strengths have been defined and operationalized, 2) research regarding the psychological structure of virtues (as they are comprised of the character strengths as defined by Peterson and Seligman), and 3) how strengths contribute to international college students' psychological adjustment outcomes. Gaps and areas for further research are also presented in order to show the need and provide the rationale for his current study.

Chapter 3 will describe the methods and procedures used for the current study, which will include descriptions of the participants, measures, procedures, and analyses. Chapter 4 includes a presentation of the results from the data analyses. Chapter 5 presents a discussion and interpretation of these results, limitations, future research, and clinical implications.

Chapter 2

Literature Review

How the Construct of Character Strengths and Psychological Adjustment Have Been Defined and Operationalized

  Psychological adjustment. Researchers have demonstrated that there are two broad types of college adjustment among international students: psychological adjustment and sociocultural adjustment (Ward & Kennedy, 1994). Psychological adjustment is associated with a stress and coping framework. This type of adjustment refers to psychological well-being and satisfaction in a new cultural context. Socio-cultural adjustment is based on the social learning perspective and relates to the ability to "fit in" or negotiate interactive aspects of the host culture. Psychological adjustment, operationalized in terms of mood disturbance, is strongly influenced by personality, life changes, and social support variables (Searle & Ward, 1990; Ward & Kennedy, 1994; Ward & Rana-Deuba, 1999). It focuses on the emotional component of adjustment.

  Studies have shown that people who identified less with their home cultures are more likely to experience difficulties in psychological adjustment (Ward & Kennedy, 1994). On the other hand, sociocultural adjustment, measured in terms of difficulty in performing daily tasks, is more dependent upon variables such as length of residence in a new culture, cultural distance, and quantity of interactions with host nationals (Searle & Ward, 1990; Ward & Kennedy, 1994). It focuses on the cognitive and behavioral components of adjustment. Psychological adjustment and socio-cultural adjustment are inter-related yet distinct domains of intercultural adaptation, and when these two

constructs are correlated, they typically have correlation coefficients in the range of .3 to .4 (Ward & Kennedy, 1994, 1999).

Castro (2009) argued that psychological adjustment is comprised of a positive sense of psychological identity, life satisfaction, psychological well-being, and "good" mental health. This positive psychological adjustment can be measured by obtaining scores on indicators of general positive affect, emotional ties, and life satisfaction. Negative psychological adjustment refers to psychological distress, and can be measured by obtaining scores on indicators of anxiety, depression, and loss of behavioral/emotional control (Veit & Ware, 1983).

Studies on psychological adjustment have focused on both adjustment and lack of adjustment. Studies on positive adjustment have demonstrated that better adjustment is associated with greater psychological well-being, life satisfaction, happiness, and positive affect, all of which can contribute to a positive college experience for students (Karris, 2007; Lounsbury et al., 2009). Studies on the lack of psychological adjustment have shown that some international students experience adjustment difficulties that may impede their successful study. They experience psychological distress and symptoms such as depression, anxiety and somatization that indicate poor mental health (Mallinckrodt & Leong, 1992; Rahman & Rollock, 2004; Rajapaksa & Dundes, 2002). Therefore, it is important for me to focus on both positive and negative psychological adjustment in this study as both can contribute to international college students' success.

Character strengths. The primary reason that strengths have received less attention in the research literature than other psychological variables is because the

construct has been difficult to define and operationalize (Aspinwall & Staudinger, 2003,

as cited in Smith, 2006, p. 25). Peterson and Seligman's (2004) proposal of character

strengths represents one of the first attempts to operationalize strengths so that they could

be empirically studied. These theorists approached the study of strengths by echoing

Schwartz (1994) who stated that character strengths in general can be defined as "positive

traits reflected in thoughts, feelings, and behaviors." Additionally, they argued that

character strengths exist in degrees and can be measured as individual differences. They

also argued that character strengths have a biological basis. Persons with greater

character strengths were selected via evolution so that those persons with greater

character strengths would survive and thrive. Because of this evolutionary process,

predispositions toward moral excellence became a means of solving the important tasks

necessary for the survival of the species.

　　　　More specifically, a character strength is "a disposition to act, desire, and feel that

involves the exercise of judgment and leads to a recognizable human excellence or

instance of human flourishing" (Park, et al., 2004, p.604). Character strengths are also a

"subset of personality traits on which we place moral value" (Snyder & Seligman, 2009,

p.26). These subsets of personality traits in Peterson and Seligman's theory are known as

virtues.

　　　　Peterson and Seligman (2004) further defined character strengths as having

specific characteristics. In the direct quote from Peterson and Seligman, the following

characteristics are posited:

1) Character strengths are plural-that is, good character comprises a family of positive traits.

2) Character strengths are not segregated mechanisms with automatic effects on behavior; rather, virtuous activity involves choosing virtue for itself and in light of a justifiable life plan, which means that people can reflect on their own strengths of character and talk about them to others.

3) Character strengths can be distinguished from related individual differences such as talents and abilities. (p.604)

Character Strengths are traits (i.e., stable individual differences) that are widely shared by different cultures all over the world, although it appears that strengths are differentially configured across populations (Park et al., 2004). Character strengths bring fulfillment, life satisfaction and happiness for the person who exhibits strength of character and for those around her or him. Character strengths are valued because they align themselves to people's morality systems, not because of the personal gain they bring to individuals (Park et al., 2004). Persons acting out of a strength of character are "admired by others who witness it without creating jealousy in them" (Park et al., 2004, p.605). Character strengths bring positive gains into people's lives. They are measurable and distinctive, highly recognizable in certain individuals, noticeably absent in others, and "precociously demonstrated by some children and youth" (Park et al., 2004, p.605). Having a strength of character is considered desirable in society, and people who have a strength of character are honored, respected, and rewarded for who they are and what they do (Park et al., 2004).

Along with the application of these criteria, a comprehensive literature review delineates historical lists of virtues, examinations of popular literature and media, and professional input from multiple scholars and clinicians led to the identification and development of a comprehensive catalogue of 24 strengths: The Values in Action (VIA) Classification of Character Strengths (Peterson & Seligman, 2004) (See Table 1).

Table 1

VIA Classification of Character Strengths

Appreciation of Beauty and Excellence [awe, wonder, elevation]: Noticing and

appreciating beauty, excellence, and/or skilled performance in various domains of

life, from nature to art to mathematics to science to everyday experience.

Bravery [valor]: Not shrinking from threat, challenge, difficulty, or pain; speaking up for

what is right even if there is opposition; acting on convictions even if unpopular;

includes physical bravery but is not limited to it.

Creativity [originality, ingenuity]: Thinking of novel and productive ways to

conceptualize and do things; includes artistic achievement but is not limited to it.

Curiosity [interest, novelty-seeking, openness to experience]: Taking an interest in

ongoing experience for its own sake; finding subjects and topics fascinating;

exploring and discovering.

Fairness: Treating all people the same according to notions of fairness and justice; not

letting personal feelings bias decisions about others; giving everyone a fair chance.

Forgiveness: Forgiving those who have done wrong; accepting the shortcomings of

others; giving people a second chance; not being vengeful.

Gratitude: Being aware of and thankful for the good things that happen; taking time to

express thanks.

Honesty [authenticity, integrity]: Speaking the truth but more broadly presenting oneself

in a genuine way and acting in a sincere way; being without pretense; taking

responsibility for one's feelings and actions.

Hope [optimism, future-mindedness, future orientation]: Expecting the best in the future and working to achieve it; believing that a good future is something that can be brought about.

Humility: Letting one's accomplishments speak for themselves; not regarding oneself as more special than one is.

Humor [playfulness]: Liking to laugh and tease; bringing smiles to other people; seeing the light side; making (not necessarily telling) jokes.

Judgment [critical thinking]: Thinking things through and examining them from all sides; not jumping to conclusions; being able to change one's mind in light of evidence; weighing all evidence fairly.

Kindness [generosity, nurturance, care, compassion, altruistic love, "niceness"]: Doing favors and good deeds for others; helping them; taking care of them.

Leadership: Encouraging a group of which one is a member to get things done, and at the same time maintaining good relations within the group; organizing group activities and seeing that they happen.

Love: Valuing close relations with others, in particular those in which sharing and caring are reciprocated; being close to people.

Love of Learning: Mastering new skills, topics, and bodies of knowledge, whether on one's own or formally; obviously related to the strength of curiosity but goes beyond it to describe the tendency to add systematically to what one knows.

Perseverance [persistence, industriousness]: Finishing what one starts; persisting in a

    course of action in spite of obstacles; "getting it out the door"; taking pleasure in

    completing tasks.

Perspective [wisdom]: Being able to provide wise counsel to others; having ways of

    looking at the world that make sense to oneself and to other people.

Prudence: Being careful about one's choices; not taking undue risks; not saying or doing

    things that might later be regretted.

Self-Regulation [self-control]: Regulating what one feels and does; being disciplined;

    controlling one's appetites and emotions.

Social Intelligence [emotional intelligence, personal intelligence]: Being aware of the

    motives and feelings of other people and oneself; knowing what to do to fit into

    different social situations; knowing what makes other people tick.

Spirituality [faith, purpose]: Having coherent beliefs about the higher purpose and

    meaning of the universe; knowing where one fits within the larger scheme; having

    beliefs about the meaning of life that shape conduct and provide comfort.

Teamwork [citizenship, social responsibility, loyalty]: Working well as a member of a

    group or team; being loyal to the group; doing one's share**.**

Zest [vitality, enthusiasm, vigor, energy]: Approaching life with excitement and energy;

    not doing things halfway or halfheartedly; living life as an adventure; feeling alive

    and activated.

Note: Adapted from Peterson, C., & Seligman, M. E. P. (2004). Character strengths and

virtues: A handbook and classification. New York: NY

Research has found that these character strengths are universal. They are relatively prevalent and similar across 54 nations, including the United States. They are moderately heritable, and there is a significant genetic and non-shared environmental effect for 21 of 24 character strengths (Dahlsgaard, Peterson, & Seligman, 2005; Park, Peterson, & Seligman, 2006; Steger, Hicks, Kashdan, Krueger, & Bouchard, 2007).

Psychological Structure of Character Strengths

According to theory, and as stated previously, there are 24 character strengths that naturally group to form six virtues (Peterson & Seligman, 2004). Virtues are morally and universally valued. They encompass our capacities for helping ourselves and others. They can produce positive effects when we express them (Peterson & Seligman, 2004; VIA Institute, 2015). The strengths are seen as the route for displaying these virtues. Each virtue is hypothesized to be comprised of 3 to 5 of the character strengths (as shown in Table 2).

Table 2

Definitions of Virtues and their Composition as Proposed by Peterson and Seligman

Virtue	Definition	Strengths comprising the virtues
Wisdom	cognitive strengths and is defined as acquiring and using knowledge	creativity, curiosity and love of learning
Courage	emotional strengths, and is defined as exercising the will to accomplish desired goals	zest, honesty, and perseverance
Humility	interpersonal strengths, and is defined as the quality of "being" in relationships	social intelligence, kindness, and love
Justice	civic strengths, and is defined as providing those types of civic supports that underlie a healthy community life	leadership, fairness, and teamwork
Temperance	strengths that protect against excess	forgiveness, self-regulation, and prudence
Transcendence	strengths that provide meaning	spirituality, hope, and gratitude

Note: Adopted from Peterson & Seligman, 2004.

Latent variable models of the constructs underlying character strengths. Several

studies of exploratory and confirmatory factor analyses have been conducted in order to

evaluate the latent structure of the constructs underlying the VIA-Inventory of Strengths

(VIA-IS; Peterson & Seligman, 2004, 2009) among different populations (Dahsgaard,

2005; McGrath, 2012; Park & Peterson, 2005, 2006; Peterson & Park, 2004; Peterson,

Park, Pole, D'Andrea, & Seligman, 2008). The VIA-IS-240 is a 240-item (24 strengths x

10 items designed to measure each strength) self-report questionnaire that uses a 5-point

Likert-type Scale (1=very much unlike me, 5=very much like me) to measure the degree

to which respondents endorse strengths-relevant statements about themselves (e.g. "I

know that I will succeed with the goals I set for myself" for hope; "I always express my

thanks to people who care about me" for gratitude). For the VIA-IS-240, higher scores

equal a greater strength of character for each of the domains represented by the 24

identified character strengths. Responses are averaged within scales, all of which have

been shown to have satisfactory internal consistency ($\alpha > .70$) and substantial test-retest

correlations ($r > .70$) (Park et al., 2004). VIA-IS-240 and measures derived from this

instrument are dimensional, not categorical, measures.

Results across these factor analysis studies (Dahsgaard, 2005; Park & Peterson,

2005, 2006; Peterson & Park, 2004; Peterson et al., 2008; McGrath, 2012, McGrath, 2014)

revealed some support for the original six-virtue model (wisdom, courage, humanity,

justice, temperance and transcendence) hypothesized by Peterson and Seligman (2004).

However, among all of these studies, the number of factors identified varied between

three and five, and the majority of the studies found that a four to five-factor model instead of the original six-factor model best described the data.

For example, Shryack et al. (2010) sampled 323 American adults to look for the factor structure of the VIA-IS-240 measure by using exploratory factor analysis. Their results indicated that a three-factor model with the factors identified as agency/self-assuredness, interpersonal strengths and conscientiousness. Additionally, Duan et al. (2012) investigated the relationship of latent variables of the models of character strengths among 839 undergraduate students in China by using a Chinese version of the VIA-IS-240. Three subscales were developed after exploratory factor analysis and confirmed using confirmatory factor analysis. Three theoretically meaningful factors were found: interpersonal, vitality, and cautiousness (Duan et al., 2012). Additionally, McGrath (2012) sampled over 650,000 American participants, and found that five was the optimal number of factors. The scale-level analyses in this study yielded the following factors: interpersonal strengths/sociability, emotional strengths, restraint (i.e., self-control), intellectual/cognitive, and future orientation.

When comparing factors across studies (Dahsgaard, 2005; Duan et al., 2012; McGrath, 2012; Park & Peterson, 2005, 2006; Peterson & Park, 2004; Peterson et al., 2008; McGrath, 2012), the most common factors identified were interpersonal or sociability strengths, and intellectual or cognitive strengths. Additionally, emotional strengths were also frequently reported across studies. However, other factors representing psychological constructs that were unique to specific populations were also found (See Table 3).

Reasons for the variability in the findings across studies could be that the studies used different methodologies. They varied in factor analytic methods, the criterion used to consider a structure coefficient meaningful, and the method used to decide the numbers of retained factors. Additionally, these studies sampled different populations in different nations. For example, Shryack et al. (2010) sampled American twins, Littman-Ovadia and Lavy (2012) sampled Israelis, and Singh and Choubisa (2010) sampled Indian students. Thus, as stated before, the variations could be a reflection of culture differences. Additionally, there could be a possibility of scale multidimensionality in the measures meaning that the inclusion of items in a scale reflecting multiple facets of character strengths resulted in multidimensional rather than unidimensional scales. This can be seen by looking closely at the definitions of some of the character strengths. For example, judgment by its definition encompasses three disparate concepts: thinking things through, not jumping to conclusions, and being able to change one's mind. One may conclude that the first and the third concepts are related to the intellectual, while the second concept is related to self-restraint. This multidimensionality can cause the latent variables underlying the instrument to load differently on different variables depending on the subjective understandings of participants (e.g. judgment was loaded on either intellectual or restraint by previous studies). McGrath (2012) supported the possible effect of scale multidimensionality by reporting that several secondary loadings were sizable in their sample, with structure coefficients larger than .50 in his study.

Table 3

Summary of Research on the Factor Analysis of the VIA-IS-240 Inventory

	Shryack et al. (2010)	Duan et al. (2012)	McGrath (2012)	Brdar and Kashdan (2010)	Ruch et al. (2010)
Factor 1	*Agency/Self-Assuredness*:	*Interpersonal:*	*Interpersonal/sociability:*	*Interpersonal:*	*Interpersonal:*
	Creativity	Fairness	Fairness	Fairness	Leadership
	Curiosity	Leadership	Forgiveness	Teamwork	Teamwork
	Perspective	Forgiveness	Kindness	Kindness	Kindness
	Judgment	Gratitude	Receptivity	Forgiveness	Forgiveness
	Loving of Learning	Kindness	Teamwork	Love	Fairness
	Bravery	Teamwork	Modesty	Modesty	Modesty
	Zest	Love	Love	Leadership	
	Social IQ	Authenticity		Gratitude	
	Beauty			Beauty	

Hope

Factor 2	Sociability:	Vitality:	Emotional:	Vitality:	Emotional:
	Kindness	Zest	Humor	Zest	Zest
	Love	Hope	Social Intelligence	Hope	Hope
	Leadership	Curiosity	Creativity	Curiosity	Bravery
	Fairness	Social IQ	Bravery	Humor	Humor
	Teamwork	Humor			Love
	Gratitude	Creativity			Social IQ
	Humor	Perspective			
		Beauty			
		Bravery			
		Belief			
Factor 3	Conscientiousness:	Cautiousness:	Restraint:	Cautiousness:	Restraint:

Perseverance	Perseverance	Judgment	Prudence	*Prudence*
Honesty	Judgment	Perseverance	Self-Regulation	*Perseverance*
Self-Regulation	Love of Learning	Perspective	Perseverance	*Self-Regulation*
Prudence	Modesty	Honesty	Spirituality	*Honesty*
Modesty	Prudence		Honesty	*Perspective*
	Self-Regulation			

Factor 4

Intellectual/Cognitive:

Intellectual Pursuits

Love of Learning

Beauty

Curiosity

Intellectual:

Love of Learning

Creativity

Curiosity

Judgment

Perspective

Factor 5

Future Orientation

Positivity

Theological:

Spirituality

Future-Mindedness	Beauty
Self-Regulation	Gratitude
Spirituality	

Character strengths and personality traits

Character strengths and virtues represent elements of psychological identity and elements of culture. McGrath (2014) argued that all of the character strengths (as measured by the VIA-IS-240) except for modesty could be factored into the good character dimension, which bears resemblance to the General Factor of Personality (GFP) that has been identified in personality research (Rushton & Irwing, 2011). GFP is characterized at the high end by extraversion, emotional stability, conscientiousness, agreeableness, and openness (Rushton & Irwing, 2011). Additionally, the latent constructs identified in the findings of Shryack et al. (2010) may also have some overlap with GFP constructs. For example, agency/self-assuredness could overlap with neuroticism (only in the reverse) (Shryack et al., 2010).

Moreover, Park et al. (2004) hypothesized that there are correlations among character strengths and the Big Five Personality dimensions -- neuroticism, extraversion, openness, agreeableness and conscientiousness (Goldberg, 1999). For example, neuroticism is characterized by the absence of hope. Agreeableness and extraversion are broad dispositions related to the strengths of love and gratitude (in the case of agreeableness) and curiosity and zest (in the case of extraversion). Openness to experience includes some of the cognitive strengths found in the VIA classification, such as love of learning and curiosity (Park et al., 2004).

In sum, there has been substantial research on character strengths and the virtues that are comprised of them. Although there is not agreement across the literature about the dimensions or numbers of virtues, nor about which strengths specifically represent

which virtues, there is still a plethora of evidence that both character strengths and virtues do indeed exist across populations, that they can be operationalized and that they can be measured. Moreover, there is evidence to show that people can and do have character strengths and virtues in the emotional, cognitive, interpersonal, theological or transcendent, and restraint or self-control domains. Future studies will be needed in order to better address the multidimensional potentials of the measures used, which may lead to even more insight regarding strengths that young people can use to adjust to, manage, and overcome challenges.

Character Strengths in Relations to International College Students' Psychological Adjustment Outcomes

A growing number of empirical studies using the VIA-IS-240 have focused on investigating the role of character strengths in alleviating psychological problems (negative adjustment outcomes), and fostering well-being and mental health (positive adjustment outcomes) among the general population, as well as among college students.

Two positive outcomes that were consistently found across studies were life satisfaction and happiness. Diener (2000) described life satisfaction as reflecting the individual's appraisal of his or her life as a whole. High life satisfaction correlates with the absence of psychological and social problems such as depression and dysfunctional relationships, as well as the presence of a psychological protective factor -- resistance to stress (Furr & Funder, 1998; Lewinsohn, Redner, & Seeley, 1991). Happiness (or authentic happiness) is seen as emanating from three different sources: positive emotion, engagement, and meaning (Peterson et al., 2005; Peterson, Ruch, Beermann, Park, &

Seligman, 2007). Positive emotion is embodied in the doctrine of hedonism, which is a doctrine that promotes maximizing pleasure and minimizing pain. Engagement entails being highly engaged in what one does and experiencing the "state of flow", during which one's attention is highly focused, time passes quickly and the sense of self is lost (Peterson et al., 2005, p.27). Being true to one's inner self and living in accordance with one's virtues is also a source of happiness. The positive emotion of happiness can be regarded as a good indicator of positive emotional and affective adjustment outcomes.

The role of character strengths in alleviating psychological problems and fostering well-being and mental health among college students. Park et al. (2004) investigated the relationship between various character strengths and life satisfaction among 3,907 adult participants who completed the VIA-IS-240 (VIA-IS; Peterson & Seligman, 2004, 2009) and the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larson, & Griffin, 1985). The SWLS is a five-item self-report questionnaire that measures individuals' evaluations of satisfaction with their lives in general. Individuals respond to each item on a 7-point Likert-type Scale from strongly disagree to strongly agree. Responses are summed to yield an overall score of life satisfaction (Diener et al., 1985). Park et al. (2004) found the scale to be highly reliable (α=.90). In examining these relationships, partial correlations were computed between each of the strengths and life satisfaction, controlling for other demographics variables such as age, gender and nationality. Because of the large number of tests, the significance level was adjusted to .002 (0.05/24) to control for the family wise error rate. Results revealed that among all the 24 character strengths, hope (r=.53, p<.002), zest (r=.52, p<.002), gratitude (r=.43,

$p<.002$), love ($r=.39$, $p<.002$) and curiosity ($r=.35$, $p<.002$) were consistently and

robustly associated with life satisfaction. Modesty ($r=.05$, $p<.002$), appreciation of beauty

($r=.12$, $p<.002$), creativity ($r=.12$, $p<.002$), judgment ($r=.14$, $p<.002$), and love of

learning ($r=.15$, $p<.002$) were weakly but significantly associated with life satisfaction.

There are some limitations to this study. One concern was the strategy of

obtaining research participants. The sample was obtained from a website that was linked

to introducing Seligman's book on positive psychology. It could be possible that these

respondents were already familiar with this construct through their familiarity with what

they were learning about positive psychology as well as what they were learning about

the possible relationships between character strengths and life satisfaction (even though

Park et al. (2004) argued that there was no specific discussion about the associations

between strengths and life satisfaction in Seligman's book). In addition, the sample size

of 4000 adults is very large. Although the study used a conservative alpha level of .002

(.05/24) to ascertain statistical significance, the study still failed to provide suggestions

on how to interpret the practical meanings of results that yielded statistical significance

but had very small correlation values. For example, modesty was reported as being

significantly related to life satisfaction ($r=.05$, $p<.002$), which was very weak, and not

practically significant. Nevertheless, the authors did not make this distinction and

interpreted the relationship of .05 as significant and robust.

Lounsbury et al. (2009) studied the effects of character strengths as measured by

the VIA-IS-240 on general life satisfaction and college satisfaction among 237

undergraduate students in a university. In addition to the VIA-IS-240, a set of 22-items

on a 7-point Likert-scale were used to measure General Life Satisfaction and College

Satisfaction. Using this instrument, students were asked to rate their satisfaction with

themselves in the areas of (a) life in general, and (b) life in college. Fifteen items were

used to measure general life satisfaction by asking respondents to rate their satisfaction

with self (e.g. Rate "Are you satisfied with how much fun you are having?"). Seven

college satisfaction items were used to measure how satisfied respondents were with

school-related performance (e.g. Rate "Are you satisfied how much you are learning in

school?"). Correlation analyses and stepwise multiple regression analysis were used. The

significance level for p was set at .05. Results showed that 24 character strengths were all

significantly and positively related to general life satisfaction, ranging from a high of

r=.48 (p<.01) for persistence to a low of r=.16 (p<.05) for modesty, with nine of the

correlations in the medium effect size range of .30-.49 -- namely, zest, love, hope, self-

regulation, curiosity, leadership, citizenship, forgiveness, and social intelligence. (The

other correlations had effect sizes in the small range.) This pattern of correlations

between strengths and general life satisfaction were similar to the ones found in the Park

et al. (2004) study that several strengths (e.g. love, gratitude, hope, zest and curiosity)

were correlated with life satisfaction. Additionally, all but two of the strengths (social

intelligence and creativity) were significantly and positively correlated with college

satisfaction, ranging from a high of r=.37 (p<.01) for hope to a low of r=.10 (p<.05) for

creativity. Stepwise multiple regression revealed that zest, love, self-regulation and

judgment significantly predicted general life satisfaction R=.57 (R^2=.325, p<.01).

Additionally, hope, social intelligence, self-regulation, and fairness significantly

predicted college satisfaction R=.47 (R^2=.22, $p<.01$). These researchers also found that there was a stronger relationship between character strengths and general life satisfaction among college students (r=.380) than among adults (r=.235) (Park et al., 2004).

There are several limitations in this study that should be acknowledged. First, the sample was acquired from one university in U.S., and most of the participants were Caucasian. This leaves the appropriateness of generalizing the findings to a different ethnicity or even to students from a different college in question. Second, the study failed to provide psychometric properties of the satisfaction measure within the data (e.g., construct validity, test-retest reliability and internal consistency). It also remains unknown to what degree general life satisfaction and college satisfaction were related. Therefore, the results should be interpreted with caution.

Karris (2007) also tested relationships among the 24 character strengths and a series of psychological adjustment outcomes, including life satisfaction, happiness, depressive symptoms, anxiety, positive and negative affect, and other non-psychological adjustment outcomes such as GPA and physical health, among 759 college students. Instruments used in this study were the VIA-IS-240, plus a set of outcome measures: the Satisfaction with Life Scale (SWLS; Diener et al., 1985), the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999), the Beck Depression Inventory II (BDI; Beck, Steer, & Brown, 1996), the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988), and the Positive and Negative Affect Scales (PNAS; Watson, Clark, & Tellegen, 1988). A series of multiple regression analyses were performed in which each dependent variable of interest was independently regressed onto the 24 character strengths. Single

degree of freedom tests were conducted to determine the effect of a single character strength on the well-being variable of interest over and above the other character strengths after controlling for gender. Because of the large number of tests, the significance level was also adjusted to .002 (.05/24) to control for family wise error rate.

The results revealed many positive associations with measures of well-being such as life satisfaction, happiness and positive affect. Specifically, life satisfaction was significantly and positively predicted by love (β=.14, p<.002), hope (β=.27, p<.002), gratitude (β=.24, p<.002), and zest (β=.38, p<.002), while spirituality (β=-.14, p<.002) was significantly but negatively related to life satisfaction. Additionally, happiness was significantly predicted by hope (β=.29, p<.002), zest (β=.36, p<.002), humor (β=.29, p<.002), and curiosity (β=.29, p<.002), while industry was significantly and negatively related to happiness (β=-.14, p<.002). As for positive affect, zest was the only positive significant predictor (β=.32, p<.002).

Regarding predictive relationships among character strengths and the more negative outcomes examined, the study found fewer associations. For example, zest was the only significant negative predictor (β=-.39, p<.002) of depression. The externalizing psychopathology factors (e.g., alcohol abuse, illicit drug use, and smoking) were each moderately predicted by the character strength prudence (β=-.45, β=-.27, and β=-.37, p<.002, respectively). Additionally, love of learning (β=.30, p<.002) was the second strongest significant predictor for smoking among the set of predictors.

The findings in Karris (2007) revealed many positive associations between character strengths (e.g. love, hope, gratitude, zest and curiosity) and measures of well-

being such as life satisfaction, happiness and positive affect among college students. These findings that well-being and character strengths are positively related are consistent with the findings of Park et al. (2004) in their sample of adults as well as with Lounsbury et al. (2009) in their sample of college students. However, Karris (2007) found spirituality was negatively associated with life satisfaction, and industry (perseverance) was negatively associated with happiness. These findings seem to contradict previous studies. For example, Karris (2007) hypothesized that one possibility was that spirituality in general is positively related to well-being, but during college years, it is more of a hindrance since college-aged participants likely face a developmental stage where they need to reconcile conflicts in their beliefs. As for industry, the author hypothesized that when it is in the extreme, industry gets in the way of pursuing happiness (e.g. preventing students from socializing with friends or participating in activities that bring happiness). Nevertheless, further research is needed in order to clarify these findings.

On the other hand, regarding relationships among character strengths and the more negative outcomes examined, Karris (2007) found fewer associations than when examining relationships among character strengths and measures of well-being. For example, zest was the only predictor of depression, and prudence was the only predictor of some of the externalizing symptoms (e.g., alcohol abuse, illicit drug use, and smoking). No significant predictors were found for anxiety or for negative affect. These findings seem to be inconsistent with previous findings that character strengths serve as buffers to depression and anxiety, and that hope, zest, and leadership are substantially related to

fewer problems with anxiety and depression (Huta & Hawley, 2010; Park, 2004; Park & Peterson, 2008). However, it is likely that the inconsistency was due to differences across populations. For example, Karris (2007) focused on a college student population, while all the other studies used a non-college population (e.g., Huta & Hawley, 2010, Park, 2004; Park & Peterson, 2008). Additionally, Karris (2007) used a more powerful analysis in which the comprehensive VIA-IS-240 scale was used to examine the relations between depression/anxiety and 24 character strengths simultaneously, and also used a conservative alpha level (.002); whereas some of the others relied on examining a character strengths in isolation and had less stringent alpha level (.05). Therefore, Karris (2007) found less statistically meaningful predictors of strengths.

It is important to note some of the limitations of this study (Karris, 2007). First, the study indicated that love and hope approached significance when predicting depression, however, none of the p values that were reported reached statistical significance. Future studies are needed to clarify this inconsistency. Second, the sample was acquired from one university in the U.S., and the majority of the students were Caucasian (86.6%). All of the participants were undergraduate students enrolled in a general psychology class who participated in the study and received partial course credit in exchange. Therefore, the demographic representation and potential motivation of participants raised questions regarding the generalizability of the research results to the general college population. Lastly, the data were collected at different times during the academic year. One set of data were collected during the 2003-2004 academic year, and the other were collected during the 2006-2007 academic year. It is possible that students'

stress level varied throughout the semester (e.g. midterm and finals) and therefore

seasonal effects may have had an effect on results. The students could underestimate their

strengths and endorse more anxiety and depression symptoms under stress. It is also

possible that the generalizability of the results would be affected by history effects. Lastly,

it's worth mentioning that none of the above studies (Park et al., 2004; Lounsbury et al.,

2007; Karris, 2007) was able to tell the direction of causality between strengths and

adjustment outcomes. Future studies should be conducted that use a longitudinal or

experimental design to better understand the relationship of strengths and various

adjustment outcomes.

Studies with international students. Although there are empirical studies on

character strengths in relation to psychological adjustment outcomes among college

students, no research has yet measured the role of character strengths in the psychological

adjustment of international college students. However, in general there are several studies

showing that international students' adjustment outcomes are related to personality traits,

which are conceptually similar to character strengths.

Ward, Leong, and Low (2004) investigated relationships among the Big Five

Personality traits and psychological adjustment among 244 Australian students studying

in Singapore, and 165 Singaporean students studying in Australia. They found that

neuroticism was moderately related to adjustment problems (r=.60) such as depression,

anxiety and psychosomatic complaints. In addition, extraversion, agreeableness and

conscientiousness were weakly (r=.20), but significantly, related to psychological and

emotional adjustment. In addition, some other studies have shown similar findings. For

example, Swagler and Jome (2005) explored the association of personality factors and the cross-cultural adjustment process of North Americans sojourning in Taiwan. They found that psychological adjustment problems in general were related to more neuroticism (β=.45, *p*<.001), less agreeableness (β=-.32, *p*<.001), and less conscientiousness (β=-.21, *p*<.001).

Park et al. (2004) hypothesized that there are correlations among character strengths and the Big Five Personality dimensions -- neuroticism, extraversion, openness, agreeableness and conscientiousness (Goldberg, 1999). Neuroticism is characterized by the absence of hope. Agreeableness and extraversion are broad dispositions related to the strengths of love and gratitude (in the case of agreeableness) and curiosity and zest (in the case of extraversion). Openness to experience includes some of the cognitive strengths in the VIA classification such as love of learning and curiosity.

Interestingly, the majority of these abovementioned strengths (hope, love, gratitude, zest, curiosity, and love of learning) are conceptually related to the character strengths that are related to adjustment outcomes among college students in general and to adults as well (Karris, 2007; Lounsburry et al., 2009; Park et al., 2004). It is possible that these indirect relationships portend findings of more direct relationships in future studies among international students.

In summary, in this literature review and critique, I examined character strengths in relation to several psychological adjustment outcomes such as life satisfaction, happiness, positive affect, and psychological problems among international college students. Among the 24 character strengths, several have been identified that are slightly

to moderately related to these adjustment outcomes. Depending on outcome measures, different sets of strengths were found to be predictive; however, hope, love, gratitude, zest, and curiosity seem to be the strengths most often reported as significantly related to positive outcome variables across the extant literature. Although there has been no published research that examines associations among these variables among international students, based on several studies of personality traits that are conceptually synonymous to character strengths in this population, I believe it is possible that there will be similar associations to those that have been found in the general population and among non-international college students.

Some limitations need to be noted when looking at the results of these studies. First, causal relationships could not be ascertained in the studies because only correlation-based analyses were used. Future research should use experimental methodology to better understand the causal roots, and should use longitudinal methods to understand the long-term covariates to attachment, strengths and adjustment. Second, as mentioned earlier, some measures used in these studies are based on self-report. Therefore, results may be less valid due to common method bias. Alternative data collection methods such as peer rating could be beneficial. Third, since several measures and constructs were developed based on certain cultural values, caution needs to be taken when generalizing the results to diverse population, especially to students coming from an eastern culture. Fourth, studies that employ a large number of variables are subject to Type I error. Since studying the 24 character strengths individually leads to studies that are inherently methodologically flawed in this direction, it is important to examine

strengths and their naturally formed groupings, which are known as character virtues to better understand how these mechanisms operate in Chinese international students' psychological distress and psychological well-being.

Additionally, no research has been conducted that examines relationships between character virtues and adjustment outcomes among Chinese international college students who are studying in the U.S. This constitutes a distinct gap in the literature given that Chinese international students represent the largest international student population in the U.S., and that they may encounter more acculturative stress than European international students (Wei, et al., 2007).

Thus, the purpose of this study is to address this gap by examining the predictive value of character virtues on two measures of psychological adjustment – psychological distress and psychological well-being. In this study, I will use a newly derived measure of character strengths, the VIA-IS-72 (VIA-IS; Peterson & Seligman, 2004, 2009; VIA Institute, 2014). The VIA-IS-72 measures the same 24 character strengths as the VIA-IS-240, except that it has been shortened and is now reverse scored. This means that instead of higher scores indicating a greater strength of character in a specific domain, they indicate a weaker character trait in the domain which is represented by one of the 24 measured VIA character strengths.

Purpose of the Study

Although there has been some empirical findings regarding character strengths and virtues, and how these are related to psychological well-being and distress, little has been done in examining how these are related among Chinese international students,

although these students have greater difficulties adjusting when enrolled at U.S. colleges than do American students (Wei et al., 2007). Moreover, there is a dearth of literature regarding how counseling psychologists can develop tailored interventions in the area of virtue development for Chinese international students in the U.S.

Thus, based on previous research (Park et al., 2006; Karris, 2007; Lounsburry et al., 2009), the purpose of this current study was to partially replicate (using the new VIA-IS-72 instead of the VIA-IS-240) studies that examine the structure of character virtues. In this current study, I am examining the structure of character virtues as they are comprised of character strengths among Chinese international students studying in the U.S. Peterson and Seligman (2004) hypothesized that there were 24 character strengths that naturally grouped into six virtues. However, research on this theory has provided evidence that three to five virtues best comprise the naturally-occurring groupings of character strengths (Duan et al., 2012; Dahsgaard, 2005; McGrath, 2012, 2014; Park & Peterson, 2005, 2006; Peterson et al., 2008; Peterson & Park, 2004; Shryack et al., 2010). Research has also shown that the number and structure of these latent groupings appear to be population specific.

Additionally, I am going to examine how character virtues predict Chinese international students' psychological adjustment. Research has suggested that Chinese international students have significant challenges related to psychological adjustment. Psychological adjustment can be conceptualized in terms of ameliorating psychological distress (Veit & Ware, 1983) and currying psychological well-being. Peterson and Seligman (2004) proposed that employing virtues can help young people overcome a

wide variety of challenges, including overcoming psychological adjustment issues and attaining greater psychological well-being. Thus, this study is designed to clarify relationships among these identified variables among Chinese international students enrolled in U.S. colleges. Therefore, I hypothesized that:

1. There would be a three- to five-dimensional model that explains the latent constructs that are underlying the 24 character strengths. These constructs are known in the extant literature as virtues (Peterson & Seligman, 2004) , and

2. Stronger virtues would predict greater psychological well-being, and less psychological distress.

Summary of Chapter 2

In this Chapter, I defined two constructs of psychological adjustment, which are psychological distress and psychological well-being. Additionally, I introduced 24 character strengths (Peterson & Seligman, 2004), and discussed studies that these character strengths as individual personality traits and as traits that comprise naturally forming groups of traits, termed in the literature as character virtues (Peterson & Seligman). I also critiqued studies in which character strengths were hypothesized to be related to psychological adjustment outcomes such as life satisfaction, happiness, positive affect, as well as psychological adjustment problems among Chinese international college students. Based on this literature critique, I hypothesized that three to five (based on prior literature) naturally occurring grouping of character strengths could also be detected among Chinese international students, and that these character virtues would predict psychological adjustment in the form of psychological distress and psychological well-

being. In the next chapter, I will discuss the participants, procedure and instruments used

in the current study for data collection.

Chapter 3

Method

Participants

Participants in this current study included 94 Chinese international undergraduate and graduate college students studying in the U.S. (including Chinese students from China ($n = 77$), Hong Kong ($n = 6$), Taiwan ($n = 3$) and other regions or counties ($n = 8$). Participants were recruited from five universities: three midwestern universities, one university on the east coast and one university on the west coast. Using the Carnegie Classification of Institutions of Higher Education system, two were classified as Public/Very High Research Activity universities, one was classified as a Private Not-for-Profit/High Research Activity university, one as a Public Master's/M: Master's Colleges and Universities (medium programs) college, and one as a Private Not-for-Profit Baccalaureate Colleges—Arts & Sciences college. Sampling was conducted from these various universities because they are known for their commitment to international education (U.S. News and World Report, 2015). Additionally, sampling was conducted from these various types of universities in order to tap students who were at developmentally different places in their college experiences and in order to tap students who may have a variety of experiences due to their attending colleges on different types of campuses and in different parts of the United States. This broad sampling technique was employed in order to enhance the generalizability of the study results.

The age of these student participants ranged from 18 to 31 (M=21.45, SD=2.56); among them, 31.91% (n=30) of the participants identified as male, 67.02% (n=63)

identified as female, and 1.06% (*n*=1) identified as other. Regarding college matriculation, 75.5% were undergraduate students, with more Freshman (21.9%) and Seniors (28.1%) in the sample than Sophomores (10.4%) and Juniors (13.5%). Additionally, 12.5% were Master's level students, and 10.4% were doctoral level students. One student (*n* = 1.1%) did not identify his or her student status. No performance or achievement data were collected.

Procedures

A recruitment email letter (See Appendix B) was sent through international services at all participating universities to all students who were registered as Chinese international students. The recruitment period was Fall semester, 2014 through Spring semester, 2015. The email informed participants about the nature and focus of study, benefits of participation in the study, and confidentiality. The email provided a link to a survey page hosted on the University of Minnesota online survey management system, Qualtrics. Using this survey management system, participants completed the research materials, and then were asked to provide their email address if they wanted to be entered into a raffle to receive a $20 gift certificate for compensation of their time. Participants had the opportunity to receive one of five gift certificates. Participants who won the raffle received their gift certificate within two weeks of completing the survey. Gift certificates were delivered via the participants' e-mail addresses. Once the gift certificates had been delivered to wining participants, all participant e-mails were deleted and not kept by the researcher.

All the surveys were in English. Since all Chinese international undergraduate and graduate students are required to pass the Test of English as a Foreign Language (TOEFL) prior to enrolling in U.S. universities, I judged that their English proficiency level was sufficient to understand and respond accurately to both test instructions and test items.

A total of 185 participants enrolled in the study; but only 94 completed all the questions on VIA-IS-72 (VIA-IS; Peterson & Seligman, 2004, 2009; VIA Institute, 2014), and 93 out of these 94 participants have successfully completed both the Mental Health Inventory and the VIA-IS-72. Thus, only the responses of these 94 participants were used in the factor analysis of the VIA-IS-72, and only the responses of 93 of these 94 participants were used in any further statistical descriptions or data analyses. Because only 93 participants completed all research materials, there was a completion rate of only 50.8% of enrolled participants.

The International Services of 15 universities with a large percentage of international students were contacted either by phone or via emails. Ten of them responded to the recruiting request and 5 of them agreed to forward the recruiting email to their international student registered on the listserve. The five that rejected the requests stated that it was for the following reasons: 1) the request was rejected due to their policy that they would not forward any research related request to their listserves, and 2) their international center was busy during the end of the fall semester and the beginning of the spring semester, and therefore, they could not fulfill the request.

Of the participants contacted using this method, 185 participants responded to the survey request. The participants were not timed as they were completing the survey. The

high rate of drop-out could be attributed to test fatigue given that there were 140 questions within the questionnaire (72 from the VIA-IS-72, 58 from MHI, and 10 from the Demographics survey). A large number of participants dropped out while they were completing the surveys. One participant stated via email that the survey was too long and that she was not interested in participating anymore. I examined differences among participants who dropped out and those who completed the surveys on age, years in school, years in country, and whether they stopped taking the survey at a particular place on the survey. I saw no evidence of systematic bias in completing the surveys.

Instrumentation

      Demographics. A brief demographics survey that was devised by the principle investigator of this current study was used to gather demographic information from the Chinese participants. Data gathered included their age, gender, and academic level (undergraduate plus grade level, master's program or doctoral program).

      Character Strengths. Character strengths were measured by the 72-item VIA Inventory of Strengths (VIA-IS; Peterson & Seligman, 2004, 2009; VIA Institute, 2014). This is self-report questionnaire that uses a 5-point Likert Scale to measure the degree to which respondents endorse character strengths-relevant statements about themselves. All items are reverse scored (1=very like me, 5=very much unlike me), with lower scores indicating a greater disposition to act, desire, or feel in ways that involve recognizable human excellence or instance of human flourishing (Park et al., 2004), and higher scores indicating a lesser disposition.

Character strengths that are measured by the VIA-IS-72 are these: (1) Appreciation of Beauty and Excellence, (2) Bravery, (3) Creativity, (4) Curiosity, (5) Fairness, (6) Forgiveness, (7) Gratitude, (8) Honesty, (9) Hope, (10) Humor, (11) Humility, (12) Judgment, (13) Kindness, (14) Leadership, (15) Love, (16) Love of Learning, (17) Perspective, (18) Perseverance, (19) Prudence, (20) Social Intelligence, (21) Spirituality, (22) Teamwork, (23) Self-Regulation, and (24) Zest. For definitions of each of these character strengths, see Table 1 in Chapter 2.

Sample items for the VIA-IS-72 are: "I know that I will succeed with the goals I set for myself"; and, "I always express my thanks to people who care about me" for gratitude. There are a total of 24 character strengths in the VIA classification. Five items are used to measure each strength. The VIA-IS-72 was constructed from the VIA-IS-240, which uses 10 items each to measure the 24 strengths identified in the VIA classification system. In order to construct the revised version, three items were chosen from each of the 24 scales that had the strongest item-scale correlations (VIA Institute on Character Strengths, 2015). Mean scores are constructed for each scale for each participant. Reliability measures for each of the character strengths scales for the VIA-IS-72 were reported by the developers of the VIA-IS-72 as ranging from .60 to .81 (VIA Institute on Character Strengths, 2015). In this current study, reliabilities for each of the character strengths is shown in Table 4 below. It is hypothesized that the low reliability in some of these scales is due to the short test length. Spearman-Brown Prophecy formula was used to predict the anticipated reliability of a longer test given a value of Cronbach's alpha for an existing test (Wells, 2013). In the current study, the test length of VIA-IS-72 is

extended to as long as VIA-IS-240 which includes 10 items for each strength to predict

its reliability by using the Spearman-Brown Prophecy formula.

Table 4

Scale Reliability of Each Character Strength in the Current Study

Strengths	Alpha	Predicted Alpha (items n=10)
Appreciation of Beauty	.82	.96
Bravery	.56	.83
Creativity	.76	.91
Curiosity	.62	.84
Fairness	.65	.86
Forgiveness	.62	.84
Gratitude	.64	.86
Honesty	.62	.84
Hope	.71	.89
Humility	.46	.74
Humor	.86	.95
Judgment	.73	.90
Kindness	.55	.80
Leadership	.63	.85
Love	.79	.93
Love of Learning	.69	.88
Perseverance	.70	.89

Perspective	.76	.91
Prudence	.69	.88
Self-Regulation	.54	.79
Social Intelligence	.72	.89
Spirituality	.65	.86
Teamwork	.64	.85
Zest	.71	.88

Note: Item number 10 is the original test length in VIA-IS-240. Spearman-Brown

Prophecy Formula was used to calculate the predicted reliability.

Psychological Distress and Well-Being. The Mental Health Inventory (MHI-38; Veit & Ware, 1983) was used to assess psychological distress and well-being among Chinese international students. The MHI-38 is a 38-item self-report questionnaire that uses a 6-point Likert Scale. When developing this measure, researchers (Veit & Ware, 1983) detected an uber mental health factor that underlies the MHI. This factor could operate as an index with higher scores on the factor indicating greater mental health and lower scores indicating lesser mental health. The researchers also detected a higher-order factor structure defined by two correlated factors. These were Psychological Distress, and Psychological Well-Being. Psychological Distress consists of the 24 items that describe negative mental health states (e.g., "How much of the time have your felt lonely during the past month?"). Psychological Well-Being consists of the 14 items that describe positive mental health states (e.g., "During the past month, have you been in firm control of your behavior, thoughts, emotions or feelings?"). Finally, a lower-order factor structure was detected that was comprised of general positive affect, emotional ties, anxiety, depression, and loss of behavioral/emotional control.

Veit and Ware (1983) posited that reliance on any single score that would be associated with the uber factor could constitute a significant loss of information. Likewise, the unique variance comprised in separate considerations of the lower order factors could provide interesting information, but at the expense of a simpler explanation of the data structures in any given study. Thus, given that I am seeking a parsimonious explanation of the data, and given that my research is focused on examining psychological adjustment as measured by psychological distress and psychological well-

being, and not the potential constructs underlying these larger-order constructs, I decided to use the scoring rubric for the instrument that is based on the two-factor higher-order solution reported by Veit and Ware (1982).

In the validation study by Veit and Ware (1983) of 5,089 teenagers and adults (ages 13 through 69), they found that the reliability analyses of the psychological well-being and psychological distress scales yielded internal consistency reliability estimates of .92 and .96, respectively. Construct validity evidence was presented by Grummon, Rigby, Orr, and Procidano (1994), who found a positive correlation ($r=.33$, $p<.05$) between scores on MHI and the Perceived Social Support from Family Scale among a people with AIDS (Grummon et al., 1994). In the current study, reliability estimates for the Psychological Well-Being scale was $\alpha=.85$. For the Psychological Distress scale, it was $\alpha=.94$.

Summary of Chapter 3

In Chapter 3, I described participants recruited in the study, the procedure conducted to recruit the participants, as well as the instruments used in the current study. I also discussed the challenges in the recruitment process and its effect on the sample size. In Chapter 4, I will discuss the findings of the data analyses for this study.

Chapter 4

Results

This chapter highlights the findings of the data analyses for this study. The first

section includes descriptive statistics for variables measured in this study including

means, standard deviations, and correlations. The next section discusses a factor

(principal components) analysis of the 24 character strengths (Peterson & Seligman,

2004), and describes the latent factors yielded by this analysis (Hypothesis 1). The next

section discussed the results of two regression analyses designed to predict psychological

distress and psychological well-being from character virtues (Hypothesis 2). In the last

section, I provided a summary of the results and findings that were described in Chapter 4.

In this study, hypotheses testing were conducted at a Type I error rate of 0.05, unless

otherwise indicated.

Descriptive Analyses

In this study, I conducted an exploratory factor analysis of the 24 character

strengths identified by Peterson and Seligman (2004). This analysis yielded four latent

factors. They were Agency/Proactivity, Conscientiousness, Interpersonal

Strengths/Sociability and Vitality. Frequencies and descriptive statistics of these latent

variables, and of the Psychological Distress and Psychological Well-Being variables that

were also used as measures in this study are provided in Table 5.

Table 5

Descriptive Statistics

Variables	N	M	SD
Agency/Proactivity	93	2.55	.60
Conscientiousness	93	2.15	.50
Interpersonal Strengths	93	2.34	.57
Vitality	93	2.47	.62
Psychological Distress	93	2.81	.72
Psychological Well-Being	93	3.54	.78

Note: Scores for Agency, Conscientiousness, Interpersonal Skills, and Vitality range

from 1 to 5. Scores from Psychological Distress and Psychological Well-Being range

from 1 to 6.

Factor (Principal Components) Analysis

I first conducted a principal components analysis (PCA) with a Varimax rotation on all 24 character traits as measured by the VIA-IS-72. PCA is used to extract a set of linearly unrelated variables from the data that represent the maximum variance explainable with the fewest number of components. Principal components analysis is used to make sense of a large, complicated dataset in order to aid researchers in interpreting the patterns in the data. In this case, the Principal Components analysis was conducted to ascertain what virtues were characteristic of Chinese international students studying in the United States, with virtues defined in terms of the character strengths that underlie them.

A Varimax rotation was used to determine a factor matrix, representing uncorrelated factors where the variance of the squared loading of a column of the factor matrix is maximized, summed over columns (Kaiser, 1985). Each factor has a small number of large loadings and a large number of zero loadings. After a Varimax rotation, each original variable tends to be associated with one (or a small number) of factors, and each factor represents only a small number of variables. Unlike Oblique rotation, which assumes that factors are correlated, Varimax rotation is based on not having sufficient reason or evidence to hypothesize that factors are correlated. Given that there is no evidence concerning whether the derived factors from this data would be correlated in the population under study, I chose Varimax rotation over Oblique rotation.

Seven principal components were extracted based upon the seven eignevluaes that exceeded unity (8.152, 2.360, 1.638, 1.419, 1.156, 1.199, and 1.043) (see Table 6).

However, three of the seven principal components were characterized by loadings of two or less variables. Therefore, only four principal components, Agency/Proactivity, Conscientiousness, Interpersonal Strengths/Sociability, and Vitality from the original seven were retained.

Table 6

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	8.152	33.966	33.966
2	2.360	9.832	43.798
3	1.638	6.827	50.624
4	1.419	5.914	56.538
5	1.156	4.817	61.355
6	1.100	4.582	65.938
7	1.043	4.344	70.282

Note: Extraction Method: Principal Component Analysis.

Communalities are shown in Table 7. Regarding the interpretation of communalities, higher communalities are more desirable because communalities indicate the amount of variance of the variable represented in the factor solution. "If the communality for a variable is less than 50%, it is a candidate for exclusion from the analysis because the factor solution contains less that half of the variance that was found in the original variable, and the explanatory power of that variable might be better represented by the individual variable (Analysis of the Communalities, n.d.).

Table 7

Communalities

	Initial	Extraction
Bravery	1.000	.657
Perseverance	1.000	.730
Honesty	1.000	.693
Hope	1.000	.790
Social Intelligence	1.000	.733
Leadership	1.000	.687
Self Regulation	1.000	.732
Forgiveness	1.000	.759
Curiosity	1.000	.759
Fairness	1.000	.735
Love of Learning	1.000	.572
Creativity	1.000	.811
Perspective	1.000	.740
Gratitude	1.000	.676
Humor	1.000	.588
Zest	1.000	.754
Teamwork	1.000	.536

Note: Extraction Method: Principal Component Analysis.

Interpretations of the principal components were derived from the defining characteristics of the character strengths that loaded on the factors (see Table 1). Principal Component 1 was named Agency/Proactivity. It accounted for 33.97% of the total variance explained in the current model. As is shown in Table 8, the variables that loaded on this component were Creativity (.829), Bravery (.760), Love of Learning (.682), and Humor (.583). This principal component had similar loadings to the Agency/Self-Assuredness factor that was found in the Shryack et al. (2010) study, except in this current study, Humor was included.

People who score low on the Agency/Proactivity principal component tend to approach life with *creativity*. They think of novel and productive ways to conceptualize and do things. They are *brave*. They stand up for what they believe, even in the face of opposition, threat, challenge, difficulty or pain. They firmly believe that they must stand up for their beliefs and they are consistent about doing so. They have a *love of learning*. They master new skills, topics and bodies of knowledge. They have curiosity and beyond it they systematically seek to add to what they know. They have a good sense of *humor*. They bring smiles to others and like to make/tell jokes, and are known for their great sense of humor.

Principal Component 2 was named Conscientiousness. It accounted for 9.83% of the variance explained in the model. As is shown in Table 8, the variables that loaded on this principal component were Perseverance (.784), Honesty (.783), Perspective (.573), and Teamwork (.504). There is a large overlap in factor loadings between the Conscientiousness component derived in this current study and the factor loadings of the

Conscientiousness factor derived in the McGrath (2012) study. In the McGrath study, the character strengths that loaded on the Conscientiousness factor were Perseverance, Honesty, and Perspective.

People who score low on the Conscientiousness principal component tend to be *perseverant.* They finish what they started despite obstacles getting in the way, and they do not quit a task before it is done. They are *honest*. They speak the truth and act in a genuine and sincere way, and they take responsibility for their own feelings and actions. They approached life by taking *perspective.* They have ways of looking at world that make sense to themselves and to others, and they are able to provide wise counsel to others. They practice *teamwork.* They support their teammates or fellow group members, respect decisions made by their group, and are loyal to their group, even if they disagree with them.

Principal Component 3 was named Interpersonal Strengths. It accounted for 6.93% of the variance explained in the model. As is shown in Table 8, the variables that loaded on this component were Forgiveness (.844), Fairness (.787), Leadership (.586) and Gratitude (.534). This factor is similar to the sociability strengths factor identified by Shryack et al. (2010).

People who score low on this factor tend to be *forgiving.* They believe it is best to forgive and forget, and are acceptable of others' shortcomings. They treat others *fairly.* They believe that everyone's rights are equally important and give everyone a chance. They don't let their personal feeling bias decision about others. They have *leadership.* As a leader, they maintain good relations within the group, and help groups of people work

well together even when they have differences. They show *gratitude.* They are grateful

people. They consistently feel a profound sense of appreciation and are thankful for what

they have received in life.

Principal Component 4 was named Vitality. As is shown in Table 8, it accounted

for 5.91% of the variance explained in the model. Variables that loaded on this principal

component were Social Intelligence (.786), Zest (.734), Hope (.705) and Curiosity (.659).

Factor loadings on this factor are very similar to those loadings on the Vitality factor

found in Bradar and Kashdan (2010) as well as Duan et al. (2012) (See Table 3).

People who score low on this factor tend to be *socially intelligent.* They are aware

of the motives and feelings of other people and themselves. They are able to handle

themselves in different social situations, are able to fit in, no matter what the situation,

and know what to say to make people feel good. They are *zestful*. They look forward to

each new day, have a sense of excitement about the day's possibilities, and have lots of

energy. They tend to have *hope*. They look on the bright side and despite challenges

remain hopeful about the future. They know they will succeed in the goals they have set

for themselves. They have *curiosity.* They are interested in ongoing experience for its

own sake, and they like to explore and discover things in life.

Table 8

Rotated Component Matrix

	Principal Components			
Variables	**Agency/Proactively**	**Conscientiousness**	**Interpersonal Strengths/Sociability**	**Vitality**
Creativity	.829			
Bravery	.760			
Love of Learning	.682			
Humor	.583			
Perseverance		.784		
Honesty		.783		
Perspective		.573		
Teamwork		.504		
Forgiveness			.844	
Fairness			.787	
Leadership			.586	

Gratitude	.534	
Love		
Social Intelligence		.786
Zest		.734
Hope		.705
Curiosity		.659

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

As is shown in Table 9 (below), the individual scale scores from each factor correlate more strongly with the total scale score (r=.726, .735, .839, .728, respectively) than with each other. This is an indicator that each derived factor represents an independent construct.

Table 9

Correlation Matrix for Latent Variables

	Agency/Proactivity	Interpersonal Strengths/Sociability	Vitality	Conscientiousness	Total Scale
Agency/Proactivity	--	--	--	--	--
Interpersonal Strengths /Sociability	.279	--	--	--	--
Vitality	.534	.504	--	--	--
Conscientiousness	.345	.466	.460	--	--
Total Scale	.726	.735	.839	.728	**--**

A reliability analysis was conducted on each of the scales representing the derived

factors as is shown in the Table 10. Correlation coefficients (Cronbach Alpha) for each

factor are all $> .70$ (r=.793, .751, .818, .846 respectively). Therefore, each scale reflects

the construct that it is measuring.

Table 10

Reliability Statistics for the Four Latent Variables

Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items in Each Factor
Agency	.777	.793	4
Conscientiousness	.747	.751	4
Interpersonal Strengths	.817	.818	4
Vitality	.844	.846	4

Preliminary Data Analysis

Stepwise regression was used to test hypothesis 2 that stronger virtues would predict greater psychological well-being, and less psychological distress. (In the current study, all of the values of the character traits comprising the latent variables representing character virtues were reverse-coded. Therefore, higher scores on scales measuring the constructs represented in the principal components analysis represent the presence of weaker virtues in participants.) The correlation matrix to support the regression equations is shown in Table 11.

Table 11

Correlation Matrix of Latent Variables and Dependent Variables

	Agency	Conscientiousness	Interpersonal Strengths	Vitality	Psychological Distress	Psychological Well-Being
Agency	--					
Conscientiousness	.359	--				
Interpersonal Strengths	.279	.480	--			
Vitality	.535	.464	.505	--		
Psychological Distress	-.116	.078	.152	.273	--	
Psychological Well-Being	-.046	-.176	-.360	-.480	-.679	--

Stepwise Regression

Stepwise regression analyses were used to determine the significance of multiple factors on predicting the dependent variables in the current study. In stepwise regression analyses, variables are added to the regression equation one at a time. At each step the variable that contributes the most to the prediction equation in terms of increasing the multiple correlation, R, is entered first. Independent variables that do not have a statistically significant relationship to the dependent variable are not selected for inclusion. Neither are variables that do not make a statistically significant addition to the prediction of the dependent variables. Thus, stepwise regression analysis is designed to find the most parsimonious set of predictors that are most effective in predicting the dependent variable.

Two stepwise regression analyses were conducted in the current study to test the hypothesis that the stronger agency, conscientiousness, interpersonal strengths and vitality predict less psychological distress and greater psychological well-being.

First, a stepwise regression procedure was conducted to predict Psychological Distress from Agency/Proactivity, Conscientiousness, Interpersonal Strengths/Sociability, and Vitality. The data analysis generated a two-predictor model accounting for 15.2% of the variance in Psychological Distress. In the model, Vitality entered the equation first, accounting for 6.4% of variance, and Agency entered second, accounting for 8.8% of the variance. Vitality and Agency were the significant predictors of Psychological Distress ($p=.001$) in the model. Agency/Proactivity (reverse-coded) ($\beta=-.368$) negatively predicted Psychological Distress, meaning stronger agency/proactivity predicted greater

psychological distress, while Vitality (reverse-coded) (β=.470) positively predicted Psychological Distress, meaning stronger vitality predicted less psychological distress. See Table 12 for stepwise regression model summary.

Another stepwise regression was conducted to predict Psychological Well-Being from Agency/Proactivity, Conscientiousness, Interpersonal Strengths/Sociability, and Vitality. The data analysis generated a two-predictor model account for 27.7% of the variance in Psychological Well-Being. In this model, Vitality entered the equation first, accounting for the majority of the variance explained (22.2%), and Agency entered second, accounting for the rest of the variance explained (5.5%). Vitality and Agency were the significant predictors of Psychological Well-Being (p=.008) in the model. Agency/Proactivity (reverse-coded) (β=.296) positively predicted Psychological Well-Being, meaning stronger agency/proactivity predicted less psychological well-being, while Vitality (reverse-coded) (β=-.639) negatively predicted Psychological Well-Being, meaning stronger vitality predicted greater psychological well-being. See Table 13 for stepwise regression model summary.

Table 12

Stepwise Regression Model 1 Summary

Model	R	R^2	Adjusted R^2	β	t
Psychological Distress	.413	.171			
Vitality			.064	.470*	4.133
Agency/Proactivity	.541	.293	.088	-.368**	-3.236

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

Table 13

Stepwise Regression Model 2 Summary

Model	R	R^2	Adjusted R^2	β	t
Psychological Well-Being	.541	.293			
Vitality			.222	-.639*	-6.085
Agency/Proactivity			.055	.296**	2.821

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

Summary of Chapter 4

In this Chapter, I discussed the methods and findings of the data analyses for this study. The descriptive statistics for variables measured in this study including means, standard deviations, and correlations were first introduced. The second section discussed the factor analysis of the latent variables measured by all the 24 strengths. A principal components analysis (PCA) with a Varimax rotation was conducted on all 24 character traits measured by the VIA-IS-72. Four principal components, agency/proactivity, conscientiousness, interpersonal strengths/sociability, and vitality were retained. Both correlation study and reliability analysis support the finding of the four latent variables.

Two stepwise regression analyses were conducted to test the hypothesis that stronger latent constructs of character strengths would predict greater psychological well-being and less psychological distress. The results indicated that stronger vitality predicted less psychological distress and greater psychological well-being as expected in the hypothesis, while agency/proactivity also significantly predicted psychological adjustment, however, stronger agency/proactivity predicted less psychological well-being and greater psychological distress, which is different from hypothesis 2.

In Chapter 5, I will further discuss the findings generated from Chapter 4. Chapter 5 will also include implications for practice, limitations of this study, and suggestions for future research.

Chapter 5

Discussion

Introduction

  This chapter will present an interpretation of the results presented in the previous

chapter. I will discuss how the findings of the current study can be applied clinically for

counseling psychologists working with Chinese international students. I will also discuss

these results in the context of multicultural counseling as well as in the adjustment and

acculturation process of international students. I will then discuss the limitations of the

current study and provide suggestions for future research. The chapter will end with a

summary of the study and conclusions regarding the findings.

Interpretation of Findings

  As is shown by the exploratory factor analysis in Chapter 4, the results of the

study support the first hypothesis that there is a three- to five- dimensional model that are

underlying the 24 character strengths among Chinese international students. Four virtues

were obtained. They were: agency/proactivity, conscientiousness, interpersonal

strengths/sociability, and vitality.

  The agency/proactivity factor has a similar loading pattern as the agency/self-

assuredness factor that was found in the exploratory factor analysis study conducted by

Shryack et al. (2010), which included bravery, love of learning, and creativity.

Noticeably, humor is absent from the agency factor in the Shryack et al. (2010) findings,

which was conducted among American adults. As is mentioned in Chapter 1, the

expression of humor is not usually considered as a desirable value in the Chinese culture;

and even though people consider humor positively, they tend to perceive themselves as lacking a sense of humor (Xiao, 2011). Chinese international students are raised in a collectivistic culture and are socialized to believe that humbleness, emotional restraint, and self-effacement is the proper way to interact with others (Wang & Mallinckrodt, 2006). Therefore, the finding that humor is a character trait that underlies the agency/proactivity factor in this study may reflect an adaptation of Chinese international students to American culture, because in the U.S. humor is valued as a social interaction tool, and many people's primary interaction styles include humorous repartee. Also humor is considered as a comfortable strategy to reduce tensions (Hammer, 2009, p.225).

The conscientiousness factor includes the strengths of perseverance, honesty, perspective and teamwork in the current study. This finding has a similar loading pattern to the restraint factor that was discussed in McGrath's (2012) which sampled over 650,000 American adults. McGrath (2012) identified perseverance, perspective and honesty as a group of composite strengths with the exception of teamwork. Interestingly, teamwork is usually considered as a strength within interpersonal strengths/sociability in samples among people from U.S. (McGrath 2012, Shryack et al., 2010). One explanation to this variation can be that the concept of teamwork itself is multidimensional and therefore this is reflected in the measurement of teamwork. This multidimensionality can cause teamwork to load on the latent variables differently depending on the subjective understandings of participants. Given that subjects come from different cultures, they may have different understandings of what teamwork may imply. For example, by its definition, team encompasses disparate concepts: working well as a member of a group or

team; being loyal to the group; doing one's share. People from the collective Chinese culture place a great value on group needs and loyalty, and individuals are expected to respect and support the team effort even though there is disagreement from the individual. People are expected to be conscientious when they express this disagreement in order to avoid interfering with group needs and team effort. Therefore, team work is considered as a strength of conscientiousness. On the other hand, in western culture, teamwork is considered a social responsibility. Teamwork means involving oneself in socially sanctioned endeavors and doing one's share. These cultural differences in the meaning of teamwork may have contributed to the findings that teamwork is part of the composition of the conscientiousness virtue in Chinese international students studying in the United States.

The interpersonal strengths factor includes forgiveness, fairness, gratitude and leadership in the current study. The loadings on the interpersonal strengths factor overlapped with the loadings on the interpersonal strengths identified in Duan et al. (2012) who sampled Chinese students in Mainland China. The loadings on this factor also strongly resembled the loadings on the interpersonal strengths factor in Shryack et al. (2010). It seems that the latent constructs underlying the interpersonal strengths virtue is similar in both U.S. and Chinese populations.

The last factor, vitality, included these variable loadings: social intelligence, zest, curiosity and hope. All of these character strengths were also identified in the latent construct vitality in Duan et al. (2012), which studied Chinese college students studying in China. Vitality, which is comprised of energy, zest, openness, and hope, is regarded as

a critical part of well-being from the traditional Chinese perspective. This concept can be found by examining several Chinese philosophies. For example, in Taoism the vitality-related concept, *Chi (Qi),* is regarded as a vital inner force energy that serves as the source of life and facilitates physical, mental and spiritual health (Jou, 1981). Chinese health practices such as Tai Chi, acupuncture and herbal treatments all aim at restoring and rebalancing this vital energy in order to maintain both physical and psychological well-being.

In sum, the finding of the 4-component model of character virtues was the first study attempting to understand character virtues among Chinese international students. The results of this study has indicated that the latent constructs of character strengths among Chinese international students share more similarities than differences with the American population in that similar latent constructs, such as agency/proactivity, conscientiousness, and interpersonal strengths/sociability (McGrath, 2012; Peterson et al., 2008; Shryack et al. 2010), were found. However, although there were similarities in the number and kind of latent variables found, there were also some differences in their loading patterns, which could indicate differences in cultural expectations and cultural mores. For example, within some of these latent variables certain character strengths such as teamwork are loaded on different latent components across different studies (e.g., conscientiousness in the current sample vs. interpersonal strengths in McGrath, 2012).

These findings have confirmed the theory proposed by Peterson and Seligman (2004) that there exist higher-level virtues that are comprised of character strengths. These virtues are socially desirable, individual difference constructs that are recognized

across time as being necessary for happiness and well-being (Peterson & Seligman, 2004).

Character strengths were shown to be naturally grouped into virtues. The study also

supported the pervious findings (Dahsgaard, 2005; Duan 2012; McGrath, 2012; Park &

Peterson, 2005, 2006; Peterson & Park, 2004; Peterson et al., 2008; Shryack, Steger,

Krueger, & Kallie, 2010) that these virtues can be culturally specific and can vary across

different populations.

Character virtues as the predictors of psychological distress and

psychological well-being. As shown in the findings in Chapter 4, hypothesis 2 was

partiality supported. Chinese international students who have stronger vitality express

less psychological distress and greater psychological well-being, while students with

stronger agency/proactivity express greater psychological distress and less psychological

well-being.

Given that agency/proactivity and vitality found in this study has not been found

in previous studies of Chinese international students, there are no studies that directly

support these findings. However, researchers have explored constructs that are analogous

to vitality and identified similar findings. For example, Ryan and Frederick (1997)

discovered that subjective vitality, conceptualized as a positive feeling of aliveness and

perceptions of having energy, zeal, interests, and purpose in life in their study, is

associated with better mental health (i.e., less of anxiety and depression, and more of

well-being and life satisfaction) and fewer somatic symptoms among American adults.

Subjective vitality is also positively related to positive affect (R^2=.36, $p<.05$) and

negatively related to negative affect (R^2=.30, $p<.05$) (Ryan & Frederick, 1997). These

results support the findings in this study that stronger vitality predicted greater psychological well-being and less psychological distress.

On the other hand, the finding concerning agency/proactivity in this current study seems to be contradictory to previous findings on analogous constructs. For example, agency, as one conceptual component of hope in Snyder's Hope Theory (Snyder, 1996), is defined as one's perceived capacity to use their pathway (i.e., perceived ability to develop path to connect present to future) to reach desired goals (Snyder & Lopez, 2001, p.324). Agency together with pathways has been reported to correlate positively with positive affect and life satisfaction, and negatively with negative affect and depression (Snyder & Lopez, 2001, p.328). The discrepancy of the current study from previous findings may be because the development of this latent component and its composite strengths (i.e., bravery, love of learning, creativity, and humor) can usually generate more behaviors that lead to self-striving and adaptation. Chinese international students with agency tend to be more goal-determined and endeavoring. They feel more confident and comfortable to adapt to a new culture by taking risks to adopting certain values (e.g., humor) that can be more desirable by U.S. culture while less indigenous to their own cultural values. In this process they would more likely reach out from their own cultural group to assimilate into American culture. However, this approach may also solidify the differences of the two cultures and pose more challenges in their acculturation process. Sue and Sue (2013) cited that "As Asian Americans are progressively exposed to the standards, norms, and values of the wider U.S. society, increasing assimilation and acculturation are frequently the result. . . . Asian Americans are frequently placed in

situations of extreme culture conflict that may lead to pain and agony regarding behavior and physical differences." (Kim, 2011, as cited in Sue & Sue, 2013, p.402). As these students are trying to assimilate into and identify with the dominant culture, they may become vulnerable to societal discrimination and microaggression. They may also feel separate from their own culture and lack a support system within their own culture group to buffer stressors. Therefore, it is hypothesized that when Chinese international students practice the virtue of agency while they are being the students in the U.S., they may be more likely to experience psychological distress, and less likely to experience psychological well-being.

In sum, given that no previous studies have been conducted to measure the relationship between character virtues and psychological adjustment among Chinese international students, these findings extend the knowledge base in this domain. Similar to previous studies among other populations (Snyder & Lopez, 2001), stronger vitality has been shown to reduce psychological distress and increase psychological well-being, and agency has been shown to serve as a risk factor when implemented in different culture and context, particularly among Chinese international students.

Clinical Implication

Counseling approaches based on character virtues. As is shown in the current study, greater vitality is associated with increased psychological well-being and decreased psychological distress. Vitality is defined as social intelligence, zest, hope and curiosity. People who are vital are aware of the motives and feelings of other people and themselves. They are able to handle themselves in different social situations, are able to

fit in, no matter what the situation, and know what to say to make people feel good. They are *zestful*. They look forward to each new day, have a sense of excitement about the day's possibilities, and have lots of energy. They tend to have *hope*. They look on the bright side and despite challenges remain hopeful about the future. They know they will succeed in the goals they have set for themselves. They are *curious*. They take an interest in ongoing experience for its own sake, and are exploring and discovering.

In order to assist Chinese international students to develop the virtue of vitality, counseling psychologists can help these students become *socially intelligent*. They can help them be aware of the motives and feelings of the other people and themselves. Counseling psychologist can help them understand academic and social cultural norms of U.S. culture and develop skills to fit in different social situations. For example, when interacting in social situations, the American style of social conversation features an assertive expression of opinions and a direct expression of feelings; however, Chinese international students, who are raised in a collectivistic culture, can be socialized to believe that humbleness, emotional restraint, and self-effacement is the proper way to interact with others (Nilsson & Wang, 2008). Therefore, counseling psychologists can help students develop effective communication skills in various social situations (including classroom setting) to adapt to American culture while respecting and honoring the cultural background and values endorsed by these students.

Counseling psychologists can cultivate these students' interests and enthusiasm to become *zestful*. They can help them learn how to look forward to each day and have a sense of excitement about the day's possibilities. They can help students find new way to

renew their energy. In order to do this, counseling psychologists can consider helping students become familiar with various resources such as extracurricular activities and programs on campus and in the local area that provide opportunities in building friendship and support, increasing community involvement and developing a sense of belong and connection in a new culture.

Counseling psychologist can also help Chinese internationals students become more *hopeful*. They can help these students look on the bright side and remain hopeful despite challenges. In order to do this, Counseling psychologists can focus on increasing students' perceived ability to develop path to connect present to future to set up desired career and life goals ("pathway") (Snyder, 1996), and also develop self-confidence, and build effective skills and utilize different resources to reach their goals ("agency") (Snyder, 1996).

Lastly, counseling psychologist can help Chinese international students cultivate their curiosity and develop an interest in ongoing experience for its own sake. Counseling psychologist can encourage students to look for their interest in their career and life, and motivate and support them in exploring and discovering these interests.

In sum, counseling psychologists can help these students develop character virtue vitality that includes social intelligence, zest, hope and curiosity in order to increase psychological well-being and decrease psychological distress.

Character virtues and multicultural counseling. Counseling psychologists need to develop multicultural competence when assessing students' character virtues and developing intervention accordingly to work with Chinese international students.

Additionally, counseling psychologists need to assess students' character virtues not only from an individual perspective but also be aware of the influences of family, community and society has on the effect of these character virtues. Counseling psychologists need to be aware of the cultural and contextual relevance when helping students develop and implement character virtues. For example, given that vitality seems to be more culturally relevant to Chinese international students, practitioner can consider designing and implementing specific interventions that intentionally foster the development and implementation of vitality. On the other hand, agency/proactivity and its composite strengths: bravery, creativity, love of learning and humor can potentially become risk factors for Chinese international students studying in the U.S. as is shown by the finding in the current study. Therefore, practitioners need to pay attention to any psychological issue students may develop when they use this virtue in a cross-cultural context.

Additionally, practitioners need to take into consideration of Chinese international students' acculturation process. Berry (1997) proposed that international students undergoing acculturation conflict may respond to the following 4 different types: marginalization, during which students perceive their own culture as negative but feeling inept at adapting to the majority culture. Assimilation, during which students identify with the dominant society to the exclusion of their own cultural group; Separation, during which students identifying exclusively with their own Chinese culture; Integration: where students are able to identify both their own culture while developing the necessary skills for adapting to American culture. Counseling psychologists need to assess students' acculturation process and acculturation conflicts when fostering certain character virtues.

For example, when Chinese international students are experiencing conflicts in identifying with their own culture while reaching out to American culture (assimilation), counseling psychologists need to be aware that cultivating agency/proactivity, which were usually considered as desirable traits, can actually run the risk of exacerbating students' acculturation conflict and increasing their identity confusion. This can also inadvertently solidify students' assimilation manner by over-identifying with American culture while disconnecting from their own culture. Counseling psychologists need to provide students with guidance to become aware of their acculturation process as well as learn to implement character virtues for the development of an integrative cultural identity.

Limitations

There are several limitations in the study that needs to be considered when interpreting these results. First, the VIA-IS-72 and Mental Health Inventory measures used in the current study was not normed with Chinese international students. Therefore, it may not measure as accurately in Chinese international students. There can be cultural equivalence issues in that even though all the strengths and virtues have been reported across different cultures, the function of them can be different across cultures. Duan et al. (2012) argued that some items of the VIA may not be appropriate to people with a vastly different culture background given the same strengths may represent a different function in different cultures. Therefore, these issues need to be taken into consideration when interpreting the results. Second, as mentioned earlier, all the measures used in these studies are based on self-report. Therefore, results may be less valid due to common

method bias. Alternative data collection methods such as peer rating could be beneficial.

Third, the study used an exploratory factor analysis (EFA) to explore the factors

underlying character strengths. EFA is a good model for factor analysis when there is no

theory supporting the model. However, the 4-component model generated in this study

also needs to be further confirmed in other samples by using confirmatory factor analysis.

Fourth, even though latent variables partially predict psychological distress and well-

being, causal relationships could not be ascertained in the study because only correlation

study and multiple regression analysis were used. Lastly, regarding sampling and

generalizability, participants were sampled from 5 institutions on the east coast, west

coast and in the midwest. Thus, these results may not generalize to Chinese students in

other regions of the country.

Future Research

This study was the first to examine the structure of character virtues as they are

comprise of character strengths as defined by the VIA among Chinese international

students. More research using confirmatory factor analysis is needed in the future to

confirm the four principle component model generated in this study. Second,

agency/proactivity and vitality predicted psychological distress and well-being, however,

causal relationships could not be ascertained in the study because of the data analysis

method that were adopted in the current study. Future research should use experimental

methodology to better understand the causal roots, and should use longitudinal methods

to understand the long-term covariates of character virtues and adjustment.

In addition to character virtues, there have been theories arguing that the length of time staying in the U.S. can also be a factor that affects international students' adjustment process. For example, Torbiorn (1982) hypothesized that international students' adjustment can be explained in a "U-curve" process including phases of "honeymoon", "culture shock", "adjustment", and "mastery". International students can start the adjustment process with a feeling of novelty of their new setting when they first come to a foreign country (honeymoon), gradually fall into a state of lack of adjustment after recognizing the discrepancy of their expectation and reality within couples of months after they come to the U.S. (culture shock), later move away from the state of lack of adjustment by learning to reconcile the discrepancy after the first year (adjustment), and finally reach to a stable and positive stage after acquiring skills to cope and function (mastery). However, there is also meta-analysis study arguing that the "U-curve" hypothesis simplified the adjustment process and students' adjustment process can be more complicated than the "U" shape and may continue even after they have learned to adapt (Bhaskar-Shriniva, Harrison, Shaffer, & Luk, 2005). Therefore, it would be meaningful to examine whether there exists an effect of length of time staying in U.S. on psychological adjustment and also explore any potential interactive effect time of length may have with character virtues in future study.

Summary

This chapter discussed the results of this study, which was that a four-dimensional model of agency/proactivity, conscientiousness, interpersonal strengths and vitality was found to be character virtues among Chinese international student studying in the U.S.

This result is similar to the ones found among other populations, e.g., American adult. Additionally, Chinese international students with stronger vitality are expected to experience greater psychological well-being and less psychological distress; however, students with stronger agency/proactivity are expected to experience less psychological well-being and greater psychological distress. The latter is explained in the context of acculturation during which this latent construct could potentially present as a risk factor when students experience cultural conflicts.

The current study is unique in exploring virtues as latent constructs comprised of character strengths among this population. These findings offer insight into supporting Chinese international students by exploring character virtues as these are related to their adjustment processes, and also can provide information for counseling psychologists to develop multicultural competence when working with Chinese international students for strengths development.

Conclusion

Understanding Chinese international students' psychological adjustment and those predictors that promote psychological well-being and diminish psychological distress is important in successfully working with this population.

This study examined how predictive Chinese international students' virtues were of the two measures (i.e. psychological distress and psychological well-being) that are related to adjusting to their lives in the U.S. A principal components analysis (PCA) with a Varimax rotation was conducted with the 24 character strengths identified by Peterson and Seligman (2004) and measured by the VIA-IS-72 (VIA-IS; Peterson & Seligman,

2004, 2009; VIA Institute, 2014). Four virtues, agency/proactivity, conscientiousness, interpersonal strengths/sociability, and vitality, were retained. The results of two stepwise regression analyses indicated that Chinese international students with stronger vitality experienced greater psychological well-being and less psychological distress; while students with stronger agency experienced less psychological well-being and greater psychological distress.

The study offered recommendations to counseling psychologists in providing a virtue-based counseling approach to help with Chinese international students' psychological adjustment. The study also argued the importance of multicultural competence in providing virtues-based approach. Counseling psychologists need to be aware the influence of students' acculturation process and culture conflicts, and provide virtue-based interventions that can appropriately address their cultural conflicts in order to increase psychological well-being and decrease psychological distress.

In the end, the study acknowledged its limitations in sampling, the use of measurement and method of data analysis, and offered recommendations for future research to address these issues, as well as explore the possibility of any potential interactive effect when predicting psychological adjustment from character virtues.

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Appendix A

Email sent to listserves at institutions to participate in Chinese International Students' strengths in Relation to Psychological Adjustment Research

Hello,

My name is Weiyang Xie. I'm a Ph.D. student from counseling psychology at the University of Minnesota. I'm conducting a study for my dissertation on how Chinese speaking international students' strengths can contribute to their psychological adjustment to college.

I'm hoping to recruit my online survey data from Chinese international students attending colleges in U.S. I'm wondering if I can get some help from ISSS to forward a recruiting email to students. The research study has already been approved by IRB at University of Minnesota,

My IRB approval number and information

Study Number: 1408E53242
Principal Investigator: Weiyang Xie

The participants are <u>international undergraduate students who are from Mainland China, Taiwan, Hongkong, and other countries or regions where Chinese is their first lanauge</u>. The survey will ask questions related to their strengths and psychological adjustment.

The email is below:
~~~~~~

Dear Chinese Speaking International Students:

I'm a Ph.D. student from Counseling and Student Personnel Psychology Program at the University of Minnesota. I'm inviting you to participate in a study for my dissertation on **how Chinese speaking international students' strengths can contribute to their psychological adjustment to college.**

The study is based on positive psychology, which is the study of how people's strengths and virtues can help them adjust to and thrive in their current circumstances. You'll be asked to complete an online survey that helps to identify your individual strengths. After

completing the survey, you will be asked to provide an email address IF you want to be entered into **a raffle to receive a $50 Target gift certificate** for compensation of your time and receive a **free copy of strengths profile in your email**. The survey will take you approximately 15-20 minutes to complete.

To know more information to complete the survey, please click on this link: https://umn.qualtrics.com/SE/?SID=SV_bd5tRNkcMdAcsiV

~~~~~~

Please let me know if this can potentially work or not. I'm hoping to defend next spring, and I'm happy to share my study result if ISSS is interested,

thank you very much!

Weiyang Xie (谢维扬）, M.A.

Doctoral candidate

Educational Psychology

University of Minnesota—Twin Cities

Appendix B

Consent Form

Dear Chinese International Students:

I'm a Ph.D. student from Counseling and Student Personnel Psychology program housed within the Department of Educational Psychology at the University of Minnesota. I'm inviting you to participate in a study that I'm conducing for my dissertation on how Chinese international students' strengths can contribute to their psychological adjustment to college.

The study is based on positive psychology, which is the study of how people's strengths and virtues can help them adjust to and thrive in their current circumstances. I'll be asking you to complete an electronic questionnaire that will help to identify your individual strengths, and that will help to determine your current level of well-being. You are not required to write any personal information while taking part in this survey. De-identified data will be scored by VIA institute for data analysis purpose and will not be shared without your permission.

You will be asked to provide an email address in order to receive a report of your strengths after finishing the strengths survey. The first 3 and last 3 people finishing the surveys will receive a $50 gift certificate for compensation of your time. The surveys will take you approximately 15-20 minutes to complete. To complete the survey, please click on this link: https://umn.qualtrics.com/SE/?SID=SV_1REaUVsAsUvTrM1. You can withdraw from taking the survey at any time without penalty or without effecting relationships between the participants and the university or researcher.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.Some of the questions on the survey intend to ask you psychological well-being. If you feel like you need additional help after the assessment, please contact your counseling services/center at xxx-xxx-xxx.

Thank you for your cooperation and participation!

Sincerely,

Weiyang Xie

_____

Weiyang Xie, M.A.

Principal Investigator
Doctoral candidate
Educational Psychology
University of Minnesota—Twin Cities
xiexx031@umn.edu

Appendix C

Demographics Questionnaire

1. Your Name Initials

2. Your Age

3. Your Gender
a) Male
b) Female
c) Other

4. Where were you born?
a) Mainland China
b) Hong Kong
c) Macao
d) Taiwan

5. Which university/college are you currently attending in U.S.?

6. What year are you in college?
a) Freshman
b) Sophomore
c) Junior
d) Senior
e) Master Student
f) Doctoral Student

7. How many months have you been in U.S. prior to November 2014?

8. How do you perceive your English Proficiency (e.g. classroom discussion, daily communication) on a scale of 1 to 10, with 1 being very poor, and 10 being very good?

9. Have you experienced any stressful life event that's currently interfering with your study and life in U.S.? (Choose all that applies).
   a) No
   b) Financial Hardships

c) Serious health (physical) issue of you or your family
d) Grief/loss
e) Legal/immigration issue
f) Others

Please specify "Others" you chose in previous question:

_____