

PERFECTIONISM, COPING, ADJUSTMENT AND
ACHIEVEMENT IN TAIWANESE CULTURE

A Dissertation

presented to

the Faculty of the Graduate School
at the University of Missouri-Columbia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

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JULY 2011

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

PERFECTIONISM, COPING, ADJUSTMENT, AND ACHIEVEMENT IN
TAIWANESE CULTURE

presented by Reid Trotter,

a candidate for the degree of Doctor of Philosophy

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DEDICATION

Broadly, I dedicate this dissertation to all of my family and friends near and far. I definitely could not have pulled this off without all of you. Specifically, I dedicate this dissertation to Dr. John Edgerly. As a counseling psychologist, John was always a constant source of inspiration to me. His combination of intelligence, integrity, and compassion was amazing. Without John, I never would have made it to graduate school. He believed in me when I had little personal belief that I could handle the rigors of graduate studies.

ACKNOWLEDGEMENTS

I owe a great amount of thanks to the countless number of people who have supported me in many ways throughout this process. Without you all, I truly believe creating and carrying out this dissertation would not have been possible. I would like to use this opportunity to acknowledge some specific people who have been critical in helping me successfully complete this process.

First I would like to thank Dr. Puncky Heppner, my advisor. Without you Puncky, this dissertation would have remained an intriguing idea whose logistical challenges would have prevented it from becoming reality. Your encouragement, support, and expert guidance not only helped make this dissertation valuable, but helped assuage my anxieties at many challenging moments along the way. Thank you for helping me see the value of performing cross-cultural research in spite of the unique challenges it presents. Also, thank you for keeping me laughing during this process which helped me keep all obstacles as well as successes in perspective.

Second I would like to thank Hsiao-Pei Chang, my research collaborator from National Chi Nan University in Puli, Taiwan. Hsiao-Pei collected all of the data for this study, but provided me and the study with much more. Thank you for being willing to help make this study more culturally appropriate through your input on cultural concerns and differences between American and Taiwanese culture. I truly believe that the study data is more accurate and meaningful because of your insight and dedication. Also, I do not think the study could have gotten the overwhelming response from participants that it did without your guidance. Furthermore, thank you for your patience with me when I was

learning Taiwanese cultural norms and how they would influence the construction of the study. Through our collaboration I believe I have gained a new colleague and friend.

I would also like to thank Jan Pierce for her constant support while I worked on my dissertation. Jan showed me what true support, love, and sacrifice looks like. Without you Jan, I would not have come close to finishing this dissertation. I love you.

I would like to thank my parents, Lynn and Ben Trotter, for their unwavering support and belief in my abilities throughout the years, even when I did not think I had the aptitude or skills necessary to get a Ph.D. Dad, thanks for all of your pride in my accomplishments. I could always feel it along the way. Mom, thanks for showing me what real perseverance looks like. Your grace, dignity, and resilience in the face of recent extreme hardship inspired me to keep going whenever I worried that I could not finish.

Next, I would like to thank my brother, Wes, who has always been supportive of whatever direction I have taken in life, no matter how odd it may have seemed. Thank you for your perspective on graduate school and your sincere excitement whenever I would call and let you know I had achieved another milestone in my program or while writing my dissertation.

I would also like to thank several mentors who have been critical in their support of my academic career along the way. First, I would like to thank Dr. Stephanie Citron, a dear friend who has given me indispensable advice concerning how to navigate graduate school successfully. I would also like to thank Dr. Jeff Ashby and Dr. Michael Mobley. Thank you both for supporting my interest in perfectionism, teaching me how to research it, and supporting my ideas on how to continue studying it.

There are many friends who have helped me during this process. To all of you (you know who you are) I say thank you. I would like to specifically thank some of them at this point. Thanks to Hsiu-Hui Chen whose tireless translation efforts allowed me to accurately translate English instructions into Chinese. Without your insight and translations, Hsiu-Hui, this dissertation would never have happened. I would also like to thank Adipat Chaichanasakul. Thank you for your willingness to talk often about my statistics with me. Also, thanks for your supportive comments at key points along the way.

Finally I would like to thank my committee members: Dr. Mary Heppner, Dr. Li-fei Wang, Dr. David Bergin, and Dr. Michael Porter. Thank you for your willingness to participate with me on this cross-cultural study. Your feedback and questions were invaluable and encouraged me at many points during this process to broaden my thinking and incorporate it into the dissertation. As a result of your guidance, I think that the final draft of this dissertation is something that is very valuable and meaningful.

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PERFECTIONISM, COPING, ADJUSTMENT AND ACHIEVEMENT IN TAIWANESE CULTURE

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ABSTRACT

The present study examined the relationship among components of adaptive and maladaptive perfectionism, situation-specific collectivist coping, and both psychological and achievement functioning (i.e. depression, anxiety, self-esteem, and grade point average) among a sample of 225 Taiwanese undergraduate students. A series of path analyses indicated that models of perfectionism, coping, and human functioning that have been empirically supported within European American samples were not supported among this Taiwanese sample. However, congruent with the Taiwanese cultural context, avoidance and detachment coping predicted maladaptive perfectionism which in turn predicted impaired psychological functioning. Moreover, path models indicated that standards predicted acceptance, reframing, and striving, which in turn predicted improved psychological functioning. Finally, cultural and clinical implications of this study's findings are discussed.

Perfectionism, Coping, Adjustment, and Achievement in Taiwanese Culture

Perfectionism has progressed from being conceptualized as an entirely pathological phenomenon to a multidimensional phenomenon that possesses both adaptive and maladaptive components (i.e. Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Slaney, Rice, & Ashby, 2002; Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Through factor analysis of two multidimensional perfectionism scales based on entirely pathological definitions, Frost, et al. (1993) provided initial empirical support for the existence of both adaptive and maladaptive components of perfectionism. In 2001, Slaney, et al. developed the Almost Perfect Scale – Revised (APS-R), the first scale created based on the adaptive and maladaptive dimension paradigm.

Slaney et al. (2001) identified two central components that characterize adaptive and maladaptive dimensions of perfectionism. First, the researchers recognized the possession of high standards as the central component of adaptive perfectionism. Second, discrepancy was identified as the central component of maladaptive perfectionism, and was defined as the degree to which an individual perceives a gap between his or her high standards and actual performance. Researchers now use these components to classify maladaptive and adaptive perfectionists. Furthermore, increasing evidence has linked these components of perfectionism with psychological functioning such as depression, self-esteem, and anxiety, as well as achievement functioning such as grade point average (i.e. Campbell & DiPaula, 2002; Grzegorek, Slaney, Franze, & Rice, 2004; Nounopoulos, Ashby, & Gilman, 2006; Rice & Dellwo, 2002; Slaney, Rice, Mobley, Trippi, & Ashby, 2001).

At the same time, however, numerous scholars have noted that the existing perfectionism literature has focused on primarily European American college students (e.g. Mobley, Slaney, & Rice, 2005; Slaney Rice, & Ashby, 2002; Wang, Slaney, & Rice, 2007). In short, it is unclear to what extent the current perfectionism research findings exist in other ethnic groups in the United States as well as different cultural contexts in other countries around the globe. This study will attempt to understand empirically how perfectionism operates in Taiwanese culture by specifically investigating similar and unique relationships between perfectionism and other psychological and achievement variables.

Perfectionism and Outcome Variables.

Numerous studies have provided evidence for the strong and positive link between maladaptive perfectionism, characterized by the possession of a high degree of discrepancy, and increased anxiety and depression (i.e. Ashby, Rice, & Martin, 2006; Grzegorek et al., 2004; Mobley, Slaney, & Rice, 2005; Rice & Ashby, 2007; Rice & Dellwo, 2002; Wang et al., 2007). Additionally, the adaptive component of perfectionism, the possession of high standards, has been shown to predict increased self-esteem and lower levels of psychological distress (i.e. Ashby & Rice, 2002; Rice, Ashby, & Slaney, 2007; Rice & Dellwo, 2002; Rice, Leever, Christopher, & Porter, 2006; Wang, et al., 2007). Furthermore, researchers have provided support for the positive relationship between adaptive perfectionism and higher GPA (i.e. Campbell & DiPaula, 2002; Rice & Ashby, 2007; Slaney et al., 2001; Slaney et al., 2002). The increasing evidence has encouraged researchers to investigate more complex relationships between perfectionism and human functioning that include possible intervening variables.

Perfectionism and Coping.

One intervening variable that has received attention in the perfectionism literature is coping (i.e. Dunkley, Blanksetein, Halsall, Williams, & Winkworth, 2000; Dunkley, Zurhoff, & Blankstein, 2003; Dunkley, Sanislow, Grilo, & McGlashan, 2006). For example, Dunkley et al. (2000, 2003) found that dispositional avoidant coping responses mediated the relationship between maladaptive perfectionism and increased distress. Conversely, although researchers have found relations between adaptive perfectionism and dispositional active coping responses, they did not find that active coping mediated a path between adaptive perfectionism and reduced distress. To date researchers in this area have examined only relations among perfectionism and dispositional coping, or people's general style of coping across many types of stressful situations. However, researchers within the psychology of stress have noted for some time that not all stressful problems are the same (e.g., Heppner & Krauskopf, 1987; Lazarus & Folkman, 1984), and that aggregating coping responses across different stressors most likely obscures the effects of specific coping responses to specific stressors, and in essence, results in the loss of important information about coping. Moreover, measurement concerns, especially pertaining to assessing coping effectiveness, have been raised around dispositional coping inventories that have not been linked to specific stressors (e.g., Folkman & Moskowitz, 2004; Sommerfield & McCrae, 2000; Zeidner & Safloske, 1996). Thus, there have been repeated calls to examine coping responses relative to specific stressful problems (e.g., Costa & McCrae, 1993; Lazarus, 2000; Mikulincer & Florian, 1996; Sommerfield & McCrae, 2000). Consequently, one aim of this study was to examine

perfectionism and the effectiveness of coping responses related to a specific stressful situation, academic achievement.

Cultural Limitations

Although the emerging perfectionism and coping literature has made important strides by illustrating a consistent and intriguing pattern, the majority of the previously mentioned studies investigated European American samples in the U.S. Consequently, investigators have called repeatedly for perfectionism research aimed at testing the validity of the constructs within different cultural groups and contexts (i.e. Mobley et al., 2005; Wang et al., 2007). Additionally, Arnett (2008) argued that American psychology research mainly relies on American samples while only five percent of the world's population lives in the U.S. Consequently, generalizing our results to the other 95% of the world's population seems suspect at best. The significant reality of Arnett's conclusion combined with calls for more diverse research places a great responsibility on researchers to investigate perfectionism in different cultures.

Perfectionism in Taiwanese Culture

Taiwan represents a culture where perfectionism and coping research may prove valuable. Rooted in Confucianism, Taiwanese cultural values very strongly emphasize education and achievement which get communicated through interpersonal and individual means (e.g. Berthrong & Berthrong, 2000; Kwan, 2000; Li, 2002). This Confucian emphasis may provide important pre-conditions that could foster the development of perfectionism along with the need to cope with educationally related stress.

The Confucian values that emphasize education and achievement are transmitted through a variety of interpersonal and individual ways. One important interpersonal avenue for the transmission of Confucian values is the concept of filial piety (Hwang, 1999; Kwan, 2000; Yu & Yang, 1994). Kwan noted that filial piety, or an obedience, devotion, and responsibility to one's family, is a "communal and interdependent relationship in which the parent and children generations provide for the physical and emotional needs to one another at various points in time" (p.25). As such, parents often feel a duty to provide a great deal of support both financially and emotionally for their children's education. In return, children are expected to reciprocate their parents' support through obedience to their parents and by bringing public honor to the family through such avenues as achievement.

Researchers have suggested that filial piety may foster the belief that an individual must live up to his or her parents' expectations, and that a perceived discrepancy between parental expectations and actual performance may lead to elevated levels of depression and anxiety (Wang & Heppner, 2002). Such discrepancy around parental expectations is very similar to discrepancy within the maladaptive coping literature which helps provide impetus for the investigation of perfectionism in a Confucian cultural context (Wang, et al., 2007; Wang, Yuen, & Slaney, 2009). Moreover, recent research has investigated the concept of Hao-Xue-Xin (HXX) which represents a complex internal system comprised of cognitive, moral, and behavioral dimensions (Li, 2002), such that education is characterized as a need to perfect oneself through attaining knowledge. Such an intrapersonal regulation system focused on attaining perfection

provides more impetus for exploring the construct of perfectionism within Confucian cultures.

Perfectionism and Coping in Taiwanese Society

Given Taiwanese culture's connection to Confucian values and the resulting emphasis on education and achievement, investigating perfectionism as well as situation-specific coping responses to academic stress among Taiwanese students appears warranted. Indicative of a cultural void, currently only one published study has examined multidimensional perfectionism in Taiwanese culture (Wang et al., 2007). Wang's study, however, offered promising evidence supporting the validity of perfectionism within Confucian based societies.

In addition, Heppner et al. (2006) created and empirically validated the Collectivist Coping Styles Inventory (CCS) with a large Taiwanese sample. In creating the measure, Heppner and his colleagues found evidence for the importance of five factors of situation-specific coping responses within Taiwanese culture: Acceptance, Reframing, and Striving (ARS); Family Support (FS); Religion and Spirituality (RS); Avoidance and Detachment (AD); and Private Emotional Outlets (PEO). Heppner and his colleagues specifically suggested the use of the CCS in studies that model relationships between multiple psychological constructs. In light of the calls to investigate more complex relationships and to fill the research void that exists concerning perfectionism and coping in diverse cultures (e.g. Heppner et al., 2006; Mobley et al., 2005), it appears that two important research directions are warranted: First, it seems important to test the external validity of Western perfectionism and coping models, and second to test

alternative models in order to fully address the small amount of empirical knowledge concerning perfectionism and coping within Taiwanese culture.

Purpose of the Study and Potential Implications

The aim of the current study was twofold. The first aim was to extend the perfectionism and coping literature by testing the external validity of perfectionism and coping models that have received empirical support in western populations. More specifically, is perfectionism mediated by situation-specific coping to predict human functioning among Taiwanese individuals in an achievement oriented setting in a similar manner that has been found in Western samples? Given the noticeable lack of perfectionism and coping research in Taiwanese culture, the second aim was to test alternative models of perfectionism and coping that may exist in Confucian cultural contexts. Norseworthy, Heppner, Aegisdottir, Gerstein, and Pedersen (2009) noted that it is important not to simply transport research findings and models from one cultural context to another cultural context, but rather that it is important to examine how previously developed constructs and models might be altered when applying them to different cultural contexts. Such an investigation could promote a clearer understanding of the roles perfectionism and coping play in quite different cultural contexts, and thereby enrich existing perfectionism theoretical models. Moreover, gaining a better understanding of perfectionism and coping within a society that possesses significantly different cultural norms than western society will allow practitioners to develop more culturally sensitive and competent interventions for psychologically impaired individuals.

Thus, the present study first tested the external validity of an empirically supported model within western culture that includes perfectionism, coping, depression,

anxiety, and academic achievement among a sample of Taiwanese college students.

Three hypothesized models were proposed (See Figure 1). The study then tested plausible alternative models in order to adequately address the lack of knowledge concerning perfectionism, coping, and functioning within Taiwanese culture.

Method

Participants

The participants were 225 undergraduate students from Chaoyang University of Technology in the middle part of Taiwan. The sample consisted of 145 females (64%) and 80 males (36%). The age of participants ranged from 18 to 23 ($M = 20.6$, $SD = 0.9$). Participants represented 15 different majors; the majors with the largest representation among participants included Information Management (20%) and Applied Foreign Language (19%). Finally, participants consisted of 9 freshmen (4%), 50 sophomores (22%), 143 juniors (64%), and 23 seniors (10%).

Instruments

Perfectionism. The Almost Perfect Scale – Revised (APS-R; Slaney, et al., 2001) is a 23 item self-report instrument that measures multidimensional perfectionism. Participants respond to APS-R items on a seven point likert-type scale which ranges from 1 (strongly disagree) to 7 (strongly agree). All items are scored in the positive direction. Higher scores indicate higher levels of each perfectionism dimension. Multidimensional perfectionism is conceptualized as perfectionism that contains both adaptive and maladaptive components. The APS-R assesses three scales or components of perfectionism. The High Standards subscale measures the central adaptive component of multidimensional perfectionism, and consists of seven items that assess an individual's

level of standards relative to performance expectations. The Discrepancy subscale consists of 12 items that measure the gap an individual perceives between his or her expected standards and actual performance. In other words, discrepancy represents the degree to which individuals believe that they consistently fail to reach their high standards (Slaney et al., 2002), and characterizes the most clearly negative component of multidimensional perfectionism. The Order subscale contains four items that measure an individual's preference for organization and orderliness. While Order is believed to be an adaptive component of perfectionism, unlike high standards it is not seen as a central aspect of adaptive perfectionism, and thus was omitted in this study.

The APS-R has shown strong reliability in American and Taiwanese samples. Slaney et al. (2001) reported alpha coefficients of .85 (High Standards) and .92 (Discrepancy) among a sample of American participants. Wang et al. (2007) reported alpha coefficients of .82 (High Standards), and .88 (Discrepancy) in a study using the Chinese version of the APS-R with a sample of Taiwanese college students. The alpha coefficients for the APS-R in this study were as follows: .74 for High Standards, and .89 for Discrepancy.

Validity of the APS-R has been established in both American and Taiwanese samples. Convergent validity has been established in American samples with other measures of perfectionism including Frost et al.'s (1991) multidimensional perfectionism scale and Hewitt and Flett's (1991) multidimensional perfectionism scale (i.e. Ashby & Rice, 2002; Slaney, et al., 2001; Suddarth & Slaney, 2001). Furthermore, numerous studies using American samples have established concurrent validity of the APS-R and its subscales with other theoretically related constructs such as anxiety, depression, and

GPA (i.e. Rice & Ashby, 2007; Rice & Dellwo, 2002; Slaney et al., 2001; Slaney et al., 2002). Two studies investigating perfectionism within samples from Taiwan and Hong Kong have uncovered similar correlations in expected directions between the APS-R measured components of perfectionism and constructs such as depression, anxiety, loneliness, and self-esteem (Wang et al., 2007; Wang et al., 2009). In addition Wang and his colleagues performed exploratory and confirmatory factor analyses that provided support for the existence of the three factors of the APS-R among Chinese samples.

Coping. The Collectivist Coping Styles Inventory (CCS; Heppner, et al., 2006) is a 30 item self-report measure that contains five subscales intended to measure the extent to which respondents use situation-specific coping strategies to cope with stressful events in collectivist cultures. The authors of the CCS normed the scale on a Taiwanese college student sample, and administered the inventory in Chinese. Participants respond on a six point likert-type scale which ranges from 0 (never used this strategy/not applicable) to 5 (a tremendous amount of help). All items on the CCS are scored in the positive direction. Higher scores on each subscale indicate a higher degree of perceiving coping activities to be helpful in resolving a particular traumatic or stressful event. The Acceptance Reframing and Striving (ARS) subscale contains 11 items that measure an individual's use of a combination of coping strategies including acceptance, fatalism, reframing, efficacy, and interpersonal harmony. The Family Support (FS) subscale contains six items measuring an individual's efforts to seek support from family members and respected elders when trying to cope with stressful events. The Religion/Spirituality (RS) subscale consists of four items measuring the extent to which an individual uses religion and spirituality to cope with stressful events. The Avoidance and Detachment (AD)

subscale consists of five items measuring an individual's efforts to detach from and avoid thinking about the stressful situation for a short period of time. The Private Emotional Outlets (PEO) subscale consists of four items measuring an individual's efforts to use confidential and private strategies to cope with traumatic situations. Reliability coefficients for the ARS, FS, RS, AD, PEO subscales, and total CCS score were .85, .86, .90, .77, .76, and .87 respectively. In this study the reliability coefficients were as follows: .81 for ARS, .81 for FS, .89 for RS, .69 for AD, and .58 for PEO.

Heppner et al. (2006) reported estimates of convergent validity. ARS and FS correlated in expected directions with problem solving appraisal. For construct validity of the CCS, AD, RS, and PEO all correlated positively with higher levels of psychological distress. The ARS and FS subscales, however, did not significantly correlate with measures of distress, but were predictive of problem solving.

Depression. The Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977) is a 20 item self-report measure developed to measure depressive symptoms in the general population. Participants respond to questions on a four point likert-type scale which ranges from 0 (rarely or none of the time) to 3 (most or all of the time). 16 items on the CES-D are keyed in the positive direction, while four items are keyed in the opposite direction and require reverse scoring. Higher scores indicate higher levels of depression. Radloff originally reported reliability coefficients of .85 and .90 in a general sample and a clinical sample, respectively. Wang et al. (2007) reported an alpha coefficient of .87 among a Taiwanese sample using the Chinese version of the CES-D. The reliability coefficient for the CES-D in this study was .89. Convergent and construct

validity estimates suggest that the CES-D correlated with other measures of depression as well as with theoretically related constructs such as negative life events (Radloff, 1977).

Self-Esteem. The Rosenberg Self-Esteem Inventory (RSI; Rosenberg, 1989) is a 10 item self-report inventory developed to measure an individual's general perception of self-worth. Participants respond to questions on a four point likert- type scale which ranges from 1 (strongly agree) to 4 (strongly disagree). Half of the items are keyed in the positive direction while the other half are negatively keyed and reversed scored. Higher scores indicate higher levels of self-esteem. Wang et al. (2007) reported an alpha coefficient of .82 among a sample of Taiwanese college students. The reliability coefficient in this study was .86. Validity of the RSI is also supported through correlations in expected directions with other measures such as anxiety, depression, and discrepancy (Wang, et al.).

Anxiety. The State-Trait Anxiety Inventory, state portion (SAI; Spielberger, Gorsuch, & Lushene, 1970) is a 20 item self-report inventory that measures current or recent anxiety levels that respondents experience. Items are scored on a likert-type scale which ranges from 1 (not at all) to 4 (very much so). Approximately half of the items are keyed in the positive direction while the other half are keyed negatively and then reversed scored. Higher scores indicate higher levels of state anxiety. Wang, et al. (2007) reported an alpha coefficient of .92 among a sample of Taiwanese college students. The reliability coefficient in this study was .92. Furthermore, validity of the SAI is supported through correlations with related measures such as maladaptive perfectionism and depression (Wang, et. al.).

Grade Point Average. Grade point average (GPA) was obtained through examination of participants' academic transcripts. Students who voluntarily participated in the study were asked to bring a copy of their academic transcript to the study on the day of participation. GPA can range from 0 to 100. Higher GPA indicates higher academic achievement.

Procedure

Data was gathered from Taiwanese undergraduate students recruited from a university in the middle part of Taiwan. The principle investigator collaborated with a Taiwanese doctoral student who taught undergraduate courses at the university. The research collaborator verbally presented the study to several classes of undergraduate students. Specifically she read an informed consent (see Appendix B) explaining the: (a) nature of the study, (b) potential benefits and risks from participating in the study, (c) the voluntary nature of the study, (d) the confidentiality of the data, and (e) the time required to complete the study.

Students agreeing to participate (approximately 90%) then received a 105 item battery (see Appendix C) that included the instruments mentioned above as well as questions asking for demographic information (age, gender, year in college, major). Participants completed the survey battery using ScanTron answer sheets containing a unique anonymous identification number for each participant. Before and during the administration of the survey battery, the research collaborator reviewed test items and answered any inquiries from participants who expressed confusion about the items. The collaborator's cultural position as a native Taiwanese allowed her to check items for cultural consistency and answer participant questions from a cultural frame of reference

that helped participants clearly understand items. When participants finished completing the survey battery, they returned completed answer sheets to the research collaborator who then looked at each participant's academic transcript and recorded GPAs on participants' anonymous answer sheets. Participants did not receive any incentives for participating in the study, but were allowed to keep the pencils given to them by the research collaborator if they so desired.

Results

Preliminary Analyses and Descriptive Statistics

A total of 241 participants provided access to their academic transcripts and completed the paper and pencil inventory; 14 cases were excluded in the analysis due to having too many missing values or apparent random responding such as responding to every question with the same answer. Z-scores were calculated for each scale score to test for outliers. Two cases were found to contain scales with z-scores greater than an absolute value of 3.29, qualifying them as outliers (Keith, 2005; Tabachnick & Fidell, 2007). These two cases were also excluded from further analysis (final N = 225). Skewness and kurtosis statistics all fell well below the absolute value of 2.0 which suggests normal distribution of data (Field, 2005). Visual inspection of the data distribution via histograms was also performed, and confirmed the normality of the data distribution. A series of t-tests were conducted to examine differences on scores of the dependent variables across demographic variables; no significant differences on scores of the dependent variables of depression, anxiety, and self-esteem emerged across demographic variables thereby allowing analysis on the entire sample as a group.

T-tests were also performed to examine any significant differences in standardized GPA scores. T-tests revealed two significant differences with respect to major and grade point average. Specifically, Leisure, Tourism, and Recreation Management majors had significantly higher grade point averages compared to other majors ($n = 17, t = 2.82, df = 223, p < .01$). Conversely, Construction Engineering majors possessed significantly lower grade point averages compared to other majors ($n = 18, t = -5.61, df = 223, p < .001$).

Zero-Order Correlations, Means, and Standard Deviations

Means, standard deviations, and correlations are reported in Table 1. A modest correlation was found between Standards and Discrepancy ($r = .24, p < .01$). This correlation replicates findings from Wang et al. (2007) among a Taiwanese sample, but departs from most perfectionism studies using white American samples that have found no significant correlation between standards and discrepancy. Significant zero order correlations also emerged between CCS factors. ARS correlated with FS ($r = .46, p < .01$), and AD ($r = .28, p < .01$). FS also correlated with RS ($r = .18, p < .01$), and PEO ($r = .22, p < .01$). Finally, AD correlated with PEO ($r = .23, p < .01$). These correlations are modest and similar to previously published correlations between CCS factors (i.e. Heppner, et al., 2006), and thus not only provide an estimate of consistency, but also provide additional evidence that the factors measured unique and discreet phenomenon.

Several correlations between the predictor variables and the dependent variables emerged. Standards correlated modestly with RSI scores ($r = .19, p < .01$). Discrepancy correlated with CES-D scores ($r = .49, p < .01$), SAI scores ($r = .36, p < .01$), and RSI scores ($r = -.42, p < .01$). ARS correlated with CES-D scores ($r = -.20, p < .01$), SAI

scores, ($r = -.25, p < .01$), RSI scores ($r = .24, p < .01$), and GPA ($r = .17, p < .01$). AD correlated with CES-D scores ($r = .24, p < .01$) and RSI scores ($r = -.21, p < .01$). PEO correlated with depression ($r = .20, p < .01$). With the exception of a lack of significant correlation between the perfectionism variables and GPA, these correlations compared well with previous published research on both perfectionism in American culture (e.g. Grzegorek, et al., 2004; Rice & Ashby, 2007) and Asian cultures (e.g. Wang et al., 2007; Wang et al., 2009) as well as studies on collectivist coping (e.g. Heppner, et al., 2006). As a result, testing the hypothesized models as well as several alternative exploratory models appeared warranted.

Main Analysis

Path Analyses using AMOS 16 were conducted to test the hypothesized models and employed the suggested maximum likelihood method to estimate the hypothesized models' fit with the study data (Tabachnick & Fidell, 2007). Several fit indices were used to assess the model including chi square (χ^2), root mean-square-error of approximation (RMSEA), standardized root mean residual (SRMR), comparative fit index (CFI), Tucker Lewis index (TLI), and goodness-of-fit index (GFI). For the RMSEA, $\leq .05$ implies a good fit of the model to the data, $\leq .08$ implies a reasonable fit, and $> .10$ implies a bad fit to the data (Keith, 2006). Keith also suggests SRMR below .08 suggests a good fit. Finally, Keith suggests that GFI, CFI, and TLI statistics $\geq .90$ imply an adequate fit of the model to the data, and statistics $\geq .95$ imply a good fit of the model to the data.

The results of the path analysis for hypothesized model 1 yielded a significant χ^2 of 191.26 ($n = 225, df = 6, p < .001$). The RMSEA (.37), SRMR (.23), GFI (.75), CFI (.16), and TLI (-.39) all suggested a poor fit for the model. Therefore, the hypothesized

model 1 was not supported by the data. Hypothesized model 2 yielded a significant χ^2 of 186.57 ($n = 225$, $df = 6$, $p < .001$). The RMSEA (.37), SRMR (.23), GFI (.75), CFI (.08), and TLI (-.53) all suggested a poor fit of the data to model 2. Therefore, hypothesized model 2 was not supported by the data. Hypothesized model 3 yielded a significant χ^2 of 186.91 ($n = 225$, $df = 6$, $p < .001$). The RMSEA (.37), SRMR (.23), GFI (.75), CFI (.13), and TLI (-.46) all suggested a poor fit of the data to model 3 as well. Therefore, hypothesized model 3 was not supported by the data.

The failure of the data to support the hypothesized models implied that empirically supported perfectionism and coping theoretical models from western cultures cannot be directly generalized to this study's Taiwanese sample. Although these results provide useful information concerning the universal nature (or lack thereof) of perfectionism and coping models, they do little to extend our knowledge about the specific nature of the relationships between perfectionism, coping, and functioning within Taiwanese culture.

Thus, alternative relationships among perfectionism, coping, and functioning were examined that might better reflect the Taiwanese cultural context; prior findings helped guide current alternative testing in this study. First, in the only known previous study investigating perfectionism among Taiwanese college students, Discrepancy correlated positively with anxiety and negatively with self-esteem (Wang et al., 2007). Furthermore, Heppner et al. (2006) found evidence positively linking AD to anxiety and negatively linking AD to improved psychological functioning. Finally, some similar relationships were found when examining the zero-order correlations among variables in

this study (see Table 1). As a result, it appeared that continued examination of Discrepancy and AD and their relationships with functioning seemed warranted.

In order to decide how to order variables in the alternative models, additional past theory and findings based on that theory were surveyed. It was first observed that Discrepancy and the construct of problem solving confidence, or a belief and trust in one's problem solving ability (Heppner & Lee, 2009), share a common link with social learning theory, specifically self-efficacy expectations (Bandura, 1999). In terms of perfectionism, it seemed that an avoidant coping style may prevent individuals from trying to achieve their standards on a regular basis, resulting in few opportunities for mastery experiences which would aid in raising self-efficacy or a perception that they were achieving their standards (Bandura). As a result of decreased opportunities to achieve standards it is likely that individuals would perceive an increased gap between their standards and their ability to achieve those standards (i.e. discrepancy) and result in difficulties with psychological functioning, namely increased anxiety or decreased self-esteem.

In line with Bandura's (1999) Social Learning Theory, Heppner, Pretorius, Wei, Lee, and Wang (2002) found evidence in a Black South African sample for a model where stronger approach (as opposed to avoidance) styles of coping predicted an individual's problem solving confidence which in turn predicted levels of psychological functioning including anxiety. A similar mediational model whereby problem solving confidence mediated the relationship between approach and avoidant styles of coping and impaired psychological functioning was also supported in patients with chronic low back pain (Witty, Heppner, Bernard, & Thoreson, 2001).

In short, based on the results from one previous coping study (Heppner, et al., 2006) and one previous perfectionism study (Wang, et al., 2007) with Taiwanese samples combined with related empirical support for models more closely aligned with Bandura's (1999) Social Learning Theory, alternative analyses were performed to further examine coping and perfectionism models among participants from Confucian cultures. Two path models were tested whereby the collectivist coping factor of avoidance and detachment (AD) was placed as the exogenous variable in the model to predict levels of Discrepancy, which would in turn predict differing levels of self-esteem as well as differing levels of anxiety (see Figure 2).

The first alternative model found differing levels of AD predicted differing levels of Discrepancy which in turn predicted differing levels of anxiety (see Figure 2). The results for the first alternative model yielded a non-significant χ^2 of 1.8 ($n=225$, $df=1$, $p=.175$). RMSEA = .06, suggesting an adequate fit of the data to the model. The SRMR (.03), CFI (.99), TLI (.96), and GFI (.99) all suggested a good fit of the data to the model. Similarly, the results for the second alternative model using self-esteem yielded a non-significant χ^2 of 1.66 ($n=225$, $df=1$, $p=.198$). Moreover, the RMSEA (.05), SRMR (.03), CFI (.99), TLI (.97), and GFI (.99) all suggested a good fit of the data to the model. In sum, these two alternative models represent the data very well and suggest that using avoidance and detachment behaviors to cope with academic stressors may increase an individual's perception of discrepancy, and thus negatively impact his or her psychological functioning.

Direct and indirect effects were also calculated in these alternative models. Indirect effects suggest that a variable relates to another variable through an intervening

or mediating variable. The combination of direct and indirect effects provides total effects. For the first alternative model AD had a standardized direct effect of .33 on discrepancy. Discrepancy had a standardized direct effect of .36 on anxiety. Lastly, AD had an indirect effect of .12 on anxiety, suggesting that AD increases anxiety by increasing discrepancy. In the second alternative model AD had a standardized direct effect of .33 on discrepancy. Discrepancy had a standardized direct effect of -.42 on self-esteem. Finally, AD had a standardized indirect effect of -.14 on self-esteem, suggesting that AD decreases self-esteem by increasing discrepancy. In essence, these findings indicate that AD indirectly increases anxiety and decreases self-esteem by influencing Discrepancy levels.

To further test the validity of the first two alternative models, the order of AD and Discrepancy were reversed in each model so that Discrepancy was the exogenous variable that predicted differing levels of AD, which would in turn predict differing levels of anxiety and self-esteem. Fit statistics were then calculated. In the first reversed model, which included anxiety as the outcome variable, the RMSEA = .38. In the second reversed model, which included self-esteem as the outcome variable, the RMSEA = .39. In sum, these fit indices suggested that reversing Discrepancy and AD in the models led to the models representing a poor fit to the data.

In addition to the first two alternative models, we next tested alternative models investigating the relationship of Standards to coping and functioning. Two perfectionism studies conducted in Confucian cultures, one in Taiwan and one in Hong Kong (Wang, et al., 2007; Wang et al., 2009), provided evidence for the link between Standards and improved functioning. More specifically it was found that adaptive perfectionists,

characterized by the possession of high standards, had higher levels of self-esteem and lower levels of anxiety. Further, Heppner et al. (2006) provided evidence that ARS was rated as the most helpful CCS factor and the strongest predictor of resolving a traumatic event among a sample of participants from Taiwan.

In addition to the emerging empirical evidence connecting perfectionism and coping with functioning in Taiwan, it is also important to consider the cultural context surrounding academic success. First, the attainment of knowledge and intelligence through diligence and perseverance during one's education is connected to the process of perfecting oneself in Confucian cultures (Li, 2002). Second, the concept of filial piety adds further emphasis on educational success by connecting an individual's success or failure to the honor of his or her family. Given Confucian culture's emphasis on striving and high standards in an academic setting, in conjunction with the emerging empirical evidence mentioned above, it seemed appropriate to investigate whether or not Standards might have a stronger predictive value than it has been shown to have in studies using western samples. Two path models were tested whereby Standards was placed as the exogenous variable in the model to predict levels of ARS, which would in turn predict levels of self-esteem as well as levels of anxiety (see Figure 2).

The results for the third alternative model yielded a non-significant χ^2 of 2.92 ($n = 225$, $df = 1$, $p = .09$). The RMSEA (.09) suggested a moderate fit of the model to the data, while the SRMR (.04), CFI (.96) and the GFI (.99) all suggested a good fit between the model and the data. The TLI (.87) did not suggest a good fit. Based on recommendations by Hu and Bentler (1999) of retaining a model when $CFI \geq .96$ and $SRMR \leq .09$, it can be concluded that this model was supported by the data. The results of the fourth

alternative model yielded a non-significant χ^2 of 0.32 ($n = 225$, $df = 1$, $p = .57$). The RMSEA (.000), CFI (1.0), TLI (1.0), and GFI (.99) all suggested a good fit to the data. The SRMR (.14) did not suggest a close fit to the data. In sum, overall the results show that these two alternative models represent the data very well and suggest that the possession of high standards may increase an individual's use of acceptance, reframing, and striving behaviors to cope with academic stressors, and thus improve psychological functioning.

Direct and indirect effects were also calculated in the third and fourth alternative models. In the third alternative model Standards had a standardized direct effect of .36 on ARS. ARS had a standardized direct effect of .24 on self-esteem. Standards had a standardized indirect effect of .09 on self-esteem suggesting that standards increases self-esteem by increasing the use of ARS. In the final alternative model Standards had a standardized direct effect of .36 on ARS. ARS had a standardized direct effect of -.25 on anxiety. Finally, Standards had an indirect effect of -.09 on anxiety, suggesting that Standards decreases anxiety by increasing the use of ARS. In sum these finding indicate that Standards indirectly leads to improved psychological functioning by directly influencing levels of ARS.

To further test the validity of the third and fourth alternative models, the order of Standards and ARS were reversed in each model so that ARS was the exogenous variable that predicted differing levels of Standards, which would in turn predict differing levels of anxiety and self-esteem. Fit statistics were then calculated. In the first reversed model, which included self-esteem as the outcome variable, the RMSEA = .17. In the second reversed model, which included anxiety as the outcome variable, the RMSEA = .21. In

sum, these fit indices suggested that reversing Standards and ARS in the models led to the models representing a poor fit to the data.

Discussion

The main findings of this study begin with the replication of significant correlations found in the small number of previous perfectionism studies and coping studies performed with samples in Taiwan (e.g. Heppner, et al., 2006; Wang, et al., 2007). Specifically, Discrepancy, the main component of maladaptive perfectionism, was found to positively correlate with measures of psychological distress including depression and anxiety, and negatively correlate with self-esteem. This replication lends credibility to the notion that Discrepancy is operating in a manner associated with impaired psychological functioning among Taiwanese college students in academic settings.

While Discrepancy's relationship with psychological functioning was replicated in this study, a unique finding concerning standards arose from this sample when compared to Wang et al.'s (2007) Taiwanese sample. Specifically, zero-order correlation showed that the possession of high standards moderately and positively related to the possession of self-esteem. Wang et al. did not find this same correlation. However, through more complex cluster analysis Wang et al. found that adaptive perfectionists, who are marked by high standards, possessed higher mean scores on self-esteem. The results of Wang's cluster analysis support the notion that the possession of high standards occurs in concert with higher levels of self-esteem among Taiwanese students.

Furthermore, the correlation between standards and self-esteem found in this sample replicated findings from studies using American samples (i.e. Grzegorek, et al., 2004; Mobley, et al., 2005). Ultimately the current results support previous findings that the

possession of high standards is positively associated with higher levels of self-esteem among Taiwanese college students.

Zero-order correlations also replicated previous findings concerning CCS factors and measures of functioning. Specifically, higher levels of ARS were correlated with less anxiety and depression, and higher levels of self-esteem. This follows with the finding that ARS was the best predictor of resolving stressful problems compared to the other four CCS factors among Taiwanese participants (Heppner, et al., 2006). Additionally, AD's positive correlation with depression and negative correlation with self-esteem replicated the findings of Heppner et al. suggesting that the factor was associated with psychological distress. The replication of Heppner et al.'s findings concerning ARS and AD in this sample support the notion that ARS is linked to more positive functioning among Taiwanese college students while AD is linked to higher levels of psychological distress.

While correlations offered some replications of past studies of perfectionism and coping in both American and Taiwanese samples, the main analyses did not support the hypothesized models. In general, the hypothesis that Discrepancy, the maladaptive component of perfectionism, would predict different levels of the endorsed helpfulness of situation-specific coping strategies, which then in turn would predict functioning among Taiwanese college students, was not supported by the data. These results suggest that empirically supported models whereby perfectionism predicts coping, which in turn predicts functioning (i.e. Dunkley, et al., 2000; Dunkley et al., 2003), cannot be generalized to a sample of Taiwanese college student participants.

Several possibilities exist that might explain these discrepant findings. First, it must be taken into account that this study examined participants' usage of situation-specific coping strategies. That is to say, participants were responding to CCS questions relative to their experiences with academic stress. In previous studies investigating perfectionism and coping models (i.e. Dunkley, et al., 2000; Dunkley, et al., 2003), the measurement of coping did involve coping responses, but from a more dispositional standpoint; that is a general coping style was found to intervene between perfectionism and outcomes such as adjustment and academic achievement. However, this study measured collectivist situation-specific coping strategies specifically related to academic pressure among Taiwanese participants in order to predict adjustment and academic achievement. Thus, this study represents a more precise and culturally accurate measurement of coping responses related to adjustment and academic achievement than previous studies which examined more general or diffuse coping models. The increased precision of measurement may have affected the manner in which coping responses and perfectionism were found to relate relative to psychological adjustment among Taiwanese college students.

Second, the fact that the study was carried out in a different culture may have had an effect on the results. Specifically, the rejection of the first three hypothesized models illuminates the notion that the relationship between perfectionism, coping, and functioning has some important –emic (culturally specific) influences that overshadow possible –etic (universal) properties. Understanding the importance of remaining aware that psychological principals in one culture may not operate in the same manner within

another culture guided this study's testing of alternative models (see Norseworthy, et al., 2009).

In the alternative analyses several interesting findings emerged that may be based on culture. Specifically it was found that Standards predicted a higher helpfulness rating of ARS which then predicted increased self-esteem scores and decreased anxiety scores. These results departed from perfectionism and coping models in the west which failed to find a link between adaptive components of perfectionism, coping responses, and improved functioning. Several -emic factors may be at play here. Specifically, high academic achievement standards are a hallmark of Confucian societies which are often internalized by students in these societies (Li, 2002). Furthermore, filial piety (i.e. Hwang, 1999; Kwan, 2000) encourages the possession of high standards by students in Confucian societies as a means of bringing honor not only to the individual student, but also to the entire family.

As a result, it stands to reason that the possession of high standards, which can be considered a very functional and thus culturally congruent attribute, might predict an approach to coping with academic stress that is related to better psychological adjustment in Confucian society. The data from this study supports this notion and suggests that possessing high standards increases the endorsement of acceptance, reframing, and striving to resolve academic stress, resulting in better functioning. That is, the findings of this study support the notion that possessing high standards is advantageous for Taiwanese college students. In addition, the use of acceptance, reframing, and striving coping behaviors by a student that possesses high standards is even more beneficial to his or her psychological health than the possession of high standards alone.

Two other alternative models were also supported in this study. Specifically, AD predicted a higher degree of Discrepancy which in turn predicted increased anxiety and decreased self-esteem. These results depart significantly from perfectionism and coping models that have received empirical support in western cultures. The majority of perfectionism and coping models validated in western cultures support the notion that maladaptive perfectionism predicts coping responses (e.g. Dunkley, et al., 2000; Dunkley, et al., 2003; Dunkley et al., 2006). This finding suggests that components of maladaptive perfectionism operate as overarching, and perhaps stable, personality variables that predict a particular style of coping response which then in turn negatively impacts individual functioning. The current study found that coping responses occur first to negatively impact an individual's perceived degree of discrepancy which in turn negatively influences psychological functioning.

These results suggest that Discrepancy is not as stable or trait-like among Taiwanese college students when compared to their western counterparts. Instead, discrepancy might be a more akin to a state-like phenomenon. Wang et al. (2007) proffer an interpretation of Discrepancy as possibly state-like and dependent on how high one sets his or her standards at a given moment in time. This interpretation was based on a positive correlation between Standards and Discrepancy (.37) found in Wang, et al.'s (2007) study that departed from findings in American studies (i.e. Grzegorek, et al., 2004; Slaney, et al., 2001). Similarly, this study found a positive correlation between Standards and Discrepancy (.24). The empirical support for a model whereby situation-specific avoidance and detachment coping responses predict higher levels of discrepancy, which in turn predict impaired psychological functioning, lends further support to the

conceptualization of discrepancy as a state-like phenomenon among this sample of Taiwanese college students. Wang, et al. (2009) noted that state-like discrepancy may reflect a strategy used by some Chinese students to improve after truly failing to meet a standard. The use of such a strategy may stem from Chinese cultural values that stress modesty and use shaming as a method of socialization (Wang, et al., 2009).

Implications

The findings of the study suggest several clinical implications. First, it appears that Discrepancy, as in western samples, correlates with impaired psychological functioning in Taiwan as well. It appears, however, that Discrepancy operates in a more state-like manner among Taiwanese college students. This state-like manner of Discrepancy offers evidence to clinicians that interventions aimed at reducing Discrepancy could be successful and could lead to improved psychological functioning. One possible avenue for reducing Discrepancy could be through behavioral interventions designed to reduce the use of avoidance and detachment as a primary means of coping with academic stress. If clinicians could help students experiencing a high degree of Discrepancy to engage in potential mastery experiences within the academic domain, perhaps the students will reduce their discrepancy and improve their psychological health. Additionally, this study's data supports the clinical use of interventions that support the possession of high standards and the use of acceptance, reframing, and striving coping styles.

Several limitations exist in the current study. First, the study was a cross-sectional design which introduces questions about the sequence of variables in the model. Future studies could answer these questions by employing a longitudinal design that collects

data at two or more points over the course of a semester or another specific amount of time. Second, all of the measures in the current study were self-report which could be confounded by social desirability as well as source bias. It should be noted, however, that the vast majority of previous perfectionism studies have also employed a self-report approach to data collection (e.g. Ashby & Rice, 2002; Ashby, et al., 2006; Dunkley, et al., 2000; Grzegorek, et al., 2004; Mobley, et al., 2005; Rice & Dellwo, 2002; Wang, et al., 2007; Wang, et al., 2009). As a result, the data collection limitation noted in this study reflects a more general limitation of the entire perfectionism research field. The conclusions could be strengthened if other measurement sources could be employed in future perfectionism studies such as observer reports from teachers and family. Third is the fact that the sample was constrained to students from one university in Taiwan. Future studies investigating students in other Confucian cultures, or non-students in Taiwan would help increase generalizability across Confucian societies.

This study has implications for future research. It appears that perfectionism's relationship with collectivist coping styles and functioning departs from the relationships that have been validated among western samples. Testing models that incorporate the findings from this study, such as Standards' strong relationship with improved functioning and Discrepancy's conceptualization as a state-like variable, appears warranted.

Ultimately, results of this study underscore the necessity of testing models of psychological functioning in different cultures before accepting them as universal. While it appears that perfectionism operates similarly across cultures in some ways, its relationship with coping and functioning differs from that of western cultures. Future

studies that continue to take differing values of Confucian cultures into account would help further the understanding of how culture affects perfectionism, coping, and functioning. Ultimately, this study marks a starting point to encourage more research focused on the complex relationships between multidimensional perfectionism, collectivist coping, and functioning among individuals living in Confucian cultures.

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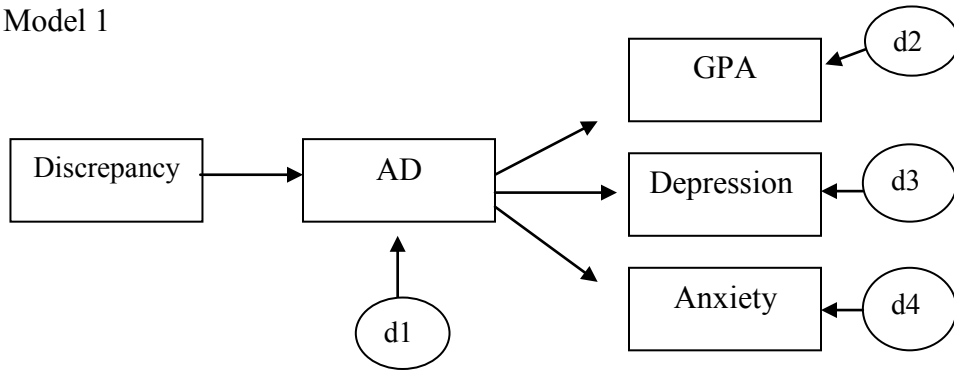
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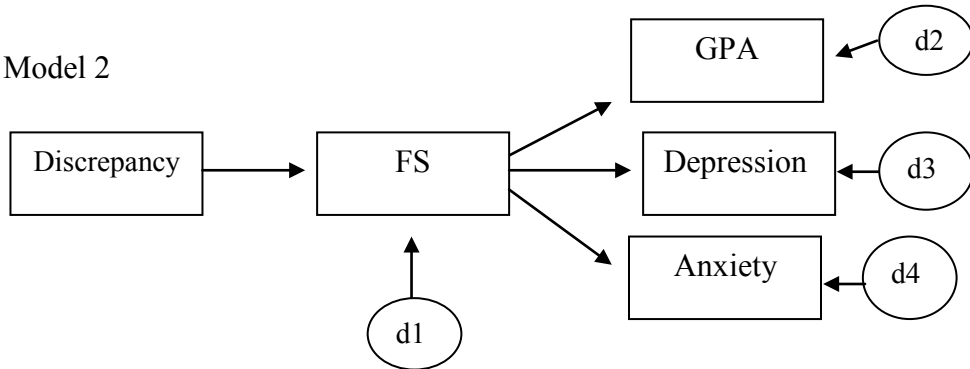
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Figure 1. *Hypothesized Models*

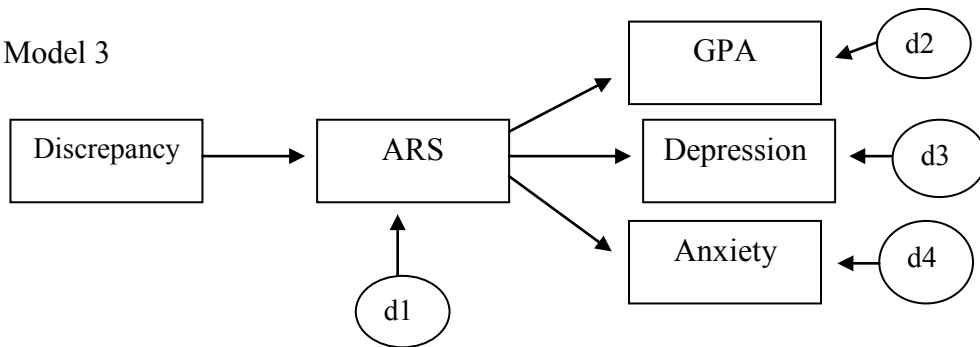
Model 1



Model 2



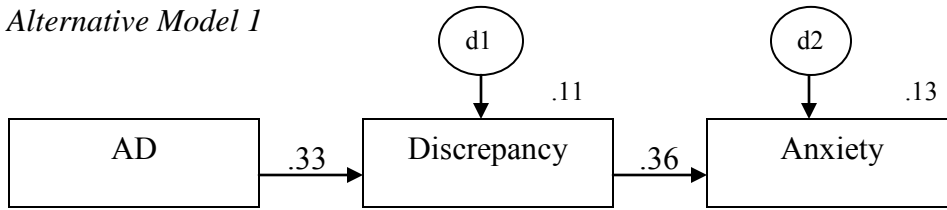
Model 3



Note AD = avoidance and detachment; FS = Family Support; ARS = acceptance reframing and striving; GPA = grade point average.

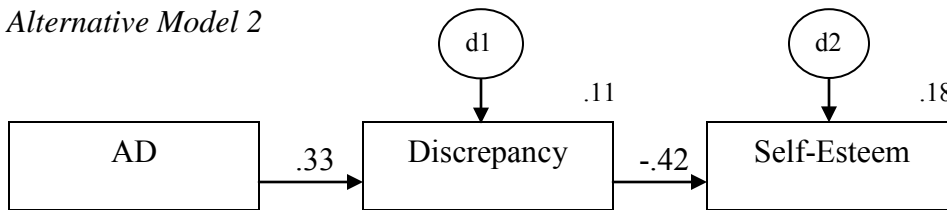
Figure 2. *Alternative Models with Standardized Regression Coefficients*

Alternative Model 1



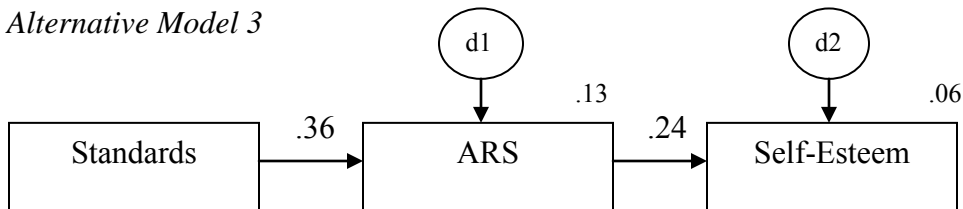
Note AD = avoidance and detachment; all path coefficients are significant at $p < .01$ level.

Alternative Model 2



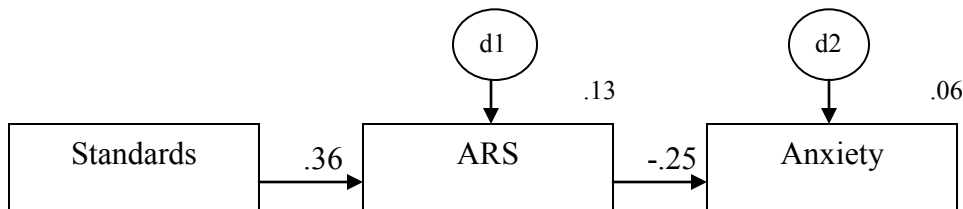
Note AD = avoidance and detachment; all path coefficients are significant at $p < .01$ level.

Alternative Model 3



Note ARS = Acceptance Reframing and Striving; all path coefficients are significant at $p < .01$ level.

Alternative Model 4



Note ARS = Acceptance Reframing and Striving; all path coefficients are significant at $p < .01$ level.

Table 1. *Descriptive statistics and variable intercorrelations*

Variable	1	2	3	4	5	6	7	8	9	10	11	M	SD
1. Standards	.74											34.90	5.4
2. Discrepancy	.24**	.89										52.02	11.24
3. ARS	.36**	-.01	.81									3.15 ^a	.71
4. FS	.21**	-.11	.46**	.81								2.63 ^a	.77
5. RS	.24**	.04	.14*	.18**	.89							2.10 ^a	.85
6. AD	.19**	.34**	.28**	.04	.13*	.69						2.10 ^a	.86
7. PEO	.20**	.12	.16*	.22**	.08	.23**	.58					2.53 ^a	1.02
8. Depression	-.10	.49**	-.20**	-.14*	-.01	.24**	.20**	.89				19.75	9.82
9. Anxiety	-.12	.36**	-.25**	-.17*	-.01	.04	.08	.66**	.92			40.00	11.44
10. Self-Esteem	.19**	-.42**	.24**	.15*	.00	-.21**	-.10	-.54**	-.37**	.86		27.84	5.29
11. GPA	.11	-.12	.17**	.16*	.04	.04	.02	-.13	-.16*	.07	-	75.81	6.21

Note. N = 225 ** p<.01, two tailed; * p<.05, two tailed. Reliability alpha coefficients are presented in bold along the diagonal. ARS = Acceptance, Reframing, and Striving; FS = Family Support; RS = Religion/Spirituality; AD = Avoidance and Detachment; PEO = Private Emotional Outlets; GPA = Participant's verified grade point average. ^aM and SD indicate the helpfulness ratings for the specific coping style and were calculated only from participants who used the strategy.

Appendix A: Literature Review

Introduction

This chapter contains four sections. The first section reviews the evolution of perfectionism research in psychology. It will follow the progression of perfectionism's conceptualization as a unidimensional personality construct to a multidimensional personality construct with both adaptive and maladaptive components. It will also discuss perfectionism's relationship with achievement and outcome variables such as grade point average, depression, anxiety, and self-esteem. Section two discusses the stress and coping process as well as research investigating the relationship between perfectionism and that process. In particular, it will focus on evidence pointing to the existence of mediational models where coping mediates the relationship between perfectionism and outcomes such as grade point average and psychological distress. The section will end with a commentary on the limitations of the existing perfectionism and coping research especially in terms of generalizability to cultures other than the United States. Section three will focus on Taiwanese cultural values and the ways in which these values might set the pre-conditions for the development of perfectionism within Taiwanese culture. Specifically the section will discuss Confucian values concerning education and family as well as the concept of Hao-Xue-Xin, or the Chinese heart and mind for wanting to learn. Finally, based on the first three sections, section four will discuss the need for researching mediational models including perfectionism and coping within Taiwanese culture.

Perfectionism

History of Perfectionism Research.

The personality construct of perfectionism has historically been viewed as a one-dimensional pathological phenomenon in both popular culture and psychology. Webster's (1993) dictionary defines perfectionism as "a disposition to regard anything short of perfection as unacceptable" (p. 862). Webster's II New College Dictionary (1995) describes perfectionism as "a predilection for setting extremely high standards and being displeased with anything else" (p. 816). Thinking of perfectionism as a singularly pathological concept appears to be quite common in popular culture and specifically for individuals in counseling. A 1995 survey of college students participating in counseling found that 21% of male respondents and 26% of female respondents reported perfectionism as "quite distressing or extremely distressing" (Research Consortium and Psychological Services to Higher Education, 1995 as cited in Slaney, Rice, Mobley, Trippi, & Ashby, 2001).

Early psychological theorists and researchers also conceptualized perfectionism as a unidimensional pathological construct. For instance, Horney (1950) saw perfectionists as individuals motivated by anxiety to achieve an unrealistic idealized image. Further, Horney thought that these efforts resulted in lowered self-esteem. One of the fathers of cognitive behavioral therapy and theory, Albert Ellis, saw perfectionism as a self-defeating and irrational belief characterized by excessive striving for achievement (Ellis, 2002). Ellis went on to link perfectionism with such distress as self-hatred and heartache.

The view that perfectionism represents a one-dimensional pathological construct persists in more contemporary research as well. For instance, Brown and Beck (2002)

suggest that perfectionism represents a set of dysfunctional attitudes that may aid in the creation and maintenance of depression. Additionally, some researchers who focus on perfectionism's role in eating disorders originally viewed perfectionism as unidimensional and pathological. Specifically, the perfectionism subscale of the Eating Disorder Inventory (EDI; Garner, Olmstead, and Polivy, 1983), which has been used widely in research on eating disorders, conceptualizes perfectionism as "excessive personal expectations for superior achievement" (p. 18). These examples provide evidence that points to science's long held view of perfectionism as a one-sided construct with deleterious connotations.

While a one-dimensional definition of perfectionism has received wide acceptance in the psychological community and U.S. society at large, the evolution of psychological research has started to expand the ways in which we may conceptualize this otherwise pathological construct. Increasingly over the past two decades researchers have conceptualized perfectionism as a multidimensional personality construct (e.g. Frost, et al., 1990; Hewitt & Flett, 1991; Slaney, et al., 2001). As a result, a large body of literature has emerged that focuses on the different facets that comprise the overarching concept of perfectionism and how those facets may relate to important outcomes such as achievement in the academic realm.

Consistent with the historically pathological definition of unidimensional perfectionism most of the multidimensional conceptualizations originally adhered to the notion that perfectionism represents a fully pathological construct, and detailed different sub-facets based on this assumption. For instance, Frost, et al. (1990) suggested six facets that comprise perfectionism. These facets include personal standards, doubts about one's

actions, concern over mistakes, parental criticism, parental evaluation, and order.

According to Frost et al., each of these six facets contributed to an overall makeup of a personality variable that led to negative psychological outcomes such as anxiety and depression.

Other characterizations of perfectionism center on the pathological nature of excessively high standards and focus on whether the standards originate in the self or come from others. Hewitt and Flett (1991) specifically proposed a perfectionism theory that identified three different types of perfectionism, and took a step forward in perfectionism theory by focusing on the interpersonal components of perfectionism. As a result, Hewitt and Flett discovered three types of perfectionism: self-oriented, other-oriented, and socially prescribed perfectionism.

The self-oriented dimension of perfectionism involves setting high personal standards and consistently striving to achieve those standards (Hewitt & Flett, 1991). This dimension appears to capture most closely the already existing definitions and one-dimensional conceptualizations that have dominated psychology throughout its history. As a result, it comes as no surprise that Hewitt and Flett viewed self-oriented perfectionism as negative and related to outcomes such as anxiety and depression.

In addition to self-oriented perfection Hewitt and Flett (1991) went on to describe two interpersonal dimensions of perfectionism. The first was labeled other-oriented perfectionism and was characterized by an individual holding excessively high standards for significant others. Hewitt and Flett labeled the other dimension as socially-prescribed perfectionism which is characterized by an individual's perception that significant others in her life hold her to excessively high standards. Both other-oriented and socially-

prescribed perfectionism were thought to relate to a host of negative outcomes such as cynicism, lack of trust, anger, anxiety, and depression.

Overall, the decade of the 1990s saw a significant increase in terms of research activity focused on perfectionism. This activity contributed greatly to the sophistication of perfectionism theory through more nuanced conceptualizations as well as the development of reliable and valid measures. Rather than a unidimensional pathological construct, perfectionism appeared to encompass multiple facets and take place both within the individual and through interpersonal means.

Adaptive and Maladaptive Dimensions of Perfectionism.

Hewitt and Flett (1991) and Frost et al. (1990) made a big conceptual leap forward by providing a multidimensional theory of perfectionism and empirical evidence to support its validity. As perfectionism continued to evolve, however, the multidimensional theory of perfectionism began to expand to include possible adaptive dimensions. In 1993, Frost, et al. published a study that factor analyzed both their multidimensional perfectionism scale and Hewitt and Flett's multidimensional perfectionism scale. Results from the study suggested a two factor solution. Frost et al. labeled the factors adaptive and maladaptive, respectively. The adaptive factor included questions from subscales that were directed at measuring personal standards (i.e. self-oriented perfectionism and personal standards) while the maladaptive factor included questions from subscales such as "doubts about one's actions", "concern over mistakes", and "socially prescribed perfectionism".

Building on this research, Slaney et al. (2001) also supported the existence of both an adaptive and maladaptive dimension of perfectionism. In 2001, Slaney et al. created

the Almost Perfect Scale – Revised which consisted of three subscales: High standards, Discrepancy, and Order. The High standards scale measures the standards that an individual holds for herself while the Discrepancy scale measures the perceived degree of discrepancy between standards and actual performance. The Order scale measures an individual's perceived level of organization. Depending on one's scores on each subscale, an individual could be categorized as a maladaptive perfectionist, an adaptive perfectionist, or a non-perfectionist.

Individuals who are categorized in the maladaptive group of perfectionism tend to hold high personal standards for achievement but also perceive a significant degree of discrepancy between their standards and their performance in service of those standards. In other words, maladaptive perfectionists tend to believe that they often fail to meet the high standards they hold. Maladaptive perfectionism has correlated with a host of negative outcomes such as depression, anxiety, low self-esteem, and lowered satisfaction with GPA (e.g. Grzegorek, et al., 2004; Slaney, et al., 2002).

Conversely, adaptive perfectionists hold the same personal high standards as their maladaptive counterparts, but do not experience a high degree of discrepancy between their performance and their standards (Slaney, et al., 2001). Essentially adaptive perfectionists appear to be individuals who hold high standards, but perceive an adequate level of achieving those standards. Additionally, a high degree of order is seen as a healthy aspect of perfectionism, but less central than high standards to the adaptive dimension. As such, adaptive perfectionists have scored higher than maladaptive perfectionists and nonperfectionists on measures of adaptive functioning such as self-esteem, greater satisfaction with grade point average, and feelings of efficacy (e.g.

Grzegorek, et al., 2004; Slaney, et al., 2002). Non-perfectionists do not hold high standards and also endorse a low degree of discrepancy. As such they generally do not experience the same level of adjustment difficulties as maladaptive perfectionists, but generally experience less psychological and achievement-related benefits in comparison to adaptive perfectionists.

The evolution of perfectionism theory over the past two decades has given the field of psychology important knowledge concerning the nature of the construct. We have moved from a unidimensional pathological concept to a more refined view that recognizes perfectionism to contain both positive and negative aspects. Moreover, this more sophisticated theory of perfectionism has allowed us to better understand the differential ways in which perfectionism relates to important psychological and achievement outcomes.

Maladaptive Perfectionism and Psychological Adjustment.

As multidimensional perfectionism research continues to evolve, investigations have uncovered the significant impacts that multidimensional perfectionism can have on human psychological functioning (i.e. Flett, Greene, & Hewitt, 2004; Grzegorek, Slaney, Franze, & Rice, 2004; Rice & Ashby, 2007; Slaney, Rice, & Ashby, 2002). Most notably, the maladaptive dimensions of perfectionism have been shown to have substantial negative impacts on an individual's psychological adjustment.

One area of psychological adjustment that has shown a strong link with maladaptive perfectionism is anxiety. Maladaptive perfectionists believe that they consistently fail to meet the high standards that they set for themselves (Slaney, et al., 2001). This belief represents the discrepancy component of maladaptive perfectionism

and furthermore constitutes the defining feature of maladaptive perfectionism. Once the nature of the discrepancy component is taken into account, it becomes easy to see how it could positively relate to elevated levels of anxiety. A growing number of empirical studies have confirmed this link.

Empirical research on clinical populations has demonstrated that individuals with clinical diagnoses of Social Phobia, Obsessive Compulsive Disorder, and Panic Disorder possess elevated levels of maladaptive perfectionism (Antony, Purdon, Huta, & Swinson, 1998). The link between maladaptive perfectionism and anxiety, however, is not limited to clinical populations (e.g. Flett, Greene, & Hewitt, 2004; Flett, Hewitt, Endler, & Tassone, 1995; Saboonchi & Lundh, 1997; Slaney et al., 2002). For example, Saboonchi and Lundh (1997) provided empirical evidence for the unique relationship between maladaptive perfectionism and the experience of social anxiety in a sample of university students. Maladaptive perfectionism has also predicted the presence of trait anxiety independent of depression among college students (Kawamura, Hunt, Frost, & Dibartolo, 2001). This finding is significant given the close proximity and speculated shared variance of anxiety and depression due to common features shared by the two phenomena (Kawamura, et al., 2001).

Beyond trait anxiety, Kawamura et al.'s study also provided evidence for the relationship between perfectionism and depression. This evidence represents only one of the many theoretical and empirical publications linking depression to the maladaptive dimension of perfectionism. Mobley, et al. (2005) found that a sample of African American college students in the United States possessed significant differences in levels of depression based on what type of perfectionism was indicated by their APS-R scores.

Specifically, maladaptive perfectionists endorsed significantly higher levels of depression based on their scores on the Beck Depression Inventory. A large number of research studies have uncovered similar findings when investigating perfectionism's relationship with depression among predominantly European American samples (i.e. Ashby, Rice, & Martin, 2006; Grzegorek, et al., 2004; Rice & Ashby, 2007; Rice, Ashby, & Slaney, 1998; Rice & Dellwo, 2002). Taken together, these findings have provided the research community with an in-depth understanding of the negative psychological outcomes that follow from possessing the maladaptive component of perfectionism.

Maladaptive Perfectionism and Achievement.

The growing body of research concerning multidimensional perfectionism contains a great deal of evidence linking maladaptive perfectionism and deleterious outcomes among white American samples. The evidence, however, of the negative consequences of maladaptive perfectionism does not end with psychological adjustment. Investigators have also uncovered evidence pointing to maladaptive perfectionism's effects on academic achievement. As might be expected, maladaptive perfectionism has generally exerted a negative influence on several indicators of academic achievement.

Most recently Rice and Ashby (2007) showed evidence of significant differences between self-reported grade point average (GPA) among different types of perfectionists. Specifically, maladaptive perfectionists were shown to have significantly lower grade point averages than their adaptive counterparts. This research contributes to the growing scholarly literature that has reported lower GPAs or GPA satisfaction among maladaptive perfectionists when compared to adaptive perfectionists (i.e. Grzegorek et al., 2004; Rice & Slaney, 2002; Slaney et al., 2001).

It should be noted, however, that several studies using the APS-R have not uncovered a link between maladaptive perfectionism and lowered GPA or satisfaction with GPA. In Mobley et al.'s 2005 study no significant differences were found among different types of perfectionists concerning GPA or self-reported satisfaction with GPA. Additionally Rice and Dellwo (2002) found a lack of significant difference with respect to self-reported GPA among a sample of predominantly white university students from the northern United States. Finally and interestingly, in Grzegorek et al.'s (2004) study on the relationship between perfectionism and both achievement and adjustment outcomes, no significant differences were found between self-reported GPA among different types of perfectionists even though significant differences did arise concerning individual GPA satisfaction.

While the results concerning the relationship between maladaptive perfectionism and achievement outcomes appears less strong than that between maladaptive perfectionism and negative psychological adjustment, it appears that there is at least evidence for a moderate and negative correlation. This relationship could prove important especially when viewed within the context of a highly competitive academic environment. The possibility for a more pronounced negative relationship between maladaptive perfectionism and achievement outcomes could increase when the contextual or cultural emphasis on academic achievement becomes more salient. Continuing to examine the relationship between maladaptive perfectionism and achievement outcomes, therefore, remains important, especially in contexts that emphasize academic achievement.

Adaptive Perfectionism, Adjustment, and Achievement.

Even with the advent of adaptive perfectionism, much of the perfectionism literature still focuses on maladaptive perfectionism's relationship with negative outcomes. Perhaps this focus is related to perfectionism's historically negative connotations. Additionally, psychology's general focus on pathology, with the exception of the positive psychology movement, may also contribute to perfectionism researchers' focus on maladaptive perfectionism and its prediction of maladjustment. Despite the fact that the majority of perfectionism research continues to take a pathological slant, evidence does exist linking adaptive perfectionism with lower levels of maladjustment and sometimes higher levels of adjustment and achievement.

Recall that the possession of high personal standards for achievement represents the hallmark of adaptive perfectionists. Additionally, adaptive perfectionists lack the perception of a high degree of discrepancy between their standards and their actual performance. Little comment exists concerning why adaptive perfectionists have the ability to possess a lower degree of discrepancy than their adaptive counterparts.

Campbell and Di Paula (2002) have studied the role that self-belief schemas play in differentiating perfectionists and have uncovered some interesting findings that may provide clues concerning an adaptive perfectionist's ability to experience a low degree of discrepancy. Through a factor analysis of Hewitt and Flett's multidimensional perfectionism scale (HMPS, 1991) Campbell and Di Paula found that adaptive perfectionists tend to possess self-beliefs focused on an internal drive towards setting standards and striving towards perfection. Maladaptive perfectionists, on the other hand, appear to believe that receiving love and acceptance from others is based on the

achievement of high standards set by others. As a result, Campbell and Di Paula imply that the goals of maladaptive perfectionists appear to arise externally which allows little self-identification with the goal by the maladaptive perfectionist. The adaptive perfectionist, however, appears to have more internally derived goals with which she can more easily identify. With more personally identified goals in the absence of concern about acceptance from others contingent on achievement, the adaptive perfectionist may be able to experience more motivation to pursue her goals while concurrently spending less time worrying if her performance lives up to the standards she believes she must achieve to gain love.

Campbell and Di Paula's (2002) theory concerning differential self-belief schemas of perfectionists provides an appealing distinction between the two types of perfectionists as well as possible reasons why an adaptive perfectionists' high standards could exist in the absence of a debilitating degree of discrepancy. Empirical research by Campbell and Di Paula exists to support their theory. Their study produced positive correlations between higher scores on a striving towards perfection (adaptive) measure, higher GPA, and more effortful goal pursuit among a sample of undergraduate students. Furthermore, higher scores on the adaptive measure of perfectionism correlated negatively and significantly with levels of depression as measured by the Beck Depression Inventory (Beck, 1967).

While Campbell and Di Paula (2002) offer encouraging evidence in support of the adaptive nature of high standards, and thus adaptive perfectionism, other studies exist which also support adaptive perfectionism's positive influence on adjustment and achievement outcomes. Several studies have linked adaptive perfectionism to higher

levels of self-esteem in mainly white European American university student samples (i.e. Ashby & Rice, 2002; Grzegorek, et al., 2004; Rice & Dellwo, 2002; Rice, Ashby, & Slaney, 2007). Additionally, studies have linked adaptive perfectionism to lower levels of anxiety and depression among mostly American university student samples (i.e. Mobley, et al., 2005; Grzegorek, et. al, 2004; Rice, Leever, Christopher, & Porter, 2006; Slaney, et al., 2002).

Overall it should be noted that while adaptive perfectionism is related to lower levels of adjustment difficulties and higher levels of achievement and positive adjustment, these relationships are modest in comparison to the relationships that emerge between maladaptive perfectionism and maladjustment (Slaney, et al., 2002). The relationships between adaptive perfectionism and achievement and adjustment, however, remain positive and consistent across studies. As a result, a body of evidence continues to grow that supports the notion that possessing high standards does not represent a problematic feature of perfectionism. Furthermore, the evidence supports the theory of perfectionism as a multidimensional psychological construct that is composed of a maladaptive dimension as well as an adaptive dimension.

With a multidimensional theory of perfectionism in mind, researchers and practitioners alike may now direct their efforts to understanding how to promote the adaptive components of perfectionism while working to reduce the maladaptive components. This understanding may partially be accomplished through investigating more sophisticated models that examine perfectionism's relationship with a host of psychological constructs. As research on perfectionism becomes more complex,

investigators in America have turned to asking questions about the intervening variables that may exist between perfectionism and outcomes such as achievement and adjustment.

Perfectionism and Coping

The Stress and Coping Process.

Coping has been conceptualized and investigated in myriad ways by psychological researchers. Some researchers have conceptualized coping as arising partially from a set of pre-existing resources that an individual brings to bear during stressful situations (Matheny, Aycock, Curlette, & Junker, 2003). The concept of coping resources arose from the transactional theories of stress that emphasized the role of an individual's cognitive appraisal process in the etiology of stress (i.e. Lazarus & Folkman, 1984). While resources are believed to develop before a stressful event ever occurs, the appraisal process is generally considered to occur when an individual is faced with a possibly stressful event. If an individual appraises a situation as stressful, she then must appraise what resources she possesses to cope with the stressful event. Finally, once she has appraised the situation and her resources, the individual must decide how to respond.

An individual's response during and after a stressful event represents an area of significant interest in the stress and coping literature. Researchers have focused on many of these different responses, also known as coping, coping responses, or coping strategies. As a result, evolving empirical evidence has pointed to the influential effects that coping responses have on an individual's psychological well-being when she experiences stress (Heppner, 2008). One such response that has received a great deal of attention is applied problem solving. Heppner, Witty, & Dixon (2004) described applied problem solving as a "highly complex, often intermittent, goal directed sequence of

cognitive, affective, and behavioral operations for adapting to what are often stressful internal and external demands” (p. 346). Depending on one’s problem solving approach, psychological health can either improve or deteriorate.

While applied problem solving represents a complex coping response to stress, it is not the only response that investigators have discovered. Building on Lazarus and Folkman’s (1984) transactional model of stress and coping, Carver, et al., (1989) created and empirically tested different dimensions of coping responses that may lead to differential psychological outcomes. Through the creation of the self-report COPE scale (Carver et al., 1989) 13 dimensions of coping responses emerged that reflected approaches such as active coping, positive reinterpretation and growth, seeking social support, turning to religion, disengagement (both behavioral and mental), acceptance, and denial. Carver and his colleagues theorized that certain dimensions of coping contained within the COPE scale represented more adaptive approaches to coping with stressful events while others represented more maladaptive approaches.

Empirical testing supported this theory by illustrating the positive correlations between adaptive dimensions such as active coping and positive reinterpretation and growth with psychological strengths such as optimism, control, and self-esteem. Additionally, active coping and positive reinterpretation correlated significantly and negatively with a measure of trait anxiety (Carver, et al., 1989). Conversely, dimensions of coping that Carver et al. theorized as maladaptive dimensions of coping such as disengagement and denial correlated positively with trait anxiety while correlating negatively with the adaptive personality variables of optimism, control, and self-esteem.

The research of coping theorists such as Lazarus and Folkman, Carver et al., and Heppner have provided the psychological community with an increasingly complex and evolved conceptualization of coping responses. Through empirical and theoretical work, we now know that coping encompasses a broad range of complex responses that arise from a transactional process between the person and her environment when experiencing stress. These coping responses can either be adaptive or maladaptive in nature. Moreover, coping responses have shown themselves to be associated with important indices of psychological adjustment and well-being depending on their status as either adaptive or maladaptive.

Since coping responses represent a theoretically multidimensional construct characterized by a complex combination of cognitive, affective, and behavioral processes, it is fair to ask how more fixed and stable personality variables might relate to such responses. By exploring such relationships, researchers might be able to paint a picture of how certain coping responses develop, and thus why some individuals tend to employ more adaptive or maladaptive coping. Understanding possible personality predictors of coping would allow both researchers and practitioners to more easily identify individuals who may be vulnerable to experiencing psychological distress and impaired functioning. Additionally, possessing a more sophisticated understanding of the antecedents of impaired functioning and lowered psychological health would likely aid in the creation of more effective intervention strategies for individuals who experience such impairment.

One such personality variable that may affect how an individual copes with stressful situations is multidimensional perfectionism. Researchers have shown both

maladaptive perfectionism and coping to relate to lowered functioning while also showing adaptive perfectionism and coping to relate positively to healthy functioning (i.e. Carver et al., 1989; Slaney et al, 2002). Furthermore, given perfectionism's more stable and trait-like nature and coping responses' behavioral and state-like nature, the constructs appear theoretically linked along a possible chain of traits and behaviors that might be able to predict individual functioning. As a result, investigating the link between perfectionism, coping, and functioning outcomes appears warranted.

Perfectionism, Coping, and Outcome Research.

Building on the transactional stress and coping models that have emerged over past decades, several studies have already investigated the possible relationships between perfectionism, stress and coping, and outcomes. While these studies have provided important information concerning how perfectionism relates to different aspects of the stress appraisal and coping process, they represent a diversity of foci in terms of which part of the stress and coping process they study. Some studies have investigated the ways in which perfectionism affects the resources an individual brings to a stressful situation (i.e. Nounopoulos, et al., 2006; Martin, 2006), while others have studied perfectionism's relationship with the actual stress appraisal process (i.e. Chang, 2006; Chang, Watkins, & Banks, 2004). Still, other researchers have commented on perfectionism's relationships with coping responses like the concepts described above (i.e. Dunkley, et al., 2000; Dunkley, et al., 2003). Regardless of where researchers have focused when studying perfectionism's link with the stress and coping process, most of the research has occurred within the context of European American culture. Furthermore, most of the samples in these studies are comprised of mainly white European American college students. The

specific nature of these studies' contexts and samples constrains the generalizability of their findings to similar populations, but they still offer a valuable knowledgebase on which future studies may build.

A search of the literature revealed few studies investigating the link between perfectionism and the pre-existing resources, or coping resources, that an individual brings to bear when faced with a stressful situation. The lack of research concerning coping resources and perfectionism is not surprising given the temporal position of coping resources in transactional models of stress and coping. Since coping resources are theoretically seen as pre-existing resources they may be viewed as more temporally similar to stable trait-like concepts such as perfectionism. That is to say, like an individual brings pre-existing coping resources to a stressful situation, they also bring pre-existing levels of perfectionism. Nonetheless, some of the research concerning perfectionism and coping resources has uncovered valuable information concerning the indirect ways in which perfectionism might affect certain outcomes related to functioning.

Nounopoulos et al. (2006) conducted a study among middle school students from the southeastern United States who completed the APS-R (Slaney et al., 2001) and measures of coping resources and self-reported grade point average (GPA). Results emerged supporting a path model where the coping resource of academic confidence fully mediated the path between perfectionism type and GPA. Specifically, the researchers concluded that adaptive perfectionism indirectly and positively affected GPA by having a direct and positive effect on the academic confidence of respondents.

Furthermore, the researchers found that maladaptive perfectionism indirectly and negatively affected GPA by having a direct and negative effect on academic confidence.

While the model found in this study can only be generalized to a middle school population reflecting the characteristics of the sample, it provides foundational evidence that the relationship between perfectionism and academic functioning might be more complex than a direct prediction of one by the other. Specifically, it appears that academic confidence might represent something that teachers and counselors could more easily teach to non-confident perfectionist students whereas maladaptive perfectionism levels might prove more challenging to reduce. Through the use of such interventions as role plays with the school psychologist, students could learn to replace non-confident self-statements about academics with more confident and balanced self statements (Nounopoulos, et al., 2006). In this regard, academic confidence, although representative of something less malleable in comparison to a coping response, could represent an effective coping resource that professionals could help bolster among perfectionist students.

The perfectionism literature with respect to the stress and coping process does not stop with the few studies specifically focused on coping resources. Several studies exist that demonstrate perfectionism's ability to predict the individual appraisal of stress levels (Chang 2000; Chang 2006; Chang et al., 2004). Intriguingly, Chang's line of research appears to follow an evolution similar to that of perfectionism research in general. Chang's (2000) first study used a theoretical conceptualization of perfectionism as a multidimensional but entirely pathological construct. As such, he used overall scores on a multidimensional perfectionism scale when analyzing a model that included

perfectionism, stress appraisal, and outcomes. His findings, however, provided important information that indicated the presence of a mediational model where stress level appraisal mediated the relationship between perfectionism levels and psychological outcomes. Specifically, he found evidence supporting models where stress appraisal fully mediated the relationship between perfectionism and life satisfaction and partially mediated the relationships between perfectionism and the deleterious outcomes of negative affect and worry.

As Chang's research evolved, he began to include the theoretical distinction between maladaptive and adaptive perfectionism when investigating perfectionism, stress, and outcome models. Chang et al. (2004) found that perceived stress, which measures an individual's appraisal of life stress over the past month, either partially or fully mediated the relationship between maladaptive perfectionism and indices of psychological health including affect, suicidal ideation, and life satisfaction. In general, maladaptive perfectionism predicted higher levels of stress appraisal which in turn predicted lower levels of psychological functioning (Chang et al., 2004).

To a certain degree, Chang (2006) replicated these findings when he tested a stress mediation model between perfectionism and indices of psychological well-being. Chang again showed that stress appraisal either fully or partially mediated the relationship between maladaptive perfectionism, as defined by the Socially Prescribed Perfectionism subscale of the Hewitt & Flett Multidimensional Perfectionism Scale (HMPS; Hewitt & Flett, 1991), and indicators of psychological well being such as purpose in life, environmental mastery, and positive relations with others. Taken together with Chang's previous research, we begin to see a consistent link between perfectionism,

the appraisal part of the stress and coping process, and psychological functioning.

Ultimately, Chang's line of research provides both perfectionism and stress researchers with a solid rationale for continuing to take an in-depth look at the complex relationships between perfectionism, the stress and coping process, and human functioning.

While the work of the above mentioned researchers contributes greatly to our knowledge concerning perfectionism's link with coping resources and stress appraisal, it does little in terms of increasing our knowledge about perfectionism's link with individuals' actual coping responses when faced with stressful situations. Concurrent with Chang's line of research focused on the stress appraisal aspect of the stress and coping process are several investigations focused on the coping response portion of the stress and coping process. These studies tested hypothesized mediational models similar to those looking at stress appraisal, but using coping responses as the variable that may mediate a possible path between perfectionism and functioning.

Similar to the literature commenting on coping resources or stress appraisal in the context of perfectionism, the literature specifically investigating coping responses in the context of perfectionism remains sparse. Dunkley et al. (2000) performed one of the first studies to examine a mediational model where specific coping responses, as measured by the COPE inventory (Carver, et al., 1989), were thought to mediate the relationship between perfectionism and distress in the form of anxious and depressive symptoms. The authors hypothesized a model where more adaptive coping responses such as active coping would mediate the path between both maladaptive perfectionism and psychological distress. Similarly, the hypothesized model predicted that more

maladaptive coping responses such as avoidant coping would mediate the relationships between the two types of perfectionism and distress (Dunkley, et al.).

Results from Dunkley et al.'s (2000) initial test of a coping response mediational model suggested that avoidant coping as well as perceived social support both fully mediated the relationship between maladaptive perfectionism and distress. Furthermore, while adaptive perfectionism was able to predict the use of active coping, a mediational model linking adaptive perfectionism to distress via active coping was not supported by the data. These results provided initial evidence to suggest that maladaptive perfectionists generally employ coping responses such as denial or behavioral and mental disengagement when attempting to respond to stress, which in turn increases the experience of psychological distress. Interestingly, Dunkley et al. theorize that the avoidant coping responses of maladaptive perfectionists may reflect a low sense of perceived self-efficacy among maladaptive perfectionists when it comes to successfully coping with stressful situations.

Dunkley et al.'s (2000) discovery of a perfectionism and coping response mediational model provided the first insight into the possible maladaptive pattern of coping responses and resulting distress that may arise as a result of possessing maladaptive perfectionist tendencies. Dunkley and his colleagues went on to replicate this model twice using different samples to extend generalizability and different methodologies which helped lend credibility to the initial study's findings (Dunkley et al., 2003; Dunkley, et al., 2006). In 2003, Dunkley et al. used a daily diary system of measurement to collect data in an attempt to correct for any errors in participant recall that may have occurred as a result of using a retrospective, one time, self-report method.

Additionally, Dunkley et al. (2006) studied the coping response mediational model among a sample of clinical patients in America. Results from these two studies suggested a similar pattern among maladaptive perfectionists with respect to coping and psychological distress.

Interestingly, Dunkley and his colleagues failed to find any support for the hypothesis that adaptive perfectionism would predict more adaptive coping responses, such as active coping, which would then predict lower levels of psychological distress. These findings are consistent with the findings of Chang and his colleagues in their program of research focused on a stress appraisal mediational model of perfectionism and functioning. Ultimately, these results appear surprising in light of early research on multidimensional perfectionism that linked adaptive perfectionism to such outcomes as self-esteem and higher GPA (i.e. Rice & Dellwo, 2002; Rice, Ashby, & Slaney, 2007).

The one exception in the reviewed literature on perfectionism, stress coping, and outcomes appears to be the Nounopoulos, et al. (2006) study which provides evidence linking adaptive perfectionism to adaptive coping resources and higher GPA. Perhaps the fact that this study focused on the outcome of GPA, which represents a construct that is conceptually distinct from psychological distress, might provide some clues as to why the results differed. Furthermore, Nounopoulos et al., studied a sample of American middle school students who could differ in several significant developmental ways from the mostly college student samples that were used by Dunkley and Chang.

Ultimately, the literature concerning perfectionism, stress coping, and functioning provides a clearer picture of how important trait and state variables appear to interact to predict achievement and distress levels. By understanding the relationship among these

variables, researchers and practitioners working with perfectionists can better tailor interventions to target likely vulnerabilities concerning coping response patterns as well as antecedent cognition patterns in order to more effectively aid the improvement of distressed clients.

Cultural Limitations.

While the emergence of consistent data supporting a mediational model of perfectionism, stress coping, and functioning represents an important step forward in both perfectionism and coping theory, all of the previously mentioned studies possess a similar concerning limitation. Specifically, all of these studies have been performed on either American or Canadian samples. Additionally, most of these studies have samples comprised of an overwhelming majority of white participants. For example, while Dunkley et al. (2006) point out that using a clinical sample in their study represents a step forward in generalizing the perfectionism, stress coping, and distress model, it remains that 85% of the individuals in the sample indicated that they were of Caucasian descent.

In fact Chang represents one of the only researchers testing models of perfectionism, stress coping, and functioning that has attempted to bolster the dearth of studies looking at non-white groups (i.e. Chang 1998; Chang, 2004). In his 2004 study, Chang investigated differences among samples of Black and White female college students with respect to levels of perfectionism as well as how each sample compared in terms of fitting the proposed stress mediation models. Additionally Chang (1998) looked at differential perfectionism levels among Asian American and White American college students. In both studies he found perfectionism present among the non-white samples and operating in similar ways to the white samples, but with important differences. For

example, Chang found Asian Americans to possess higher levels of maladaptive perfectionism than the white American comparison sample. While these initial findings are intriguing, it is impossible to know why higher levels arose within the Asian American sample. Do the results suggest that Asian Americans experience a more intense form of perfectionism or could it be due to a different definition of what is “normal” among Asian Americans? Only further research with diverse groups will allow us to more fully answer such questions.

Chang is not the only psychologist to notice the lack of coping and perfectionism research using diverse samples. Researchers in both the perfectionism and coping fields have noted the use of mainly white American samples in the literature and have suggested the use of more diverse samples to test the validity of these constructs among different cultural groups and within different cultural contexts (i.e. Mobley, et al., 2005; Heppner, Heppner, Lee, Wang, Park, & Wang, 2006; Wang, Slaney, & Rice, 2007). Heppner et al. pointed out not only the lack of coping research on diverse groups, but also comment on the fact that no measures of coping take into account different cultural values that might play a role in how one copes if they are from a country other than the United States.

This lack of culturally diverse theory and research is striking given the increasingly global nature of today’s society. Arnett (2008) points to the fact that most psychological research produced by American psychologists narrowly focuses on samples residing within the United States. Furthermore, Arnett notes that we as producers and consumers of this research usually assume that the research results should apply to all human beings. Unfortunately, by limiting our research to primarily American samples,

we are restricting our studies to observing only 5% of the entire world's population (Arnett). As a result, the generalizability of our results to the other 95% of the world is questionable at best and completely untenable at worst. Ultimately, the significant reality of Arnett's conclusion places a great responsibility on the fields of coping and perfectionism research due to their notable lack of investigations outside of dominant European American culture.

Perfectionism in Taiwanese Culture

Confucianism.

Given the responsibility to respond to the void of culturally diverse research within the coping and perfectionism fields, it appears that choosing which culture to study represents a large and difficult task. One might contend that starting anywhere outside of dominant European American culture would be appropriate, thus making the choice of a particular culture seem less important than the simple act of choosing any different culture. It appears, however, that certain cultures might emphasize values that are consistent with the construct of perfectionism which, therefore, make these cultures strong candidates for initial cross-cultural investigations. One such culture is Taiwanese culture. With a cultural philosophy rooted in Confucianism, Taiwanese culture values an emphasis on education and achievement which gets communicated through interpersonal domains such as parental expectations and individual domains such as in the internal concept of Hao-Xue-Xin, or the Chinese heart and mind for wanting to learn (Li, 2002).

Confucianism has possessed an overarching influence on Taiwanese culture for many centuries. In their introduction to the principles of Confucian tradition to western audiences, Berthrong & Berthrong (2000) describe Confucianism as a complex set of

ideas, philosophies, practices, and habits of the heart that guide the lives of a great number of individuals in East Asian cultures. As such, the authors go on to say that Confucianism represents much more than its western conception as just a philosophy. For instance, Confucianism has been used at times as a religion, a code of ethics and moral development, and an educational program put forth not only by Confucius but also many followers of his teachings throughout the centuries (Berthrong & Berthrong; Kupperman, 2004; Raguin, 2000).

An important aspect to arise from the complex system of Confucianism is an emphasis on education and achievement. Raguin (2000) noticed that the goal of education in the Confucian system is to create the perfect individual. The idea of attaining perfection through education brings into focus just how highly Confucian tradition regards the educational process. Berthrong and Berthrong (2000) go even further in saying that not just education, but love of education and the related idea of hard work represent Confucian values that persist today in Asian societies including Taiwan. The idea of a current day emphasis on education and achievement in Taiwanese culture shows the strength and power of this ancient Confucian value.

Indeed modern day researchers in the fields of motivation and psychology have commented on the current power of the Confucian value concerning education. In their investigation concerning the underlying mechanisms of East Asian societies' views on motivation, Yu and Yang (1994) suggested that Confucianism sets forth the expectation that an individual will value education and learning while working to develop self-discipline and respect for those of higher status. As a result of such values, Yu and Yang contend that individuals from East Asian societies develop a general sense of motivation

to achieve and produce, whether in an educational setting or through other endeavors such as business. Through these suggestions, we see that the Confucian value on education does not represent an arcane and ancient philosophy, but rather a living and influential ethic that helps guide many modern day Asian societies.

Filial Piety and Parental Expectations.

While the Confucian emphasis on education appears to be strong enough as its own value, it appears that other Confucian values within the highly complex system of Confucianism indirectly support this emphasis. One such value concerns the Confucian belief about family. Specifically, Confucian values place a high priority on each individual honoring his or her family (Hwang, 1999; Kwan, 2000; Wang, 2002; Yu & Yang, 1994). Furthermore, it is thought that Confucius conceived the family as one physical being, of which each individual represents an extension (Hwang).

For children within in a family, enacting honor towards their family occurs through the concept of filial piety. Kwan (2000) conceptualized filial piety as a “communal and interdependent relationship in which the parent and children generations provide for the physical and emotional needs to one another at various points in time” (p. 25). As such, parents often feel a duty to provide a great deal of support both financially and emotionally for their children’s education. In return, children are expected to reciprocate their parents’ support through obedience to their parents and bring public honor to the family perhaps through such avenues as achievement.

Given the central nature of filial piety in Taiwanese culture, it appears that parental expectations could represent a significant concern of Taiwanese students. Wang and Heppner (2002) pointed out that parental expectations may be of particular concern

in Taiwanese culture because of Taiwan's connection to Confucianism. Additionally, other researchers commenting on filial piety within a Confucian context have identified parental expectations as a key concern that many Taiwanese students experience, particularly in reference to high academic performance (Kwan, 2000; Shek & Chan, 1999; Yu & Yang, 1994).

In their efforts to create an instrument to measure the important construct of parental expectations, Wang and Heppner (2002) noted that college students in Taiwan prefer to remain in reciprocally dependent relationships with their parents instead of going through a process of creating independence from their parents that might be more typical in western societies. As a result, parental expectations likely play a central role in the emotional and academic development of Taiwanese youth. Wang and Heppner also pointed out that a discrepancy between the expectations of parents and one's actual performance may lead to the experience of psychological distress by that individual.

Through empirical investigation, Wang and Heppner (2002) uncovered three main factors that accounted for parental expectations stemming from the concept of filial piety. Furthermore, one of the factors, academic achievement, appeared to represent the nexus between the Confucian values concerning family and education. When responding to Wang and Heppner's instrument, participants would rate their perceptions of their parents' expectations as well as their assessment of their own performance on academic achievement items such as "Parents expect my academic performance to make them proud" and "parents expect me to perform better than others academically".

After confirming the existence of the academic achievement factor, among others, in the Living Up to Parental Expectations Inventory (LPEI), Wang and Heppner (2002)

went on to test the construct validity of living up to parental expectations. Interestingly, the academic achievement factor correlated significantly and negatively with measures of depression and trait anxiety. These results provided evidence for the psychological impacts that efforts to live up to parental expectations may have on Taiwanese college students.

In a more overarching sense, Wang and Heppner's (2002) empirical support for the existence of academically related expectations and the psychological consequences of attempting to live up to such expectations provided the psychological community with scientific evidence for the ways in which the deeply rooted Confucian values concerning education and family can ultimately affect a Taiwanese individual's functioning. The values extolled by Confucianism concerning education and family appear to set the conditions for a dynamic within the family that might put great pressure on the sons and daughters to set high personal standards and succeed at a very high level academically. Furthermore, if an individual perceives that there is a gap between the standards she thinks she must set for herself based on parental expectations and her actual performance, she may experience psychological distress in the form of anxiety and depression. In light of the fact that family relationships remain mutually dependent into adulthood, it is likely that this dynamic may persist for a great portion of a Taiwanese individual's life.

Hao-Xue-Xin.

While filial piety and parental expectations represent two possible interpersonal pressures on Taiwanese students to succeed, they may not represent a comprehensive understanding of how the emphasis on education and achievement arises within individuals from Taiwan. Recent research has also uncovered a more internally focused

construct that may help perpetuate the Confucian ideal with respect to education and achievement. This construct is known as Hao-Xue-Xin (HXX) or the “heart and mind for wanting to learn” (Li, 2002, p. 250).

Li (2002) suggests that HXX represents a complex system of learning in individuals which is central in the lives of many Chinese people. Through qualitative inquiry with a sample of 122 Chinese college seniors, Li uncovered four central dimensions of HXX: cognition, morality, affect, and behavior. Li contended that the four dimensions came together within the individual to create a comprehensive sense of HXX.

In the cognition dimension of HXX, Li (2002) discovered an ideal for learning that emphasized the definition of knowledge as a need to reach personal perfection. In other words, participants in the study focused less on what constitutes knowledge and instead thought about knowledge in terms of its purpose. Furthermore, Li described the entire cognitive dimension of HXX as a “personal epistemology” that “defines the human search for more knowledge as coming from the need to perfect oneself” (p. 257). Li goes on to suggest that this view of seeking knowledge is rooted in Confucian tradition and seen as synonymous with the purpose of one’s life. In other words, a synthesis of the purposes of life and learning occurs.

The moral dimension of Li’s conceptualization of HXX extends on the ideal of self-perfection through learning by illustrating the link between learning and moral development. Li points out that learning and the process of moral development complement each other. Specifically, learning increases one’s sense of morality, and in turn, a moral person has a better understanding of the importance of learning over the course of her life. Interestingly, Li notes that the 122 participants in her study

unanimously agreed that learning had to do with morality. The unanimous agreement among participants in this study points to the higher purpose of learning beyond the instrumental goal of gaining knowledge.

In terms of the behavioral dimension, Li (2002) points out that a strong sense of HXX includes personal diligence and determination during the learning process. Important to this notion of diligence is a concurrent belief that intelligence is not entirely inherent. Contrary to the notion of intelligence as a hereditary trait, most Chinese individuals in Li's study believed that intelligence was the combination of inherent ability and hard work. In other words, everyone has the ability to achieve self-perfection through learning as long as they study hard, persevere, and provide lifelong effort, even in the case of hardship.

Li's final dimension turned to the affective dimension of HXX. Participants linked emotions such as happiness and gratitude towards their family for support with unspecified good learning outcomes. Conversely participants linked bad learning outcomes with such affective reactions as shame, guilt, and depression. These findings lend more credibility to the notion that learning and academic achievement represent two highly critical components of life in Confucian cultures.

The importance of the affective dimension of HXX does not end with the individual. More than any other dimension in Li's conceptualization of HXX, the affective dimension takes into account the social nature of learning. Specifically, the affective reactions of shame and guilt arise in the context of the previously mentioned construct of filial piety. That is to say, participants showed great concern over how poor learning experiences would upset their respective families who have given so much

support during the learning process. Conversely, participants would feel great pride after a good learning experience as well as an appreciation of the support provided by their family.

The social nature of Li's (2002) affective dimension shows the complex interplay between individual and interpersonal components of Confucian thought in societies such as Taiwan. While the above commentary discusses Confucian ideals concerning education and filial piety as arising from two distinct sources (i.e. individuals and the family), Li's discoveries concerning the social nature of the affective dimension of HXX point to a connection between individual and collective domains within Confucian cultures. These findings connect back to Confucius's original concept of the family as one physical being with each individual representing a part or extension of that being (Hwang, 1999).

Taken together, the interpersonal and individual manifestations of Confucian values point towards a unique position of esteem for education and academic achievement within cultures such as that of Taiwan. Through overarching Confucian principals, filial piety, and Hao-Xue-Xin, individuals from Confucian cultures show themselves to have a great focus on learning and achievement throughout their lifetime. As such, it appears highly likely that individuals in Confucian cultures, and specifically Taiwanese culture, would possess high personal standards for achievement. Moreover, these individuals likely experience stress and a resulting need to cope when engaging in academic activities (i.e. Heppner et al., 2006). As a result, research investigating perfectionism and coping against the backdrop of a society rooted in Confucian values seems appropriate.

Investigating Perfectionism and Coping in Taiwanese Culture

Overall, a paucity of published research exists that examines the multidimensional construct of perfectionism in cultures that espouse Confucian values. In fact, only two published studies were located that investigated the multidimensional construct of perfectionism as measured by the Almost Perfect Scale-Revised (APS-R; Slaney, et al., 2001) in societies that incorporate Confucian values into their culture, and of those two only one looked specifically at Taiwanese culture (see Wang, et al., 2009; Wang, et al., 2007). Although these studies represent the entirety of the research on multidimensional perfectionism as measured by the APS-R within East Asian cultures, they provide very important information.

Wang et al.'s (2009) study investigated adaptive and maladaptive perfectionism among two samples of high school students from Hong Kong. An important finding from Wang's study emerged from the exploratory and confirmatory factor analyses done on the APS-R. According to Wang et al., the analyses supported the existence of the high standards, discrepancy, and order factors that have emerged from similar analyses using American samples. Furthermore, adaptive and maladaptive perfectionism correlated with psychological functioning in a manner comparable to findings from American samples. Specifically, maladaptive perfectionists experienced higher levels of depression and loneliness than their adaptive counterparts.

While similarities between the Hong Kong samples and American samples were observed, some differences emerged as well. Unlike previous American samples (i.e. Grzegorek et al., 2004, Rice & Ashby, 2007), Wang et al. found no significant differences between maladaptive perfectionists and nonperfectionists on the basis of

psychological distress such as depression. Wang et al. offered the interpretation that discrepancy, or a perceived gap between one's standards and actual performance, might stem from ingrained societal values in Hong Kong's culture, and therefore, might also exist within individuals who do not hold high standards. When framed in the context of Hao-Xue-Xin's cognitive and behavioral perspective of learning as a lifelong process requiring consistent diligence (Li, 2002), this interpretation makes sense. An individual, no matter how high she currently sets her standards, may consistently adjust those standards in an upward fashion over the course of her life in order to reflect a lifelong commitment to learning and honoring the family. This could lead to an increased level of perceived discrepancy among individuals in a Confucian culture.

While Wang et al. (2009) provided interesting findings concerning perfectionism in an East Asian culture, the nature of their sample somewhat limits its generalizability to Taiwanese culture. Wang et al.'s 2007 study concerning perfectionism in East Asian cultures, however, did focus specifically on college students in Taiwan. Findings from this study provided evidence comparable to U.S. studies on perfectionism (i.e. Rice & Ashby, 2007; Slaney & Rice, 2002). Specifically, adaptive perfectionists experienced lower levels of depression and anxiety than did their maladaptive counterparts. In addition, a confirmatory factor analysis provided support for the validity of the APS-R among the sample of Taiwanese students.

Much like the Hong Kong study, however, important differences emerged from the Taiwanese data when compared to U.S. samples. Most interestingly, a fourth group beyond adaptive perfectionists, maladaptive perfectionists and non-perfectionists emerged. The fourth group consisted of individuals with high levels of discrepancy, but

relatively low levels of high standards (Wang et al., 2007). Similar to his Hong Kong study, Wang offered an interpretation based on Confucian values. Specifically, Wang suggested that respondents in the fourth group might perceive a discrepancy between their performance and standards that are actually set by others, such as parents. Since the high standards subscale measures personally set standards, it may not have picked up this particular difference. These findings offer more evidence concerning the influence that the complex context of Taiwan may have on perfectionism. Ultimately, the mix of evidence that both aligns with and departs from American findings helps to lay the groundwork for more research concerning perfectionism within Taiwanese culture.

Similar to perfectionism, research concerning coping in cultures other than the United States remains scant. Heppner et al. (2006) point out that most research concerning coping constructs like applied problem solving have used mainly white American samples, and thus see research using diverse samples as necessary. As a result, Heppner et al. created the Collectivist Coping Styles Inventory (CCS). In measuring coping styles, The CCS incorporates many of the Confucian values present in Taiwanese culture. For instance, the CCS measures an individual's persistence in attempting to overcome a traumatic situation. The idea of persistence in overcoming a problem is reminiscent of the diligence aspect of Hao-Xue-Xin, especially when faced with hardship or obstacles in learning.

The CCS also identifies family support as a key coping style in Taiwanese culture. The use of family support appears to align well with Confucian thought concerning the nature of family and filial piety. In a similar vein, Heppner et al. (2006) identified avoidance and detachment as a coping style in Taiwanese culture. The use of

avoidance and detachment could relate to filial piety as well in terms of trying to save face and keep the honor of the family intact. Finally, it is worth noting that academic pressure represented the second most endorsed traumatic event by participants in Heppner et al.'s study. Taken together, these coping styles and their related events bring into focus the clear effect that culture has on psychological constructs.

Ultimately, Heppner et al. (2006) have uncovered unique coping styles that appear to be born out of collectivist culture and at least somewhat rooted in Confucian thought. The identification of these coping styles and the subsequent creation of an empirically based measure based on such styles provide researchers with a starting point for investigating coping's role in Taiwan and other similar cultures. In fact, Heppner et al. specifically call for research examining the possible mediating role that collectivist coping styles may have between personality traits and psychological distress. Taken together with the identified lack of research concerning coping and perfectionism with diverse groups (i.e. Heppner, et al., Mobley, et al., 2005), the need for more diverse research in psychology (i.e. Arnett, 2008; Chen & Mak, 2008; Kim, Atkinson, Umemoto, 2001), and support for the mediational role coping plays between perfectionism and psychological and achievement variables (i.e. Dunkley et al., 2000; Dunkley, et al., 2003, Nounopoulos, et al., 2006) it appears that investigating a mediational model that includes perfectionism, coping styles, psychological adjustment, and achievement variables among a sample of Taiwanese college students is warranted.

Appendix B

Informed Consent

INFORMED CONSENT FORM

University of Missouri

密蘇里大學

Department of Educational, School, and Counseling Psychology

教育, 學校 及 心理諮商 系

Title: Perfection, Coping, and Stress

題目: 完美主義，因應方式，以及壓力

Principal Investigator: Reid Trotter, M.S.

主要研究者: Reid Trotter, M.S.

Dear Students

親愛的學生們,

We respectfully invite you to participate in a research study.

我們誠摯的邀請您參予這項研究調查。

The purpose of the study is to investigate the relationship between personality, coping styles, and academic stress in college students.

此項調查的主要目的是研究大學生的性格，因應方式和學業壓力之間的相互關係。

If you participate in this study, you will be asked to complete a survey on personality, coping, and stress.

若您願意參予此次的研究，您需要填寫一份有關性格，因應方式以及壓力的問卷。

Surveys will be given in class and should take about 20 minutes to complete.

我們將會在課堂中進行問卷調查，整個過程大約需要二十分鐘。

Also, your participation in this study will be completely anonymous. The information you

provide will not be able to be linked to your name.

爲了確保您的隱私，您所提供的資料將會完全匿名。

Through this study you may learn about your own personality and coping styles.

透過這個研究，您將有機會對於您的個性及因應方式有更深入的了解。

What we learn from the study may help us to better understand college students in Taiwan and how you cope with academic stress.

這項研究的結果將會幫助我們有機會更了解台灣大學生及台灣大學生對於課業壓力的因應方式。

Your grade will in no way be affected by your participation, or decision not to participate, in the study. Furthermore, your participation in this study is voluntary and you may stop participation at any time. No known risks to you exist by participating in this study.

不論您是否願意參與研究，您的成績不會受到這次問卷調查的影響。您的參與是志願性的，在任何時刻您都有權力終止。

Sometimes responding to questions about stress can remind us of past stressful events. These memories can be uncomfortable.

參與這份研究無須您冒任何風險。在回答某些有關壓力的問題時，可能會因爲勾起過去的回憶而造成您的不適。

If you feel uncomfortable as a result of responding to this survey, please notify the survey administrator who will be able to assist you.

在任何時候，如果問卷中的問題造成您的不適，請通知執行問卷調查的工作人員讓他們給予您適當的協助。

Thank you very much for participating in our study!

非常感謝您的參與!

Appendix C

Test Instructions and Demographic Questions

The following questions ask you about your personality, feelings, and experiences with academic pressure and stress. Please record your answers on the answer sheet provided to you. Please use only the pencil provided to you and make sure to completely darken the circle on the answer sheet that corresponds with your answer. Also, there are several different sets of directions contained in the survey. Please read each set of directions before answering the questions below that set of directions. Thank you.

請您在答案紙右上方的空白處寫下您的學期平均成績。

Please record your current grade point average on the top right corner of your answer sheet.

回答以下的問題，請在表格單中選擇符合您答案的數字，並將其填滿。

Please complete the questions below by filling in the number on the answer sheet that corresponds with your answer.

1. 請選擇您的性別。

1. What is your gender?

1 = 女性

1 = female

2 = 男性

2 = male

2. 請選擇您的年級。

2. What is your year in college?

1 = 一年級

1 = freshman

2 = 二年級

2 = sophomore

3 = 三年級

3 = junior

4 = 四年級

4 = senior

Appendix D

The Almost Perfect Scale – Revised (APS-R)

下列各題旨在衡量人們對自己、對自己的表現和對別人的看法。這些題目沒有對或錯的答案。請你以第一個感覺回答所有題目，並不要在個別題目花費太多時間。

The following items are designed to measure attitudes people have toward themselves, their performance, and toward others. There are no right or wrong answers. Please respond to all of the items. Use your first impression and do not spend too much time on individual items in responding.

答題時，請以下表分析你對各題的同意程度，並圈上所代表的數字。

Respond to each of the items using the scale below to describe your degree of agreement with each item. Put a circle in the appropriate number.

		極不同意 Strongly Disagree	不同意 Disagree	有點不同意 Slightly Disagree	中立 Neutral	有點同意 Slightly Agree	同意 Agree	極為同意 Strongly Agree
3.	我對自己在職場或學校的表現有很高的標。 I have high standards for my performance at work or at school.	1	2	3	4	5	6	7
4.	我是個井井有條的人。 I am an orderly person.	1	2	3	4	5	6	7
5.	我經常因為未能達到自己的目標而感到無。 I often feel frustrated because I can't meet my goals.	1	2	3	4	5	6	7
6.	整齊對我而言很重要。 Neatness is important to me.	1	2	3	4	5	6	7
7.	你若是對自己沒有太多的期望，你便永遠不會成功。 If you don't expect much out of yourself, you will never succeed.	1	2	3	4	5	6	7
8.	我的最大努力，對我來說總是還不夠好。 My best just never seems to be good enough for me.	1	2	3	4	5	6	7
9.	我認為東西應該收拾好放回原來的地方。 I think things should be put away in their place.	1	2	3	4	5	6	7
10.	我對自己的期望很高。 I have high expectations for myself.	1	2	3	4	5	6	7

11.	我很少達到自己定下的高標準。 I rarely live up to my high standards.	1	2	3	4	5	6	7
12.	我喜歡保持有條不紊和自律的習慣。 I like to always be organized and disciplined.	1	2	3	4	5	6	7
13.	盡我全力，對我來說總是還不夠。 Doing my best never seems to be enough.	1	2	3	4	5	6	7
14.	我對自己定下很高的標準。 I set very high standards for myself.	1	2	3	4	5	6	7
15.	我對自己的成就總是不滿意。 I am never satisfied with my accomplishments.	1	2	3	4	5	6	7
16.	我期望自己盡全力。 I expect the best from myself.	1	2	3	4	5	6	7
17.	我常擔心不能達到自己的期望。 I often worry about not measuring up to my own expectations.	1	2	3	4	5	6	7
18.	我的表現很少達到自己的標準。 My performance rarely measures up to my standards.	1	2	3	4	5	6	7
19.	即使知道自己已經盡了全力，也還是不滿意。 I am not satisfied even when I know I have done my best.	1	2	3	4	5	6	7
20.	我凡事都盡全力去做。 I try to do my best at everything I do.	1	2	3	4	5	6	7
21.	我很少能達到對自我表現所定下的高標準。 I am seldom able to meet my own high standards of performance.	1	2	3	4	5	6	7
22.	我幾乎不曾對自己的表現感到滿意過。 I am hardly ever satisfied with my performance.	1	2	3	4	5	6	7
23.	我幾乎不曾覺得自己所做的已經夠好了。 I hardly ever feel that what I've done is good enough.	1	2	3	4	5	6	7
24.	我有追求卓越的強烈需要。 I have a strong need to strive for excellence.	1	2	3	4	5	6	7
25.	我常在完成任務後感到失望，因為我知道自己其實可以做得更好。 I often feel disappointment after completing a task because I know I could have done better.	1	2	3	4	5	6	7

Appendix E

The Collectivist Coping Styles Inventory (CCS)

第2部分：處理壓力事件的方式

Part II. Strategies for Dealing with Academic Pressure.

以下是一連串人們用來處理課業壓力事件的方式。請儘量誠實地作答，以正確地反應出這些方式是否有效地幫助你解決你之前所提到的那一次壓力事件。在這裡沒有一定正確或錯誤的答案。

Below is a list of strategies that some people use to respond to academic pressure. Please respond to the following items as honestly as possible to accurately reflect how effective or non-effective this strategy was in helping you **to resolve academic pressure**. There are no correct, or right or wrong answers.

作答時請使用下列量表指出每一樣方式幫你解決課業壓力的程度。

Please read each statement, and **indicate how much each item helped you toward resolving academic pressure**. In doing so, use the following alternatives.

如果你從未使用過某種解決課業壓力的方式，請選1

“從未使用過這種方式 / 或這種方式不適用於我的情形”。但是如果你使用了某種方式，並發現它一點幫助都沒有，請選2 “使用過但一點幫助都沒有”。

If you **never used** the strategy mentioned in the statement, you would indicate number 1, “Never used this strategy/Not applicable”. But, if you **used** the strategy **but did not find it to be helpful**, please indicate number 2, “Used but of no help at all”.

如果你使用了某種方式並發現它對你有幫助，請想想看並指出它對你幫助的程度，答案可以從3 (有點幫助) 到6 (極端地有幫助)。

If you used the strategy and found it helpful, think **about what level it was helpful at**, and indicate it on the scale from 3 which is of “A little help” to 6 which is “A tremendous amount of help”.

請注意：以下的問題(第20-

49題)並非在問你使用各種創傷平復方式的頻率，而是希望你回答每一樣方式如何幫助你平復之前所指出的那一次課業壓力事件：

Note: The following questions are NOT asking how frequently you engage in the various coping activities. Rather, please indicate how much each item helped you toward resolving Academic Pressure:

1 = 從未使用過這種方式 / 或這種方式不適用於我的情形

1 = Never used this strategy/Not applicable

2 = 使用過但一點幫助都沒有

2 = Used but of no help at all

3 = 有點幫助

3 = A little help

4 = 中等程度的幫助

4 = A moderate amount of help

5 = 滿大的幫助

5 = A great deal of help

6 = 極端地有幫助

6 = A tremendous amount of help

26. 經由禱告或其他宗教儀式

Through prayer or other religious rituals.

27. 從我信仰的宗教中尋求指引和方向

Found guidance from my religion.

28. 照著較年長的人（比如父母親或年紀較長的親戚）所教導的方式去做

Followed the guidance of my elders (e.g., parents, older relatives).

29. 相信我能從這次傷痛中走出來並因此而成長

Believed that I would grow from surviving the traumatic event.

30. 順其自然

Waited for time to run its course.

31. 照著我家人處理傷痛的方式和期望去做

Followed the norms and expectations of my family about handling traumatic events.

32. 從我的宗教或精神信仰中得到慰藉

Found comfort from my religion or spirituality.

33. 不告訴任何人以保全我的面子

Saved face by not telling anyone.

34. 相信年長的人在傳統上用來解決傷痛的智慧

Placed trust in my elders' traditional wisdom to cope with the trauma.

35. 假裝沒事

- Pretended to be OK.
36. 藉由分析我的感覺來發現自己接下來應該怎麼做
Analyzing my feelings provided me with ideas about how to proceed.
37. 不把負面情緒發洩在我周遭的人身上
Not vented my negative feelings to some people around me.
38. 為了能長久解決我的傷痛，我會在傷痛發生後的短時間內先避免面對它
Avoided thinking about the trauma for a short time for the peace of mind.
39. 告訴我自己我可以想到有效的方法(來平復傷痛)
Told myself that I could think of effective ideas.
40. 知道我可以從家人那裡得到幫助增加了我的(解決傷痛)的信心
Knew that I could ask assistance from my family increased my confidence.
41. 藉由從我個人不認識的專業人員 (如心理諮商師，社工或精神醫師)
那裡尋求建議以顧全面子
Saved face by seeking advice from a professional (e.g., counselor, social worker, psychiatrist) I did not know personally.
42. 和我的家人分享我的感覺
Shared my feelings with my family.
43. 為了能獲得支持，我在網路上和人們討論這個創傷事件
Chatted with people about the trauma on the Internet in order to gain support.
44. 為了顧全面子，我只自己思考這個問題
To save face, only thought about the problem by myself.
45. 為了不讓我父母擔心，我把我的感覺留在心裡
Kept my feelings within myself in order not to worry my parents.
46. 接受這個創傷事件是我命運的一部份
Accepted the trauma as fate.
47. 和我周遭的人維持良好的關係
Maintained good relationships with people around me.
48. 主動從專業人員那裡尋求協助 (如心理諮商師，社工或精神科醫師)
Actively sought advice from professionals (e.g., counselors, social workers, psychiatrists).
49. 相信會否極泰來
Realized that often good comes after overcoming bad situations.
50. 吃大量的食物 (或是不吃東西)
Ate in excess (or not eating).
51. 瞭解這個創傷事件在我生命中有重要的目的
Realized that the trauma served as an important purpose in my life.
52. 從我的宗教信仰的角度來思考這個創傷事件發生的意義

Thought about the meaning of the trauma from the perspectives of my religious beliefs.

53. 告訴自己我可以讓我的計畫及想法行得通

Told myself that I could make my plans and ideas work.

54. 剛開始去平復傷痛時，試著去接受這個創傷事件帶給我的經驗

As a starting point, tried to accept the trauma for what it offered me.

55. 經由家人的幫助支持(來平復傷痛)

Through family assistance and support.

Appendix F

The Center for Epidemiological Studies-Depression Scale (CES-D)

在以下各題目中，圈選你過去這一個禮拜以來你有下列各項行為或感受的頻率。

Using the scale below, circle the number which best describes how often you felt or behaved this way -- DURING THE PAST WEEK.

1 = 沒有或幾乎沒有（少於1天）

1 = Rarely or none of the time (less than 1 day)

2 = 有少許或一些時候（1-2天）

2 = Some or a little of the time (1-2 days)

3 = 有時或經常（3-4天）

3 = Occasionally or a moderate amount of time (3-4 days)

4 = 大多時候或總是如此（5-7天）

4 = Most or all of the time (5-7 days)

DURING THE PAST WEEK:		沒有 ／ 幾乎沒有	有少許 ／ 一些時候	有時 ／ 經常	大多時候 ／ 總是如此
56	我被一些平常不太會令我煩心的事情所困擾 I was bothered by things that usually don't bother me	1	2	3	4
57	我胃口不好，不怎麼想吃東西 I did not feel like eating; my appetite was poor	1	2	3	4
58	即使有家人及朋友的幫助，我仍無法擺脫低落的心情 I felt that I could not shake off the blues even with help from my family or friends	1	2	3	4
59	我覺得自己不比別人差 I felt that I was just as good as other people	1	2	3	4
60	我不太能夠集中注意力做事 I had trouble keeping my mind on what I was doing	1	2	3	4
61	我感到心情沮喪 I felt depressed	1	2	3	4
62	我覺得自己做每件事情都很辛苦 I felt that everything I did was an effort	1	2	3	4
63	我對未來充滿希望 I felt hopeful about the future	1	2	3	4
64	我覺得自己的人生很失敗 I thought my life had been a failure	1	2	3	4
65	我感到害怕 I felt fearful	1	2	3	4
66	我睡得不好 My sleep was restless	1	2	3	4
67	我很快樂 I was happy	1	2	3	4

68	和平常相比, 我較少說話 I talked less than usual	1	2	3	4
69	我覺得寂寞 I felt lonely	1	2	3	4
70	周遭的人不太友善 People were unfriendly	1	2	3	4
71	我喜歡自己的生活 I enjoyed life	1	2	3	4
72	我會哭泣 I had crying spells	1	2	3	4
73	我感到難過 I felt sad	1	2	3	4
74	我覺得別人不喜歡我 I felt that people disliked me	1	2	3	4
75	我提不起「勁」 I could not get "going"	1	2	3	4

Appendix G

The State Anxiety-Trait Anxiety Inventory – State Portion (SAI)

下面是一些人用來描述自己的句子。作答時，請依據你現在的感受～（也就是這個時刻）
～按照各項感受的程度，在右方的格子處，圈選適當的數字。（*present feelings*）

		現在的感受			
		一點也沒有	有一點	頗有	非常
76. I feel calm	我覺得鎮靜	1	2	3	4
77. I feel secure	我覺得安全	1	2	3	4
78. I am tense	我很緊張	1	2	3	4
79. I am regretful	我後悔	1	2	3	4
80. I feel at ease	我覺得輕鬆自在	1	2	3	4
81. I feel upset	我覺得不如意	1	2	3	4
82. I am presently worrying over possible misfortunes	我現在就會為可能發生的不幸而擔憂	1	2	3	4
83. I feel rested	我覺得安閒	1	2	3	4
84. I feel anxious	我覺得焦慮	1	2	3	4
85. I feel comfortable	我覺得舒適	1	2	3	4
86. I feel self-confident	我覺得有自信	1	2	3	4
87. I feel nervous	我覺得焦急	1	2	3	4
88. I am jittery	我覺得神經過敏	1	2	3	4
89. I feel “high strung”	我覺得神經緊張	1	2	3	4
90. I am relaxed	我覺得舒暢	1	2	3	4
91. I feel content	我覺得滿足	1	2	3	4
92. I am worried	我擔憂	1	2	3	4
93. I feel over-excited and “rattled”	我覺得太激動而且急躁不安	1	2	3	4
94. I feel joyful	我覺得高興	1	2	3	4

		現在的感受			
		一點也沒有	有一點	頗有	非常有
95. I feel pleasant	我覺得愉快	1	2	3	4

Appendix H

The Rosenberg Self-Esteem Inventory (RSI)

請以下列評分方式回答你對下列各題的同意程度，在答案紙上填上你所選擇的答案並將其填滿。

Please use the scale below to rate your agreement with the following statements. Fill in the number on the answer sheet that corresponds with your answer.

評分方式： 1=非常同意 2=同意 3=不同意 4=非常不同意

1=strongly agree 2=agree 3=disagree 4=strongly disagree

96. 我感覺自己是一個有價值的人，至少跟別人比起來有相同的價值。

I feel that I'm a person of worth, at least on an equal plane with others.

97. 我感覺到自己有許多優點。

I feel that I have a number of good qualities.

98. 對於所有的一切，我都傾向感覺到自己是一個失敗者。

All in all, I am inclined to feel that I am a failure.

99. 我能將事情做的跟別人一樣好。

I am able to do things as well as most other people.

100. 我覺得自己沒有什麼事情可以引以為傲。

I feel I do not have much to be proud of

101. 我對自己保持一種正向的態度。

I take a positive attitude toward myself.

102. 大致上我對自己很滿意。

On the whole, I am satisfied with myself.

103. 我希望我能更看得起我自己。

I wish I could have more respect for myself.

104. 有時我認定自己是沒用的。

I certainly feel useless at times.

105. 有時我真覺得自己一無是處。

At times I think I am no good at all.

感謝您完成這項問卷!

Thank you for completing the survey!

Vita

Reid Trotter was born in Asheville, North Carolina on October, 31st, 1975. He spent the first 18 years of his life in Asheville before attending college. Reid graduated from the University of North Carolina at Chapel Hill in 1998 with a Bachelor's degree in Psychology. After graduating, he spent seven years working in various capacities in the human services field. He returned to graduate school in 2005 and earned a Master's in counseling from Georgia State University in 2007. He is currently a doctoral candidate in the Counseling Psychology program at the University of Missouri.

