

Codependency among College Students in the United States and Taiwan: A Cross-
Cultural Study

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This dissertation titled
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Abstract

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Codependency among College Students in the United States and Taiwan: A Cross-Cultural Study (164 pp.)

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The purpose of this study was to compare and examine codependency and cultural values of individualism and collectivism reported by college students in the USA and Taiwan. Using cross-sectional data, this study also examined the relationships of codependency with gender, family functioning, self-esteem, and psychological adjustment in college students in these two countries. Convenience sampling was used, with the final two cultural comparison samples comprising 101 undergraduate students from a public university in the Midwest of the USA and 176 undergraduates from a private university in Taiwan. After controlling for differences in cultural orientations, hierarchical multiple regression analyses were employed to assess the relationships between codependency and cultural orientations as well as to determine the predictors of codependency in the total sample and the two cultural groups. The results indicated that codependency was related to cultural values, particularly interdependent/collectivistic cultural orientations, in college students in both Taiwan and the USA. The results also indicated that college students in Taiwan had higher levels of codependency than their counterparts in the USA after controlling for differences in cultural orientations. While gender, family functioning, self-esteem, and psychological adjustment were all significantly predictive of codependency in college students in the U.S. group, gender

was not a significant predictor in the Taiwanese group. Contrary to the views of some scholars regarding codependency being higher in females, the results of this study indicated that college males had higher levels of codependency than females in both of the cultural groups. However, only the gender difference found in college students in the USA was statistically significant. While family functioning, self-esteem, and psychological adjustment were all significant predictors of codependency, the importance of those predictors was somewhat different for each cultural group. Further, the results of follow-up analyses showed specific differences in the subscales of codependency as well as the two cultural orientations in college students in the USA and Taiwan. The implications of these findings for counseling college students who experience codependency in both countries as well as suggestions for future research are discussed.

Approved: _____

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Chapter 1: Introduction

Background of the Study

The construct and definitions of codependency. The construct of codependency evolved from the chemical dependency field in the treatment of families of alcoholics, and has become a popular term among mental health professionals as well as the general public since its inception in the late 1970s (see Haaken, 1993, and Morgan, 1991, for reviews). Originally, codependency referred to recognizable patterns of behaviors and attitudes characteristically found in family members or spouses of an alcoholic (Cermak, 1986). In recent years, the construct of codependency has been associated with exposure to any chronic stressful events within the family environment such as physical, sexual, or emotional abuse, neglect, or excessive trauma (Loughead, 1991).

Codependency is defined as “a pattern of painful dependence on compulsive behaviors and on approval from others in an attempt to find safety, self-worth, and identity” (Wegscheider-Cruse & Cruse, 1990, p.8). Based on a synthesis of codependency literature, Hughes-Hammer, Martsof, and Zeller (1998a) suggested that the core concept of codependency is other focus/self-neglect. These authors also proposed four codependency subconcepts: low self-worth, hiding self, family of origin issues, and medical problems. Dear, Roberts, and Lange (2005) reviewed eleven published definitions of codependency, and found that the core defining features of codependency include external focusing, self-sacrificing, controlling others, and suppressing one’s emotions. It has been suggested that codependency stems from the development of survival behaviors in dysfunctional families, where children come to

overcompensate for parental inadequacies and develop an excessive sensitivity to the needs of others (Haaken, 1993; Whitfield, 1991). Whitfield (1991) maintained that codependency is a disease of lost selfhood and is fundamentally about disordered relationships with self and others. People who are codependent tend to neglect their own needs and develop excessively other-oriented caretaking behaviors in order to seek identity and emotional fulfillment through external relationships (Favorini, 1995; Whitfield, 1991). Furthermore, Whitfield maintained that codependency is a learned behavior and is reinforced by societal systems and values.

In the USA, Schaefer (1987) suggested that codependency is a widespread problem in society, supported and encouraged by the prevalent culture. Bradshaw (1988) and Whitfield (1991) further suggested that people who grew up in dysfunctional families are subject to codependency. Adapting Cermak's (1986) suggested diagnostic criteria for codependency, Whitfield maintained that 95 percent of people in the USA who grew up in dysfunctional families may experience varying degrees of codependency (1991, p. 51).

However, the construct of codependency has been criticized by several scholars due to its broad definitions and overgeneralization, lack of clinical consensus and empirical study, as well as gender or cultural bias (Anderson, 1994; Brown, 1996; Granello & Beamish, 1998; Hogg & Frank, 1992). Criticism has also been levied against instruments to assess and measure codependency. Stafford (2001) reviewed codependency measurements and research on codependency measures, and argued that the diagnostic criteria are too vague and various to achieve a consensus on the assessment of codependent traits and disorders.

Gender, culture and codependency. Feminist scholars have criticized the construct of codependency on the basis of gender and labeling bias (Anderson, 1994; Collins, 1993; Frank & Blank, 1992; Frank & Golden, 1992; Granello & Beamish, 1998; Haaken, 1993; Hogg & Frank, 1992). They contended that while women have been traditionally socialized to be nurturing, caring, helpful, and sensitive to the needs of others, the construct of codependency has been used to blame and label women with caretaking characteristics without taking societal and cultural issues into account. Haaken (1993) suggested that codependency might refer to an ideal society based on equality and cooperation rather than to a disease that requires individual recovery. In addition, Granello and Beamish (1998) argued that the construct of codependency uses the male emphasis on individuation and autonomy as the normative standard for mental health.

From a culturally diverse perspective, Inclan and Hernandez (1992) argued that the construct of codependency implies and supports Anglo values of individuation and individualism, which are not necessary congruent with values such as familism of other cultures such as the Hispanic cultures. Lam (1997) noted that in contrast to the emphasis on autonomy and individualism in Western cultures, collectivism is the dominant ideology in Asian cultures. Rather than an emphasis on independence as well as on personal needs and achievement, collectivism is characterized by the subordination of personal goals and needs to those of the in-group for the collective good (Triandis, 1995).

The Chinese and Taiwanese cultures are rooted in Confucian philosophy and embodied in a collective context (Lam, 1997; Wang & Heppner, 2002). Family loyalty

and interpersonal harmony are highly valued and individuals are expected to take responsibility and care for other people, especially family members. Further, Chinese and Taiwanese people are socialized to be emotionally restrained and engage in self-suppression (Yang, 1986). In such a cultural context, it may be socially desirable and culturally acceptable for individuals to develop other-oriented and self-effacing attitudes and behaviors that could be construed as codependent traits.

College students and codependency. Evolved from unresolved family of origin issues, codependency refers to a disturbance in self and relational development (Wells, Glickauf-Hughes, & Bruss, 1998; Whitfield, 1991). Codependency is marked by enmeshed and other-oriented caretaking patterns that are exercised at the expense of autonomous self development in order to maintain secure relationships (Cermak, 1986; Wells et al., 1998; Wells, Hill, Brack, Brack, & Firestone, 2006). It includes an under-developed sense of self as well as boundary distortions, which may result in relationship difficulties (Wells et al., 1998; Whitfield, 1991).

Traditional-aged (18-25) college students are viewed as being in the transition from adolescence to adulthood (Arnstein, 1984; White, 1980). Arnstein (1984) suggested that two stages in Erikson's (1968) theory of psychosocial development could be easily applied to college students during this time in their lives. These stages include identity versus role confusion characteristic of late adolescence, and intimacy versus isolation characteristic of early adulthood (Erikson, 1968). Self-identity and intimacy are essential developmental issues for the majority of this population. It is important for college students to achieve self-identity and develop true intimacy without losing themselves in

intimate relationships. Also, one vital part of identity formation is to be able to psychologically separate from the family, although college students may still need parents' emotional support in the process (Chen, 1995; Lucas, 1997).

In both Western countries and Taiwan, research findings and clinical observations have consistently shown codependency and dysfunctional relationships in college student populations (Charkow & Nelson, 2000; Chen & Wu, 2008; Chen, Wu, & Lin, 2004; Cretser & Lombardo, 1999; Cullen & Carr, 1999; Wells et al., 2006). College students who are codependent tend to have relationship difficulties and lower levels of intimacy in their significant relationships. They tend to be insecure and ambivalent in intimate relationships, and exhibit self-sacrificing styles and other-oriented caretaking behaviors to maintain a secure relationship. In addition, research findings have also shown that codependency is associated with low self-esteem, parentified behaviors, shame-proneness and psychological maladjustment in college populations (Chen & Wu, 2008; Cullen & Carr, 1999; Wells, Glickauf-Hughes, & Jones, 1999). With some differences, research findings in the USA and Taiwan have consistently suggested that codependency represents a shame-based self characteristic significantly related to low self-esteem.

In fact, research in both Western countries and Taiwan has found that codependency traits are not just associated with adolescents or college students from alcoholic or chemical dependent families, but that various types of family stress and dysfunction may be predictive of codependency (Crothers & Warren, 1996; Cullen & Carr, 1999; Fuller & Warner, 2000; Parker, Faulk, & LoBello, 2003; Roehling, Koelbel, & Rutgers, 1996; Tsai & Wu, 2003). The results of Roehling et al.'s (1996) study further

suggested that the relationship between codependency and parental alcoholism is mediated by abusive parenting practices associated with parental alcoholism, not by the alcoholism per se. The results of Fuller and Warner's (2000) study also suggested that parental alcoholism is neither a necessary nor sufficient condition for the development of codependency. In Taiwan, Wu and Wu (1999) found that young adolescents' perceptions of family violence, particularly parental verbal abuse were predictive of codependency traits. Accordingly, these research findings consistently indicate that codependency is related to family of origin experiences and that individuals from stressful or dysfunctional families tend to develop codependency traits that are excessively other-oriented and focused outside oneself.

Despite the feminist critiques of codependency, many current research findings with college populations indicate high levels of codependency without significant gender or race differences (Cretser & Lombardo, 1999; Cullen & Carr, 1999; Fuller & Warner, 2000; Springer, Britt, & Schlenker, 1998; Wells, et al., 1998, 1999, 2006). Further, in some studies, contrary to expectations, male college students were found to have significantly higher levels of codependency than females (Chen & Wu, 2008; Cretser & Lombardo, 1999; Wu & Wu, 2005). While some studies (e.g., Cowan, Bommersbach, & Curtis, 1995; Dear & Roberts, 2002) have incorporated cultural variables such as gender-role identification and power to further examine codependency and gender differences in college populations, the results are not definitive. The current research was undertaken to gain greater clarity on the role that cultural factors might play in the development of codependency traits.

Statement of the Problem

Prior research conducted separately in Taiwan and in the USA has reported high levels of codependency as well as related traits and correlates among college students in both these countries. However, there is limited work comparing the presence of codependency in participants from the two countries.

While existing research on codependency has examined how cultural values may relate to codependency and related factors in different cultural contexts, these studies have focused narrowly on certain cultural aspects. Several studies have examined the relationship between codependency and cultural values such as gender-role orientation and power. But the results are mixed due to different research methodology used (Cowan, Bommersbach, & Curtis, 1995; Dear & Roberts, 2002; Hsu & Wu, 2004; Noriega, Ramos, Medina-Mora, & Villa, 2008; Roehling et al., 1996). Further, some of these studies only included female adult samples (e.g., Hsu & Wu, 2004; Noriega et al., 2008).

Current research findings in Taiwan have shown that Taiwanese cultural values are essentially other-oriented, which may have specific influence on the development of codependency in college students. As a result, researchers in Taiwan (Chen & Wu, 2008; Tsai & Wu, 2003) have suggested that future study on codependency needs to take cultural factors into account. Further, while recent research in Taiwan has examined the relationship between codependency and relationship functioning and intimacy in college students, other related symptoms or characteristics have not been addressed.

Accordingly, the purpose of this study was to compare and examine college students' codependency in different cultural contexts by conducting a cross-cultural

comparison study in the USA and Taiwan. Instead of gender-role orientation and power, this study focused on individualistic/collectivistic cultural orientations as cultural values and examined the relationship between college students' codependency and cultural orientations in the USA and Taiwan. The main research questions this study focused on was if there was a significant relationship between codependency and cultural orientations as well as if there was a significant difference in codependency in college students in the USA and Taiwan when cultural orientations were taken into account. In addition, supplementing recent research on codependency in college student populations, this study also examined and compared the relationships between codependency and family of origin experiences, self-esteem, psychological adjustment, and gender in these two cultural groups.

Research Questions

The following research questions were addressed to determine the level of codependency in college students in Taiwan and the USA, and to understand the relationship between codependency and cultural orientations. Further, the relationships between codependency and other related characteristics including cultural group, gender, family of origin experiences, self-esteem, and psychological adjustment were examined after cultural orientations were taken into account.

Question 1: Is there a relationship between codependency and cultural orientations in college students in Taiwan and the USA?

Question 2: Are cultural group, gender, family of origin experiences, self-esteem, and psychological adjustment predictive of codependency in college students in Taiwan and the USA after differences in cultural orientations are adjusted?

Question 3: Which related characteristics are predictive of codependency in college students for each of the two cultural groups after differences in cultural orientations are adjusted?

Question 4: What differences exist in codependency in college students in Taiwan and the USA?

Question 5: What differences exist in cultural orientations in college students in Taiwan and the USA?

Null Hypotheses

In order to determine the presence of codependency in college students in Taiwan and the USA, and to examine the relationships between codependency and cultural orientations as well as the five related characteristics the following null hypotheses were tested.

Null Hypothesis 1: There is no significant relationship between codependency and cultural orientations in college students in Taiwan and the USA.

Null Hypothesis 2: There is no significant relationship between codependency and the five related characteristics in college students in Taiwan and the USA after differences in cultural orientations are adjusted.

Null Hypothesis 3: There is no significant relationship between codependency and the other four related characteristics in college students for each of the two cultural groups after differences in cultural orientations are adjusted.

Null Hypothesis 4: There is no significant difference in codependency between college students in Taiwan and the USA.

Null Hypothesis 5: There is no significant difference in cultural orientations between college students in Taiwan and the USA.

Significance

The significance of this study is that it augmented current literature on codependency in college students and examined cultural components of codependency. By examining cultural values and comparing codependency among college students in Taiwan and the USA, the study aimed to assess if there is a cultural-specific element to codependency or if it is a universal human condition derived from a limiting family environment (Whitfield, 1991). Further, the study augmented prior research by exploring the relationships between codependency and related characteristics such as family-of-origin experiences, self-esteem and psychological adjustment in college students in Taiwan and the USA. The findings are of significance to enhance multicultural counseling practice, and are likely to provide important implications for counseling college students who experience codependency in both countries.

Limitations and Delimitations of the Study

Limitations. There are three main limitations in this study. First, the cultural comparison samples in this study were drawn from undergraduate students from a

university in Taiwan and a university in the USA. Students in each university were solicited mainly from general education courses, and the sample sizes between the USA and Taiwan were unequal. This limits generalizability of the findings. Second, participants in the study were not randomly assigned to control and experimental groups. Therefore while the relationships between variables can be studied, causal links between codependency and other correlates can not be established. Finally, it was not possible to include and examine all moderating variables on codependency such as social status and support.

Delimitations. Based on current literature, the study included family of origin experiences, self-esteem, psychological adjustment, and gender as correlates and examined the relationship between codependency and these correlates. Other variables that might relate to codependency such as attachment styles, intimacy and relationship difficulties, as well as identity development were not included. As for cultural values, this study only focused on individualistic/collectivistic cultural orientations as covariates and examined the difference in codependency between college students in Taiwan and the USA. Besides, college students were delimited to undergraduate students from a private university in Taiwan and a public university in the Midwest of the USA.

Definitions of Terms

Attachment styles. Attachment styles refer to the way people typically relate to others in close relationships. Hazan and Shaver (1987) extended attachment theory to adult romantic relationships and corresponded the descriptions of secure, anxious, and avoidant attachment styles to adults in intimate relationships. People with a secure

attachment style tend to have positive views of their relationships and feel comfortable with intimacy. People with an anxious-preoccupied attachment style tend to feel anxious and preoccupied in their relationships and seek high levels of intimacy, approval, and responsiveness from their partners. Finally, people with an avoidant attachment style tend to have negative views of close relationships and fear or feel uncomfortable with intimacy.

Codependency. Hughes-Hammer et al. (1998a) developed and tested the Codependency Assessment Tool (CODAT), and found that the core symptom of codependency is other focus/self-neglect. They also found four associated symptoms of codependency including low self-worth, hiding self, family of origin issues, and medical problems. While low self-worth, hiding self, and family of origin issues are overlapped with the core symptom, medical problems are conceptualized as a result of both the core and those three associated symptoms (Hughes-Hammer et al., 1998a). Dear, Roberts, and Lange (2005) reviewed eleven published definitions of codependency, and found that the core defining features of codependency include external focusing, self-sacrificing, controlling others, and suppressing one's emotions. Further, to distinguish the construct of codependency from healthy, stereotypically feminine characteristics like caretaking as well as to avoid labeling bias, Fuller and Warner (2000) suggested that an operational definition of codependency can be clarified as an excessive focus outside oneself related to a stressful family environment. To summarize, based on key concepts in current literature, codependency mainly refers to excessively other-oriented caretaking traits and behaviors that are derived from a stressful or dysfunctional family environment.

Cultural values/orientations. Cultural values refer to standards or norms in a community or society. In this study, individualism-collectivism orientations are used as cultural values. Singelis, Bond, Sharkey, and Lai (1999) suggested that individualism-collectivism is the most frequently researched dimension of culture highlighting differences between Western and Asian cultures. While individuals with individualistic cultural orientations emphasize independence, autonomy, and personal goals and achievement, individuals with collectivistic cultural orientations value interdependency, cooperation, and collective good over personal rights (Triandis, 1995). Although individualism and collectivism can be viewed as opposite poles of a single continuum, Singelis et al. (1999) maintained that the two cultural orientations can coexist to varying degrees within individuals. They further suggested that individuals from collectivistic culture tend to have more interdependent self, whereas individuals from individualistic culture tend to have more independent self.

Gender. Gender may have various definitions. It can be used interchangeably with sex to refer to males, females, and transgendered individuals, or to refer to the socially constructed roles, behaviors, and attitudes that are expected of persons based on their biological sex (Robinson-Wood, 2009, p. 13). In this study, gender refers to one's biological sex, being male or female.

Independent/Individualistic self. Related to cultural orientations, independent/individualistic self refers to an individual's view of self that is independent and separate from social contexts (Singelis et al., 1999). According to Singelis et al. (1999), individuals with more independent/individualistic self tend to focus on their own

abilities, thoughts, feelings, and goals rather than those of other people. They also tend to focus on others' individual characteristics and attributes rather than relational or contextual factors (Singelis et al., 1999).

Interdependent/Collectivistic self. In contrast, interdependent/collectivistic self refers to an individual's view of self that is interdependent with the surrounding context. According to Singelis et al. (1999), individuals with more interdependent/collectivistic self tend to focus on other people and their relationships with those others. Also, their senses of themselves are intertwined with others, and their behaviors tend to be regulated by relational or contextual factors (Singelis et al., 1999). Similar to cultural orientations, Singelis et al. maintained that the two aspects of self, that is, independent/individualistic and interdependent/collectivistic self, are orthogonal and coexist to varying degrees within individuals based on the cultural environment.

Loss of self. According to Horney (1951/1999), loss of self refers to an alienation from one's real self or feeling of identity, which could develop in a child as a defense against the adverse influences of parents. Researchers (Cowan et al., 1995; Crothers & Warren, 1996) have related the concept of codependency to a loss of self. Further, Crothers and Warren (1996) found that loss of self is a major component of codependency and suggested that an alienation from or loss of self which is derived from the experience of an abusive childhood may be an early version of codependency.

Psychological adjustment. Psychological adjustment refers to an individual's emotional and/or behavioral functioning in response to stress. When experiencing significant stress, an individual may develop psychological adjustment problems such as

depression, anxiety, or other somatic complaints. In this study, psychological adjustment was evaluated by four dimensions of psychological ill-health including somatic symptoms, anxiety and insomnia, social dysfunction, as well as severe depression (Goldberg & Williams, 1988).

Self-esteem. Self-esteem refers to how individuals view themselves and evaluate their own worth. According to Rosenberg (1965), self-esteem is defined as self-acceptance or a basic feeling of self-worth.

Summary

This chapter presented background information and the importance of the research study. The definitions and cultural issues related to the construct of codependency were introduced along with the problem statement and research questions proposed for the study. The limitations and delimitations of the study as well as definitions of terms were also presented. The existing literature related to theoretical assumptions and current research findings of codependency will be critically reviewed in the next chapter.

Chapter 2: Review of literature

Introduction to the Literature

In the existing professional and self-help literature, codependency has been conceptualized as an addiction (Norwood, 1985) or addictive process (Schaefer, 1987), a disease (Wegscheider-Cruse, 1987; Whitfield, 1991), a personality disorder (Cermak, 1986), a dysfunctional relational pattern (Beattie, 1987; Wright & Wright, 1999), as well as learned helplessness (O’Gorman, 1993). However, there is some overlap among these conceptualizations. For example, Schaefer (1987) also defined codependency as a disease that grows out of an addictive process with an onset, a definable course, and a predictable outcome. Wegscheider-Cruse (1987) characterized codependency as a personality trait that predisposes the individual to pathological dependence on a person or object. From their empirical findings, Wright and Wright (1999) described codependency as either a personality trait that evolves from dysfunctional families of origin or a way of relating that is circumstantial and reactive. In addition, all of the conceptualizations seem to indicate that codependency is a learned or survival behavior that results from a dysfunctional family environment. Accordingly, the symptoms or characteristics of codependency include self-sacrificing and low self-esteem, boundary distortions and relationship difficulties, external focusing and overcontrolling, inability to meet personal needs and wants, as well as other compulsive disorders (Cermak, 1986; Whitfield, 1991).

However, the construct of codependency has been criticized for the lack of a universally accepted definition, consistent measurement, and empirical research (Fagan-Pryor & Haber, 1992; Stafford, 2001; Wright & Wright, 1999). Based on a synthesis of

codependency literature, Hughes-Hammer, Martsof, and Zeller (1998a) suggested that the core concept of codependency is other focus/self-neglect. These authors also proposed four codependency subconcepts: low self-worth, hiding self, family of origin issues, and medical problems. While low self-worth, hiding self, and family of origin issues are overlapped with the core symptom, medical problems are conceptualized as a result of both the core and those three associated symptoms (Hughes-Hammer et al., 1998a). Dear, Roberts, and Lange (2005) recently reviewed eleven published definitions of codependency and looked for common elements by undertaking a systematic thematic analysis. They identified four core defining features of codependency and suggested that codependency can be summarized as a combination of external focusing, self-sacrificing, attempting to control other people, and suppressing one's emotions. In the current study, codependency is viewed as comprising these four core features. To elaborate further, people who are codependent tend to excessively focus on other people's behaviors, opinions and expectations in order to get approval and acceptance from them. Furthermore, they tend to neglect their own needs in order to meet the needs of others, assume responsibility for resolving others' problems, and suppress their emotions. In their analysis, Dear et al. (2005) also found a number of other psychological phenomena such as substance use disorders, relationship problems, and low self-esteem, but these concomitants of codependency were separated from the core defining features. Finally, they suggested researchers need to develop psychometrically sound measures of the four components of codependency in order to provide evidence that the syndrome of codependency actually exists.

Using existing personality assessments such as Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943) and Millon Clinical Multiaxial Inventory-II (MCMI-II; Millon, 1987), researchers (Hoenigmanne-Lion & Whitehead, 2006; Loughead, Spurlock, & Ting, 1998; Martin & Piazza, 1995; Roehling & Gaumond, 1996; Wells et al., 1998) have investigated and examined the symptoms of codependency as well as its relationship with other psychological disorders already recognized by the *DSM-IV* (APA, 2000). Consistently, codependency has been found to correlate with self-defeating, borderline, and passive-aggressive personality characteristics in clinical as well as college student populations. Similar to most of the conceptualizations of codependency, these research findings suggested that people who are codependent tend to have low self-esteem as well as undeserving self-image and relate to others in a self-sacrificing manner. They are also concerned with maintaining the care and emotional support of others and yet are anxious and ambivalent about it.

However, the research findings also suggested that codependency may be a combination of disorders already extant in the *DSM-IV* (APA, 2000) and that it may not be necessary to describe codependency as a separate and distinct personality disorder or clinical syndrome (Hoenigmanne-Lion & Whitehead, 2006; Loughead et al., 1998; Martin & Piazza, 1995). For example, the results in Loughead et al.'s (1998) study showed that self-identified codependent participants do not appear to exhibit severe pathology or clinical syndromes on the MCMI-II. In a sample of 207 female clients, Martin and Piazza (1995) found the mean MMPI profile for women diagnosed as codependent is not significantly different from that of a normal sample. The results in

their study further indicated that codependency is not a separate personality trait, but is indicative of women presenting with combined personality disorders or a pattern of situationally adaptive behaviors. The results of Hoenigmanne-Lion and Whitehead's (2006) study also showed that college students who are codependent have underlying cognitive distortions similar to those showing borderline and dependent personality traits. As a result, Hoenigmanne-Lion and Whitehead (2006) suggested that codependency may be a superfluous term and that it may be unnecessary to invent a new clinical category for the pattern of codependent behaviors.

Although some researchers (Hoenigmanne-Lion & Whitehead, 2006; Martin & Piazza, 1995; Stafford, 2001) have argued that codependency is not a valid or useful clinical concept for a distinct category of pathology, others (Morgan, 1991; Noriega & Ramos, 2002) have suggested it is a useful concept to describe human behaviors in terms of self and relational problems. In the professional literature, researchers (e.g., Farmer, 1999; Prest & Protinsky, 1993) have proposed theoretical frameworks for codependency and its treatment and research. Particularly, recent research has found high levels of codependency as well as related traits and correlates among college students in both Western countries and Taiwan. Furthermore, despite feminist critiques of codependency for its gender or cultural bias (Anderson, 1994; Collins, 1993; Granello & Beamish, 1998), research findings in college student populations seem to indicate that codependency is neither gender nor race specific (e.g., Cretser & Lombardo, 1999; Wells et al., 1998, 1999, 2006). Even though some studies (e.g., Cowan et al., 1995; Dear & Roberts, 2002) have incorporated cultural variables such as gender-role identification and

power to examine codependency and gender differences, the results are mixed due to different methodology used.

The remainder of this chapter critically reviews proposed theoretical frameworks for conceptualizing codependency and current studies on codependency among college students in Western countries, mainly USA, and college students in Taiwan. The theoretical assumptions from different perspectives are reviewed, and the related traits and correlates of codependency found in separate studies are organized and examined. The review concludes with a summary and critique of existing literature, followed by a discussion of the specific research questions suggested by the review and examined in this dissertation.

Critical Review of Theoretical Assumptions of Codependency

Many authors and researchers have made contributions to the understanding of codependency. In addition to addiction theories, authors have also used family systems theories, personality and development theories, as well as feminist perspectives to conceptualize codependency (Haaken, 1993; Schaef, 1986; Wegscheider-Cruse & Cruse, 1990). As a result, the following review presents the theoretical assumptions of codependency from the family systems, developmental, and feminist perspectives.

Family systems perspectives on codependency. O’Gorman (1993) conceptualized codependency as learned helplessness in alcoholic families where children or family members learned to discount their inner reality and developed codependent styles of relating to others. However, the construct of codependency has been expanded and conceptualized as a primary phenomenon in dysfunctional family

systems other than alcoholism (Wegscheider-Cruse, 1987; Whitfield, 1991). Recent research has proposed family systems frameworks to conceptualize codependency with an aim to provide a theoretical base for systemic research and clinical work.

In the professional literature, Bowen's (1978) family systems theory has been consistently used to provide a theoretical framework for codependency (Fagan-Pryor & Haber, 1992; Gibson & Donigian, 1993; Prest & Protinsky, 1993; Scaturro, Hayes, Sagula, & Walter, 2000). These authors suggested that several concepts in Bowen's family systems theory can be appropriately applicable to codependency, including differentiation of self, emotional fusion, triangulation, and the multigenerational transmission process. Particularly, Fagan-Pryor and Haber (1992) suggested that social and cultural contexts can be taken into account when applying Bowen's concept of undifferentiated self to codependency.

According to Bowenian theory, people in the family system are driven by two counterbalancing life forces, that is, togetherness and individuality. The ideal goal is to balance these two forces and achieve emotional maturity, differentiation of self in the system. Differentiation of self includes both an intrapersonal and an interpersonal aspect, and individuals who are differentiated are able to think logically and not to respond automatically to emotional pressures (Kerr & Bowen, 1988; Prest & Protinsky, 1993). They are able to connect with other people but at the same time maintain their own autonomy even in the face of anxiety. The opposite pole of differentiation of self is fusion. Individuals who are undifferentiated tend to be emotionally reactive and fused with other people around them. They may have little sense of self and spend much

energy seeking others' approval particularly from authority figures or significant others (Fagan-Pryor & Haber, 1992; Gibson & Donigian, 1993; Kerr & Bowen, 1988). The characteristics associated with an undifferentiated self correspond to the characteristics of codependency, and are likely heightened in individuals facing development and situational stressors (Fagan-Pryor & Haber, 1992; Prest & Protinsky, 1993). In order to cope with the anxiety involved in relationships and systems, people may engage in triangulation. Triangulation with another person, substance, and activity is used to maintain the stability in relationship systems (Gibson & Donigian, 1993; Prest & Protinsky, 1993). Eventually, the triangle itself becomes pathological, resulting in decreased differentiation and functionality in the system.

Thus, from the family systems perspective, the etiology of codependency evolves from lack of differentiation in the family emotional system, which in turn results in external focusing, caretaking, and compulsive behaviors as well as complementary relationship patterns. Further, codependent coping styles developed to alleviate discomfort and anxiety in the family system are transmitted to succeeding generations as couples or partners relate to each other with similar levels of differentiation or fusion learned in their families of origin (Prest & Protinsky, 1993; Scaturro et al., 2000).

Although Bowen's concept of undifferentiated self has been equated with codependency, little published research has examined the relationship between codependency and the level of differentiation. Two unpublished research studies examined the relationship between codependency and the level of differentiation. Hillborg (1995) found a significant moderate negative correlation between codependency

and the level of differentiation among 241 nursing students in the USA. Yearning (2002) found group differences for codependency on the degree of family-of-origin health and on levels of differentiation in a family of origin between codependent and non-codependent adults in a sample of 243 predominantly Caucasians in the USA. While the findings in Yearning's study indicated no significant gender differences in codependency and differentiation in a family of origin, they did indicate that codependency is not strictly associated with alcoholism and that codependency is related to family of origin functioning. Thus there is some support for the etiology of codependency from the family systems perspective.

Developmental perspectives on codependency. In addition to the family systems theory, authors such as Cermak (1986, 1991) and Whitfield (1991) have used personality and development theories to conceptualize codependency. Whitfield (1991) conceptualized codependency as a loss of true self along with development of excessively other-oriented caretaking behaviors resulting from fear of abandonment in an unhealthy family and society. Cermak (1986, 1991) conceptualized codependency as a set of personality traits involving difficulties in developing intimacy as well as identity, and those traits complement narcissism. Other authors (Farmer, 1999; Morgan, 1991) in psychological literature have tried to conceptualize codependency from developmental and psychodynamic perspectives. They traced the relational pattern of codependency back to early development and suggested that codependency is a result of unresolved developmental issues as well as deficits in personality structure.

For example, Morgan (1991) referred to Horney's (1951/1999) concept of morbid dependency as an early description of codependency. According to Horney, early childhood experiences, particularly difficulties or unsatisfied experiences with parents, have an impact on individuals' interpersonal styles. To avoid or defend against pain, frustration, or unmet developmental needs, three broad categories of interpersonal coping strategies are developed: moving toward, moving against, and moving away from people (Horney, 1951/1999; Teyber, 1997). Individuals with moving-toward strategies tend to be self-effacing and compliant with others. They also tend to please and care for others in order to get approval and affection. Individuals with moving-against strategies tend to be in control of themselves and others. They tend to exhibit anger or hostility to those around them and keep people away from them. They may have great needs for power, social recognition, and personal achievement. Those with moving-away-from strategies tend to be avoidant, withdrawn, and self-sufficient. They also tend to suppress or deny their feelings towards others. Horney theorized that individuals with moving-toward strategies have an alienation from their real self and have a much greater tendency to morbid dependency than those with moving-against or moving-away-from strategies. This is similar to Cermak (1986, 1991) and Whitfield's (1991) conceptualizations of codependency.

Farmer (1999) used object relations theory and self psychology to conceptualize codependency. However, unlike Cermak's (1991) viewpoint that codependency complements narcissism, Farmer argued that codependency is also a manifestation of narcissistic entitlement, although it is frequently hidden and expressed in a subtle form.

Nonetheless, they both believed codependency arises during the symbiotic phase of early childhood development and interrupts the separation-individuation phase, which in turn has a profound influence on later relationships.

According to Cermak (1991), the origins of both codependency and narcissism involve defective mirroring and responsiveness from parents. While narcissism is related to children's unsatisfied needs to identify with an idealized image of the parents, codependency is related to children's unsatisfied needs to be appreciated by their parents. Thus, Cermak suggested that codependent and narcissistic traits are complementary. Individuals with narcissistic traits look for others' attention and mirroring, whereas individuals with codependent traits seek to relate to others by mirroring them. However, Farmer (1999) argued that individuals with codependent traits also exhibit a sense of entitlement to have others change some aspects of themselves that make them uncomfortable. As a result, people who are codependent may use external focusing or caretaking behaviors to defend against the underlying, impaired self. However, Farmer also argued that people who are codependent see others as extensions of themselves and may not have a genuine compassion for others. Because they spend lots of energy focusing on others' needs and behaviors, they may not be aware of the existence of their entitlement dynamics and its destructive impact on their relationships. Finally, Farmer suggested that effective treatment should include an understanding of developmental underpinnings of codependency and support for mature adult functioning.

Recent researchers (Irwin, 1995; Wells et al., 2006) have investigated the relationship of codependency and narcissism, but the results seem inconclusive. For

example, Irwin (1995) found a significantly positive relationship between codependency and narcissism tested by a narcissistic personality disorder scale from MMPI in a sample of 190 Australian adults. Particularly, narcissism was the most powerful of the predictors among age, gender, and narcissistic tendencies in the study. However, Irwin also found a significantly negative relationship between codependency and narcissistic tendencies tested by another narcissism personality inventory. Similarly, Wells et al. (2006) found a significantly negative relationship between codependency and overt narcissism measured by the same narcissism personality inventory in a sample of 163 American college students. They also found a significantly positive relationship between codependency and covert narcissism in the study. Although the findings in Wells et al.'s study seem to support the viewpoints of Cermak (1991) and Farmer (1999), as Irwin suggested, further research needs to examine which specific aspects of narcissism and underlying developmental processes are related to codependency.

Feminist perspectives on codependency. The construct of codependency has been largely criticized for pathologizing the characteristics associated with women, and authors (Anderson, 1994; Collins, 1993; Hogg & Frank, 1992) have addressed gender or cultural issues and reconstrued codependency from feminist perspectives. For example, Hogg and Frank (1992) proposed an interpersonal model and differentiated codependent behaviors from contradependent behaviors. Contradependency is defined as “a behavioral tendency to separate oneself from others to prevent being emotionally hurt” (Hogg & Frank, 1992, p. 372). Although contradependent behaviors appear to be very different from codependency, Hogg and Frank argued that they are both interpersonal

strategies people learn to meet their emotional needs of connection and autonomy and have the same psychological mechanism. They further argued that gender or cultural values may have a great impact on the particular interpersonal style people use to fulfill their emotional needs. While codependent behaviors are associated with stereotypically feminine gender roles, contradependent behaviors are associated with stereotypically masculine gender roles. Finally, Hogg and Frank suggested that codependency and contradependency can be viewed as two extreme interpersonal styles on a continuum and that the treatment for codependency and contradependency should recognize the different emotional needs and a healthy balance between interpersonal connection and autonomy.

Collins (1993) argued that the disease model of codependency overlooks social contexts and external factors as well as blames women for traditional female gender roles. Applying the self-in-relation theory, Collins further argued that women may have different developmental paths from men. Instead of separation and individuation, women may develop and define the self through connection and interaction in relationships. Further, because women tend to have less power in a relationship, they may have greater difficulties in affecting the adverse or dissatisfied relational interaction. Therefore, Collins reconstrued codependency as lack of mutual engagement, empathy, and empowerment. Finally, she suggested that women should be empowered to care for and be responsible for themselves and others and that they must be enabled to pursue mutually empathic as well as affirming relationships.

Similarly, Anderson (1994) also contended that power inequality and gender role expectations contribute to codependency and relationship problems. She argued that the

codependency model overlooks the impact of social structures and cultural factors on women's development and problems. She further proposed an empowerment approach that includes both personal development and social action to help women resolve their difficulties. Women are encouraged to not just gain awareness of traditional gender roles and power imbalance in their lives, but also take action to change their environments. They are encouraged to reconnect with rather than separate from their families of origin and assume personal responsibility to change their current life situation. Finally, Anderson suggested that treatment based on those empowerment principles can augment the existing codependency literature.

To sum up, theoretical assumptions from different perspectives seem to provide a better understanding of the construct of codependency. Recent research has been conducted to test these theoretical assumptions in order to further understand the development and related characteristics of codependency. The following section critically reviews empirical studies on codependency in college student populations.

Critical Review of Research on Codependency in College Students

The theoretical underpinnings of codependency discussed above have helped with a greater awareness and understanding of the concept. Researchers have moved beyond that point by developing and using different codependent measures to investigate and examine the characteristics of codependency as well as related traits and correlates in college student populations. The critical review of current research findings on college students' codependency is presented in terms of family of origin experiences, self and relationship characteristics, as well as gender and cultural effects.

Codependency and family of origin experiences in college students. In early formulations of codependency, it was assumed that children or family members from families experiencing alcoholism or chemical dependence tended to develop codependent traits and behaviors. However, research studies on differences between college adult children of alcoholics (ACOAs) and non-ACOAs in the United States failed to support the hypothesis that ACOAs have higher levels of codependency than their non-ACOAs counterparts (Hewes & Janikowski, 1998; Jones, Perera-Diltz, Salyers, Laux, & Cochrane, 2007). Although Beesley and Stoltenberg (2002) found significant differences between ACOAs and non-ACOAs in their need for control and relationship satisfaction, there was no significant difference between the two groups in terms of attachment style. These findings seem to suggest that individuals from dysfunctional families experiencing challenges other than alcoholism may have similar issues and tend to develop codependent traits and behaviors.

Research in both Western countries and Taiwan has found that codependency is related not just to alcoholism or chemical dependence in families but to various types of chronic family stressors that may be predictors of codependency (Crothers & Warren, 1996; Cullen & Carr, 1999; Fischer & Crawford, 1992; Fuller & Warner, 2000; Tsai & Wu, 2003). In addition to parental chemical dependency, other family stressors may include perceived parenting styles (Crothers & Warren, 1996; Fischer & Crawford, 1992), parental abuse (Tsai & Wu, 2003), as well as parental mental and physical health (Cullen & Carr, 1999; Fuller & Warner, 2000; Tsai & Wu, 2003). In some studies, parental chemical dependency was even found not to be significantly related to college students'

codependency. For example, Crothers and Warren (1996) examined the relationship between adult codependency and parental antecedents in a sample of 442 American undergraduates. The results of their study indicated that rather than parental chemical dependency, maternal and paternal codependency as well as maternal coercion are significant predictors of codependency.

In another study, Cullen and Carr (1999) investigated the relationship between codependency and family of origin experiences, intimate relationship functioning, personal adjustment, and gender in a sample of 384 college students in Ireland. The results of their study showed there were no significant gender differences in codependency in the college sample. Further, individuals with high codependency scores reported significantly more family of origin difficulties and parental mental health problems, problematic intimate relationships, and personal psychological problems. Contrary to expectations, the high codependency group did not contain more individuals whose parents had alcoholic or drug abuse problems, or a higher level of childhood physical or sexual abuse. Rather, the high codependency group had more parental mental health problems and family of origin dysfunction especially in terms of the clarity of roles as well as level of emotional or affective expression. As a result, Cullen and Carr suggested that codependency is not unique to the family members of parents with drug and alcohol abuse problems or those who have been physically or sexually abused. Individuals from dysfunctional families where there is a lack of role clarity and affective expression, and where parents have mental health problems were deemed to be in a family environment that promoted the development of codependency.

In a similar vein, with a sample of 257 undergraduates in England, Fuller and Warner (2000) reported that parental alcoholism is neither a necessary nor sufficient condition for the development of codependency. Rather, college students from stressful family environments in which a parent experienced alcoholism, mental illness, or physical illness had significantly higher codependency scores on both of two codependency measures. The findings lend support to theoretical formulations that other types of family stress or dysfunction, not exclusively parental alcoholism, can lead to codependency.

Additional research studies conducted in Taiwan and the USA have found that codependency is related to other types of family stress such as perceived childhood maltreatment and parent-child relationships (Parker, Faulk, & LoBello, 2003; Reyome & Ward, 2007; Tsai & Wu, 2003; Wu & Wu, 1999). In Taiwan, with a sample of 713 adolescents aged 16 to 18 years, Wu and Wu (1999) found that young adolescents' perceived family violence, particularly parental verbal abuse, can predict their codependency traits. Research by Parker et al. (2003) as well as Reyome and Ward (2007) also indicated a significant relationship between parental abuse, either emotional or physical abuse, and codependent tendencies in undergraduate nursing students. These findings consistently suggest that codependency is highly associated with family of origin experiences, especially emotional maltreatment. Reyome and Ward suggested that emotional maltreatment during childhood may affect one's sense of self and self-worth, which in turn may lead to the development of codependent traits.

Tsai and Wu (2003), in a sample of 723 senior high school students in Taiwan, found that adolescents from a stressful family environment had significantly higher levels of codependency, particularly in identified caretaking behaviors and lack of expression of feelings. Results of their study further indicated significant positive relationships between adolescent codependency and perceived negative affection, lack of autonomy, and stress related to paying parents back for their support in the parent-child relationship for both males and females. Tsai and Wu noted that in addition to the struggle for autonomy, the findings may imply the specific influence of Taiwanese cultural values on codependency. These cultural values include an emphasis on filial piety and emotional restraint. Tsai and Wu suggested that researchers need to further examine the relationship of codependency with other elements of family background as well as the influence of cultural factors on codependency.

In summary, current research with college students has consistently pointed to significant relationships between codependency and family of origin experiences in both Western countries and Taiwan. In particular, these studies have found that codependency is related to a stressful family environment, and it is not limited to families experiencing alcoholism or chemical dependence. Other family stressors related to dysfunctional families may be predictors of codependency among adolescents and college students. In the following section, theoretical assumptions and current research findings on the related traits and characteristics of codependency in college students are also reviewed and discussed.

Codependency and self and relationship characteristics. Consistent with Whitfield's (1991) conceptualization of codependency as a loss of true self along with the development of other-oriented caretaking behaviors, researchers have found that codependency in college student populations is highly correlated with loss of self (Crothers & Warren, 1996), external locus of control (Springer et al., 1998), and parentified behaviors (Wells et al., 1999). Research has also found that codependency in college student populations is significantly associated with shame-proneness (Chen & Wu, 2008; Wells et al., 1999), low self-esteem or self-confidence (Lindley, Giordano, & Hammer, 1999; Springer et al., 1998; Wells et al., 1999), relationship difficulties (Chen & Wu, 2008; Chen, Wu, & Lin, 2004; Cretser & Lombardo, 1999; Cullen & Carr, 1999; Wells et al., 2006), as well as psychological problems (Cullen & Carr, 1999; Springer et al., 1998). Among them, low self-esteem and relationship difficulties are the most codependency-related characteristics consistently found among college students in the current studies in Western countries and Taiwan. Related to low self-esteem, psychological or emotional problems such as overwhelming shame, guilt, and anxiety are thought to be common among people who are codependent. For example, Springer et al. (1998) found that codependency is associated with high social anxiety in addition to low self-esteem. The results of Cullen and Carr's (1999) study indicated the high codependency group had more psychological problems including anxiety, depression, somatic complaints, and social dysfunction. The high codependency group also reported greater compulsivity and lower self-esteem.

However, certain research studies in both the USA and Taiwan highlighted some inconsistencies in findings related to characteristics associated with codependency. For example, Wells et al. (1999) found that low self-esteem, shame-proneness, and parentified behaviors were significantly related to codependency characteristics in a sample of 200 American undergraduates. Low self-esteem accounted for most of the variance in codependency in the study. An unexpected finding was that guilt-proneness was significantly but inversely related to codependency. Accordingly, Wells et al. suggested that codependency represents a shame-based organization of the self characterized by low self-esteem, rather than guilt-proneness.

Contrary to the findings of Wells et al. (1999), in a study with 678 Taiwanese undergraduates who were or had been in dating relationships, Chen and Wu (2008) reported that college students with more codependency characteristics tended to have stronger feelings of shame and guilt, and weaker feelings of pride. Further, using canonical correlation analysis, Chen and Wu indicated that college students with codependent characteristics in Taiwan tended to feel pride when they could care for others, and shame and guilt when they only focused on themselves and did not care for others. As a result, Chen and Wu suggested the research findings not only support the shame-based essence of codependency consistent with previous research findings in the USA, but also reflect traditionally Taiwanese cultural values that are essentially other-oriented.

According to Whitfield (1991), relationship difficulties are the most basic characteristics of codependency, since codependency is about a distortion of healthy

relationships. As a result of identity diffusion and boundary distortions, people who are codependent may attempt to derive personal meaning and invest self-esteem through excessive and controlling caretaking of significant others (Cermak, 1986; Wells et al., 1998). In both Western countries and Taiwan, current research findings have consistently indicated the relationship between codependency and dysfunctional relationships in college populations.

In Ireland, college students with high levels of codependency were found to be in relationships with a chemically dependent partner and had greater difficulties in the functioning of current or recent relationships (Cullen & Carr, 1999). In the USA, college students with high levels of codependency tended to also report codependent characteristics such as external focusing and overcontrolling in their current significant relationships (Charkow & Nelson, 2000; Cretser & Lombardo, 1999). Furthermore, codependency was found to be negatively correlated with secure attachment style but positively correlated with insecure attachment styles such as preoccupied and avoidant attachment styles (Springer et al., 1998; Wells et al., 2006). While attachment styles were significantly related to codependency, the results in Wells et al.'s (2006) study particularly indicated that the relationship between codependency and preoccupied attachment was not stronger than that between codependency and avoidant attachment. The study results also indicated that codependency was related to self-defeating and covert narcissistic characteristics. As a result, Wells et al. suggested that college students with codependency characteristics may function in relationships with insecure self-sacrifice and caretaking. Also, they may fear being hurt in relationships and avoid

intimacy as much as be preoccupied with a concern over maintaining or controlling a secure relationship (Wells et al., 2006).

Similarly in Taiwan, codependency was found to be related to relationship functioning and intimacy in college populations. Chen, Lin and Wu (2004) and Chen and Wu (2008) studied college students who were or had been in dating relationships. They reported individuals with more codependency characteristics tended to have lower levels of intimacy. Further, they tended to have more conflict and ambivalence as well as less satisfaction in their intimate relationships. However, there were some findings in Chen and Wu's study that appeared to be contrary. Using canonical correlation analysis, they found that Taiwanese college students with more intimacy and satisfaction in their intimate relationships tended to care more for others and express themselves. Also, students with lower self-worth and less family of origin problems tended to have less conflict and ambivalence and more satisfaction in relationships. It is possible these findings may be explained by adherence to Taiwanese cultural values that are other-oriented as well as emphasize interpersonal harmony. As a result, Chen and Wu suggested that future studies need to take cultural contexts into account when examining the relationship between codependency and related characteristics.

In summary, recent research has found codependency and related symptoms or characteristics in college populations. In most studies, codependency was consistently found to be significantly related to low self-esteem and intimate relationship difficulties in both Western countries and Taiwan. However, research findings in Taiwan have suggested the specific influence of Taiwanese cultural values on codependency and

related characteristics. An overview of current studies from feminist perspectives on codependency and gender and cultural effects follows.

Codependency and gender and cultural effects. In the next sections, issues of codependency as it relates to gender and culture will be examined. Current research findings on gender or racial differences in codependency will be critically reviewed in the first section. Further, research findings on the association between codependency and other cultural variables such as power and gender-role identification will be examined in the second section.

Gender or racial effects on codependency. As mentioned previously, feminists have criticized the construct of codependency due to its gender or cultural bias (Anderson, 1994; Collins, 1993; Granello & Beamish, 1998) suggesting that women are penalized for culturally endorsed care-giving behaviors. Despite feminist criticisms of codependency, several research studies with college populations in Western countries and Taiwan reported no significant gender or cultural effects on codependency (Cretser & Lombardo, 1999; Cullen & Carr, 1999; Fuller & Warner, 2000; Springer et al., 1998; Wells et al., 1998, 1999, 2006). In some studies, contrary to expectations, male college students were found to have significantly higher levels of codependency than females (Chen & Wu, 2008; Cretser & Lombardo, 1999; Wu & Wu, 2005).

These research findings related to gender and codependency may have been affected by the different samples and codependency measures used. For example, using the Spann-Fischer Codependency Scale (Fischer, Spann, & Crawford, 1991) to measure codependency, Cullen and Carr (1999) did not find significant gender differences in

codependency, but Lindley, Giordano and Hammer (1999) as well as Fuller and Warner (2000) did. The results in these two latter studies showed that female college students had significantly higher codependency scores than males on the Spann-Fischer scale. Fuller and Warner (2000) also used the Potter-Efron Codependency Assessment (Potter-Efron & Potter-Efron, 1989) to measure codependency in the same sample. However, the results on the two self-report scales were somewhat different in terms of gender differences in codependency. While the two scales were found to be moderately positively correlated, the study results indicated a significant gender difference on the Spann-Fischer scale but not on the Potter-Efron scale. Fuller and Warner suggested that although the two scales detect similar aspects of codependency, they may tap different components of codependency that are not reported equally by men and women. The Spann-Fischer scale seems to contain elements that may be more acceptable to women and perhaps more consistent with female sex role stereotypes, whereas the Potter-Efron scale seems to contain elements that may be somewhat more acceptable to men.

Research studies in Taiwan have reported similarly inconsistent findings regarding gender differences in codependency measures. Using the Spann-Fischer scale (Fischer, Spann, & Crawford, 1991), Chen, Wu and Lin (2004) found that female college students had significantly higher codependency scores than males, particularly in terms of attempts to derive a sense of purpose through relationships. Consistent with the feminists' viewpoint, Chen, Wu and Lin suggested that females tend to be more relation-oriented than males. They tend to derive a sense of self and personal meaning through

connection and interaction with others. However, the sample in this study consisted of 425 undergraduates who had been in dating relationships.

Using the Chinese Codependency Assessment Tool (CCDAT; Yang, 2000), other researchers in Taiwan (Chen & Wu, 2008; Wu & Wu, 2005) investigated college students' codependency in larger samples (N=1007 and 948 respectively). Interestingly, using the CCDAT, results indicated that male college students had significantly higher codependency scores than females particularly in terms of other focus/self-neglect, hiding self, as well as family of origin issues. Researchers (Chen & Wu, 2008; Wu & Wu, 2005) suggested specific effects of traditional gender roles as well as Taiwanese cultural values on male college students' development of codependency. Taiwanese male college students are expected to take care of their families and others, as well as suppress their emotions, and therefore may tend to be more codependent than females.

Power and gender-role identification. In addition to gender, research has used power and gender-role identification to further examine the feminist critique of codependency and its manifestation in college populations (Cowan, Bommersbach, & Curtis, 1995; Dear & Roberts, 2002). In a sample of 122 American college women and men in committed relationships, Cowan et al. (1995) investigated the relationship between codependency, loss of self and power, as well as gender differences in these variables. Consistent with the findings of Chen, Wu and Lin's (2004) study in Taiwan, women in the study had higher codependency scores than men on the Spann-Fischer scale and the Eight-Factor Codependency Scale (Kottke, Warren, Moffett, & Williams, 1993). However, no gender differences were found on perceived power or loss of self.

The results of Cowan et al.'s (1995) study further indicated that codependency and loss of self were associated with power, but this association was not unique to women. Across both women and men, codependency and loss of self were negatively related to perceived power, and positively related to the use of indirect power strategies. As a result, Cowan et al. suggested that power is a more significant variable than gender in the study of college students where both men and women experience relatively equal power as compared with a larger social structure. While their research findings supported the feminist critique of codependency as related to power, Cowan et al. argued that such a relation can apply to both college men and women.

Dear and Roberts (2002) extended the work of Cowan and Warren (1994) on codependency and gender-stereotyped traits with a psychometrically sound measure of codependency and a more parsimonious method of statistical analysis. They examined the association of codependency with gender-role identification, that is, femininity and masculinity in a sample of 192 first-year college students in Australia. Results indicated that women had significantly higher codependency scores than men on the scale of external focus but not on the scales of self-sacrifice and reactivity. Further, the results of canonical correlation analysis showed a moderate association between gender-role identification and codependency. Codependency was related to identification with both positive and negative aspects of femininity and a failure to identify with both positive and negative aspects of masculinity. However, only the subscale data of external focus and self-sacrifice were included in the analysis due to the limitations of this study. While the findings might broadly support the feminist critique of codependency as related to

conformity to the stereotypically feminine role, Dear and Roberts concluded that the relationship between codependency and gender-role identification appears to be more complex than previously suggested.

In addition, the findings of Dear and Roberts' (2002) study are somewhat inconsistent with those of previous studies in the USA. For example, in a sample of college students, Cowan and Warren (1994) found that codependency was positively related to negatively valued feminine characteristics, and negatively related to positively valued masculine characteristics. Roehling, Koelbel, and Rutgers (1996) studied codependency and conduct disorder in a sample of high school students. Using two different codependency measures, they also found the same pattern of results as in Cowan and Warren's study. Specifically, they found that codependency reflected stereotypically feminine characteristics negatively evaluated by the American culture, and feminine characteristics not valued in men but appealing in women. Also, codependency did not reflect the positively valued feminine characteristics which are considered acceptable in both men and women. More specifically, these findings were true for both male and female students in the study. Further, the results of the study suggested that while conduct disorder reflects a stereotypically masculine adaptation to unhealthy parenting practices, codependency reflects stereotypically feminine behaviors and coping strategies. As a result, Roehling et al. (1996) contended that codependency should not be considered as pathological simply because feminine/codependent behaviors deviate from the masculine standard and are devalued in the male dominated Western culture. They

suggested that codependency should be conceptualized as coping strategies or adaptive behaviors in a limiting environment.

Summary and Conclusions

Over the past two decades, research findings in both Western countries and Taiwan have consistently shown that codependency is related to family of origin experiences in college student populations. College students from stressful or dysfunctional family environments, not solely families experiencing alcoholism or chemical dependence, tend to develop codependency characteristics. This is consistent with the view that codependency is a learned or survival behavior that derives from a dysfunctional family environment (Whitfield, 1991). Researchers have found support for related symptoms or characteristics in college students with codependency. These include that codependency is significantly related to low self-esteem and intimate relationship difficulties in college students (Chen & Wu, 2008; Chen, Wu & Lin, 2004; Cullen & Carr, 1999; Springer et al., 1998; Wells et al., 1999, 2006). Due to internalized shame as well as unsolved family of origin issues, college students who are codependent tend to have low self-esteem and may seek safety and identity through external relationships, which can result in boundary distortions and relationship difficulties (Whitfield, 1991).

Despite feminist critiques of the construct of codependency as being one that penalizes women for caretaking behaviors (Anderson, 1994; Collins, 1993; Granello & Beamish, 1998), research findings seem to indicate varied relationships between codependency and gender. Some studies in the USA and Taiwan have found that male college students had significantly higher levels of codependency than females (Chen &

Wu, 2008; Cretser & Lombardo, 1999; Wu & Wu, 2005). This variance may be explained in part by the different samples and codependency measures used. Even in the studies that incorporated power and gender-role identification, the results are still mixed due to different methodology used. Further, due to the limitations of correlational studies, the direction of causality of codependency and cultural variables like power can not be established. Therefore both the feminist or traditional clinical viewpoints may be accurate (Cowan et al., 1995).

Additionally, to validate the construct of codependency, research needs to take cultural contexts into account. Although current research findings in both Western countries and Taiwan seem to indicate that codependency is a human condition (Whitfield, 1991), there may be different implications in terms of cultural contexts and values. Notably, research findings in Taiwan have reflected the specific influence of Taiwanese cultural values on the development of codependency. Therefore researchers (Chen & Wu; 2008; Tsai & Wu, 2003) have suggested that future study on codependency needs to take Taiwanese cultural values that are essentially other-oriented into account.

While recent studies in Taiwan have investigated and examined the construct of codependency as well as related characteristics, they have not extensively examined the relationship of codependency with psychological adjustment in college populations. The only aspect of psychological adjustment focused on thus far has been relationship difficulties experienced by college students.

Developing from prior research on the topic, the current research study was conducted to compare and examine codependency and the cultural values of

individualism and collectivism reported by college students in Taiwan and the USA. The current study further examined relationships between codependency and related characteristics including gender, self-esteem, family functioning, and psychological adjustment in college students belonging to the two cultural groups. The following chapter elaborates on the methodology and research instruments utilized in the current study.

Chapter 3: Methodology

The main purpose of this study was to compare and examine codependency and cultural values in college students in the USA and Taiwan. Using cross-sectional data, this cross-cultural comparison study also examined the relationships of codependency with gender, family functioning, self-esteem, and psychological adjustment in college students in these two cultural groups. The methodology employed to test the research questions is presented in this chapter. Research design that describes operational definitions of the variables, sampling plan, participants, instrumentation, and procedures for data collection, as well as analysis are addressed in the chapter.

Research Design

Operational definitions of the variables. In this cross-cultural study, the outcome (dependent) variable was codependency of college students in the USA and Taiwan. The main predictor (independent) variables included cultural group, gender, family functioning, self-esteem, and psychological adjustment. Cultural values of individualistic and collectivistic orientations were defined as the covariates in this study.

Sampling plan. Due to the exploratory nature of this study, convenience sampling was used. Undergraduate students from a university in Taiwan and a university in the USA comprised the cultural comparison samples. The university in Taiwan is a private Christian university with approximately total 16,000 students, and of them, about 12,000 are undergraduate students. The university in the USA is a public university in the Midwest with approximately total 20,000 students, and about 17,000 of them are

undergraduate students. Unlike the public university system in the USA, more than 90 percent of universities in Taiwan are private.

The participants in this study were solicited mainly from general education courses in each university. Undergraduate students taking general education courses such as Human Relations, Stress Management, and Career and Life Planning in each university were selected. Because the participants in this study were not randomly selected, the generalizability of the findings would be limited.

The total sample size was determined using a statistical power analysis. For this study, a medium effect (Cohen, 1988) was desired at an alpha level of .05 with a selected level of power at .80. The G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) program determined that a total sample size of 92 participants would be required to identify a medium effect using a hierarchical multiple regression analysis. For each cultural group, a sample size of 85 participants was required. Further, according to Stevens (1986), about 15 participants per predictor are needed for reliable regression equation in social science research. Accordingly, a sample of at least 90 (15×6) participants for each cultural group was desired, which resulted in a total sample size of 180 participants that would satisfy the requirement.

Participants. The participants in the study included a pilot sample and two cultural comparison samples. Before the study was approved by the Institutional Review Board (IRB) and Doctoral Committee, a pilot study was conducted in Taiwan to test the equivalence and internal consistency of each translated version of two measures. Twenty-five undergraduate students working on campus during the summer break in the

university in Taiwan were recruited to voluntarily participate in the pilot survey. Of them, 12 (48%) were males, and 13 (52%) were females. Their mean age was 21 years ($SD = .91$, range = 19-23), and most of them (44%) were seniors.

After the study had been approved (see Appendix A), two parallel sets of data, respectively drawn from undergraduate students in each university in the USA and Taiwan, were collected. Participants in each university were solicited mainly from general education courses and classes that typically consisted of undergraduate students with various majors. The classes selected for the U.S. sample included five general education courses, that is, two stress management courses, two human relations courses, and one career and life planning course, as well as one educational studies course. Survey packets were distributed in these classes during class time at the discretion of the course instructor, and all students who attended these classes on the day of data collection were invited to voluntarily participate in the study survey. Among those classes, the researcher was invited by one course instructor to offer a lecture for students in the class on the topic of cultural differences and human relationships. In this instance, data were collected before the lecture. One hundred and three U.S. undergraduate students with various majors completed surveys. A final sample of 101 (98.1%) provided usable data. Among them, 46 (45.5%) were males, and 55 (54.5%) were females. Their mean age was 20.73 years ($SD = 1.80$, range = 18 - 33). As for racial or ethnic identification, 86 (85.1%) indicated "White/Caucasian," nine (8.9%) indicated "Black/African American," one (1%) indicated "Hispanic American," four (4%) indicated "Mixed Race/Ethnicity," and one (1%) indicated "Other." In terms of academic level, 2% ($n = 2$) were freshmen,

21.8% ($n = 22$) were sophomores, 36.6% ($n = 37$) were juniors, and 39.6% ($n = 40$) were seniors.

For the Taiwanese sample, participants were solicited from six general education courses, including two stress management courses, one career and life planning course, one emotion management course, one marriage and family course, and one holistic care course. In each of these courses, the researcher was invited by the course instructor to offer a lecture for students in the class about the topic of codependency and related issues, and therefore all data were collected before the lecture. One hundred and seventy-nine Taiwanese students with various majors completed surveys. A final sample of 176 (98.3%) provided usable data. Among them, 99 (56.3%) were males, and 77 (43.8%) were females. Their mean age was 20.73 years ($SD = 1.18$, range = 18 - 27). In terms of academic level, .6% ($n = 1$) were freshmen, 25% ($n = 44$) were sophomores, 37.5% ($n = 66$) were juniors, 33% ($n = 58$) were seniors, and 4% ($n = 7$) were in the fifth year of college.

Instrumentation. A questionnaire consisting of six parts was developed for this study. The first part was designed to collect demographic data such as age, gender, academic level, and major. For the U.S. group, race or ethnicity was also identified. The second through the sixth parts included separate instruments to measure codependency, cultural values/orientations, family functioning, self-esteem, and psychological adjustment in the study. Order of the codependency and cultural orientation measures were counterbalanced, and other three measures followed them in this section of the questionnaire. Each of the instruments used is described as follows.

The Codependency Assessment Tool (CODAT; Hughes-Hammer, Martsof, & Zeller, 1998a). The CODAT is a multivariate tool to measure codependency. It contains 25 items that consist of five factors reflected in codependency: other focus/self-neglect, low self-worth, hiding self, medical problems, and family of origin issues. Participants were asked to record how they feel as indicated by the item on a five-point scale, ranging from rarely or never (1) to most of the time (5) (see Appendix F). One item is reverse scored, and after the item has been reversed, scores on the 25 items are added to obtain the total CODAT score. Subscale scores are obtained by adding the scores on the five items that comprise each of the five subscales. Based on CODAT scoring, minimal codependency is defined as total CODAT scores of 25 through 50; mild codependency is defined as CODAT scores of 51 through 75; moderate codependency is defined as CODAT scores of 76 through 100; and severe codependency is defined as CODAT scores of 101 to 125 (Martsof, Hughes-Hammer, Estok, & Zeller, 1999). Hughes-Hammer, Martsof, and Zeller stated that the instrument has excellent reliability and validity. They found the Cronbach's alpha reliability coefficient for the total scale was .91 and factor subscale reliability coefficients ranged from .78 to .85. Further, criterion validity of the CODAT was established by using known groups (Hughes-Hammer, Martsof, & Zeller, 1998a), and construct validity was supported by a strong positive relationship between codependency and depression in the two studies (Hughes-Hammer, Martsof, & Zeller, 1998b; Martsof, Sedlak, & Doheny, 2000).

After the permission to use and translate the CODAT had been obtained from the second author (see Appendix B), the CODAT was translated into traditional Chinese by

the researcher, who is a bilingual in English and Chinese. Then, another translator who is also a bilingual back translated the Chinese version into English (see Appendix H). The researcher checked the translation accuracy and modified the items to ensure that the translated version (see Appendix G) was conceptually equivalent to the original version and that the language used was clear and easy to understand. The translated CODAT was administered to 25 Taiwanese undergraduates in the pilot study, and the results showed that the Cronbach's alpha reliability coefficient for the total scale was .85 and subscale reliability coefficients ranged from .59 to .87. In this study, the Cronbach's alpha reliability coefficient for the total scale was .88 and subscale reliability coefficients ranged from .68 to .85 in the Taiwanese cultural comparison sample. The Cronbach's alpha reliability coefficient for the total scale was .86 and subscale reliability coefficients ranged from .67 to .81 in the U.S. sample.

Self-Construal Scale (SCS; Singelis, 1994). The SCS was used to assess participants' individualistic/collectivistic cultural orientations. The SCS consists of two subscales designed to measure an individual's two aspects of self, that is, the independent/individualistic self and the interdependent/collectivistic self, which have been shown as separate dimensions. The original scale contains 24 items, and six additional items have been added to improve internal reliabilities of the original scale. Accordingly, each subscale contains 15 items, with a 7-point Likert-type scale ranging from strongly disagree (1) to strongly agree (7) (see Appendix I). Cronbach's alpha reliabilities with the 15 items were reported to range from the high .60's to the middle .70's. Singelis, Triandis, Bhawuk, and Gelfand (1995) stated that these

reliabilities are adequate considering the broadness of the construct and the wide range of thoughts, feelings, and behaviors assessed by the scale. Further, construct validity of the scale was established by significant score differences between groups in directions consistent with their cultural characteristics and by correlations in expected directions with other variables (Singelis, 1994; Singelis et al., 1999).

The Chinese version of the SCS was developed by Singelis and his colleagues through a translation and back-translation procedure (Singelis, Bond, Sharkey, & Lai, 1999). Once two Chinese versions, one in simple Chinese and the other in traditional Chinese, were obtained from the first author, the researcher checked them for equivalence and modified the wording of some items to make them colloquial and easy to understand for Taiwanese users (see Appendix J). Also, in the study questionnaire, the 7-point Likert-type response format of the scale was changed to a 5-point Likert-type scale for Wang and Mallinckrodt (2006) found that Taiwanese college students, relative to their U.S. counterparts, were significantly less likely to use the extremes of the response scale (i.e., Points 1 and 7). The results of the pilot study showed that Cronbach's alpha reliabilities for the Chinese SCS were .66 and .77, for Independent and Interdependent subscales, respectively. In this study, Cronbach's alpha reliabilities for the Chinese SCS were .69 and .57, and for the English SCS, .69 and .63, for Independent and Interdependent subscales, respectively.

Family Assessment Device-General Functioning Scale (FAD; Epstein, Baldwin, & Bishop, 1983a). The FAD was used to assess participants' perceptions of their family-of-origin functioning. It contains 60 items to measure six dimensions of family

functioning: problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control. In addition to the six subscales, the FAD also includes a 12-item General Functioning scale (GF scale) that measures the overall level of family functioning. With a 4-point Likert-type scale, item responses are totaled and averaged to obtain a score for each subscale. The scale scores range from 1.00 (*healthy*) to 4.00 (*unhealthy*). For the purpose of this study, only the GF scale was used. A score of 2.00 or above in the GF scale indicates unhealthy family functioning; the higher the score, the more problematic the family member perceives the overall family functioning (Ryan, Epstein, Keitner, Miller, & Bishop, 2005). Epstein et al. (1983b) reported the GF scale was internally consistent with an alpha coefficient of .92. They also found the GF scores were able to discriminate between clinical and nonclinical samples, which supported the discriminant validity of the scale. The GF scores were also found to be significantly correlated with other measures of family functioning, and supported the concurrent validity of the scale (Miller, Epstein, Bishop, & Keitner, 1985). The FAD has been translated and back-translated into 24 languages (Ryan et al., 2005). In a series of studies examining the reliability and validity of the Chinese version of the GF scale, Shek (2001) found the GF scale has good psychometric properties in different Chinese adolescent samples, and suggested it can be used as an objective instrument to assess family perceptions in Chinese adolescents. In this study, the Cronbach's alpha reliability coefficient for the scale was .88 in the Taiwanese sample and .86 in the U.S. sample.

Rosenberg Self-Esteem Scale (Rosenberg, 1965). The RSE scale contains 10 items to measure participants' global self-esteem. A 4-point Likert-type response format

is used for each item. The scale yields a single self-esteem score which ranges from 10 to 40 with higher scores indicating higher self-esteem. Rosenberg (1965) reported a reproducibility coefficient of .92 and a scalability coefficient of 0.72. Ward (1977) reported an alpha coefficient of .74 for internal consistency. The construct validity of the scale was established (Rosenberg, 1965), and the scale was found to be closely correlated with Coopersmith's Self-Esteem Inventory (Robinson & Shaver, 1973). Lu (2008) reported that the Cronbach's alpha reliability coefficients for the Chinese version of the RES scale was around .83 - .85 in the studies conducted in Taiwan. In this study, the alpha coefficient for the scale was .86 in the Taiwanese sample and .84 in the U.S. sample.

General Health Questionnaire (GHQ-28; Goldberg & Williams, 1988). The 28-item version of the GHQ was used to assess participants' psychological adjustment. The GHQ-28 consists of four subscales: Somatic Symptoms, Anxiety and Insomnia, Social Dysfunction, and Severe Depression. Each of the four subscales contains seven items and it does not necessarily correspond to psychiatric diagnosis (Goldberg & Williams, 1988). Participants were asked whether they have recently experienced a particular symptom or item of behavior on a four-point scale ranging from not at all or much less than usual to much more than usual. A bimodal scoring scale (i.e., 0, 0, 1, 1) was used, and the total as well as subscale scores were obtained by the sum of the item scores. According to Goldberg and Williams (1988), this scoring method is not just simple but it can also avoid the problems of end-user or middle-user response bias. Total scores of 4 or 5 serve as thresholds on the GHQ-28, and the higher total score indicates more

psychological disturbance. Goldberg and Williams reported that cases receiving total scores of five or more typically receive a psychiatric diagnosis following a psychiatric interview. The instrument is considered as reliable and has been translated into 38 different languages. Krol et al. (1994) reported that Cronbach's alpha coefficients ranged from .79 to .90 for the four subscales and from .91 to .94 for the GHQ-28 total scale. Further, criterion validity of the GHQ-28 has been established by numerous studies investigating the specificity and sensitivity of the instrument across a variety of cultures (Goldberg & Williams, 1988).

GHQ-28 has been translated into Cantonese, however, the Cantonese version of GHQ-28 is actually written in simple Chinese. After the user and translation agreement was established (see Appendix E), the researcher followed the linguistic validation guidelines (Mapi Research Institute, 2005) and translated the Cantonese version into traditional Chinese for Taiwanese users. In this study, the alpha coefficient for the total scale was .90 in the Taiwanese sample and .86 in the U.S. sample.

Data collection procedures. This study employed quantitative methodology for data collection and analysis, and data were collected by the administration of the questionnaires developed for the study to participants at a single point in time. Efforts were made to collect data from at least 100 participants following identical data collection procedures for each cultural comparison sample. Upon approval from the Doctoral Committee and IRB, the researcher contacted the instructors of general education courses at each university in order to obtain their permission to administer the study survey in class. After obtaining the instructors' permission, the researcher went to

classes in person to describe the study and collect data. As mentioned previously, data were collected before the lecture when the researcher was invited by the instructor to offer a lecture for students in class. Students in both groups were given survey packets, which included the consent form (see Appendixes K and L for English and Chinese versions of the consent form) as well as the study questionnaire. Students who did not wish to participate in the study were instructed to simply return their survey packets at the same time other students returned their packets. Confidentiality was ensured and no personally identifying information was requested on the survey. The entire procedure was completed in class and required about 20 minutes for both Taiwanese and U.S. students. Data were collected by the researcher from the U.S. group first, and soon after data were collected from the Taiwanese group.

Data Analysis Procedures

After the data for both cultural groups were collected, each questionnaire was checked and scored with the results recorded in a Statistical Package for the Social Science (SPSS) data file. Data analyses were conducted using the SPSS program and were organized around the research questions and null hypotheses. The following procedures describe the statistical tests employed to address the research questions.

First, Pearson correlation was performed to assess the relationships among codependency, cultural orientations, cultural group, gender, self-esteem, family functioning, and psychological adjustment. Following the correlational analysis, a hierarchical multiple regression analysis was performed to assess the relationship between codependency and cultural orientations as well as to determine whether cultural

group, gender, family functioning, self-esteem, and psychological adjustment are predictive of codependency after the individualistic/collectivistic cultural orientations are taken into account. Analysis was performed using SPSS Regression or SPSS Frequencies for evaluation of assumptions (Tabachnick & Fidell, 2001).

In the regression analysis, the two covariates, individualistic and collectivistic cultural orientations, were first entered into the regression model as Block 1, and then the five predictor variables were entered as Block 2. The level of significance was set at $p = .05$, and R squared change as well as partial and semipartial correlations were asked from the analysis. Further, the same procedures were conducted to determine whether gender, family functioning, self-esteem, and psychological adjustment are predictive of codependency with the covariates for each of the two cultural groups.

In addition, post hoc analyses were conducted to determine the specific differences in the five subscales of codependency when cultural or gender effects on codependency were found in the regression analysis. A 2×2 (Gender \times Cultural group) ANOVA was performed for each subscale of codependency, and the level of significance was set at $p = .01$ for each analysis. Finally, to assess what differences exist in the two cultural orientations in college students in Taiwan and the USA, two 2×2 (Gender \times Cultural group) ANOVAs was employed. The level of significance was set at $p = .05$ for each analysis.

Summary

This chapter presented the proposed methodology for this study including research design as well as data collection and analysis procedures. Convenience sampling was

used, and a final sample of 101 undergraduate students from a public university in the Midwest of the USA and a final sample of 176 undergraduates from a private university in Taiwan comprised the two cultural comparison samples. Identical data collection procedures for each cultural group were ensured, and participants solicited mainly from general education courses responded to the study questionnaire in class anonymously. The study questionnaire with equivalent versions and order in English and Chinese included demographic information as well as separate instruments to measure codependency, cultural orientations, and three other predictors. The reliability for each instrument was also analyzed and reported for each of the two cultural groups. A hierarchical multiple regression analysis was conducted to assess the relationship between codependency and cultural orientations as well as to determine the predictors of codependency in the total and two cultural groups after cultural orientations were taken into account. Finally, two-way ANOVAs were performed to assess gender or cultural group differences in codependency and cultural orientations in college students in Taiwan and the USA. The following chapter will present the results of data analyses for the stated research questions.

Chapter 4: Results

This chapter presents the results of data analyses for the five research questions stated in Chapter 1 as well as the findings of preliminary and supplemental analyses. Prior to the main data analysis, data-screening procedures were conducted and assumptions for a hierarchical multiple regression analysis were evaluated in the preliminary analyses. Univariate and bivariate descriptive statistics are presented before the results of testing the research questions and null hypotheses. Finally, the results of supplemental analyses are presented.

Preliminary Analyses

In the preliminary analyses, the data-cleaning procedures to examine and deal with invalid or missing data were conducted. Also, the evaluation of assumptions for hierarchical multiple regression analysis were conducted and examined.

Data-cleaning procedures. After the data were collected, data-cleaning procedures were conducted to deal with invalid or missing data for the two cultural comparison samples. For the U.S. sample, 103 surveys were collected from participants who were undergraduate students enrolled in general education courses at a large university in the Midwest. Two surveys were eliminated due to satisficing responses. One participant made the same responses in the SCS; the other participant chose neutral options in most of the items in the SCS and made the same responses in the FAD-GF. Of 101 surveys, there were seven incomplete surveys with just one item missing among one of the measures in the questionnaire. Two participants had omitted one item in the CODAT, three participants had omitted one item each in the GHQ, one participant had

omitted one item in the SCS, and one participant had omitted one item in the FAD-GF. Because very few data points were missing and some of the measures such as the SCS and FAD-GF used the mean score rather than the total score for the scale, the mean of remaining scale items (averaging the available items) was used to deal with missing data. According to Schafer and Graham (2002), the method is a reasonable choice especially when the remaining items are highly intercorrelated ($\alpha > .70$) to measure a single domain or trait. Thus, a total of 101 participants provided usable data for the U.S. sample.

A similar data-cleaning procedure was conducted with data collected from Taiwanese participants who were undergraduate students enrolled in general education courses in a large private university in Taiwan. One hundred and seventy-eight surveys were collected from participants. However, two surveys that had too much missing data were completely excluded from analyses. Of the two surveys excluded, one had the whole scale of RSE missing, and the other had 12 items of the GHQ missing. Of 176 remaining surveys, 12 had just one item missing. Five participants had omitted one item in the CODAT, four participants had omitted one item in the GHQ, two participants had omitted one item in the SCS, and one participant had omitted one item in the FAD-GF. The mean score was calculated for these 12 incomplete surveys. Further, there was one incomplete survey with 3 items missing in the FAD-GF. For this survey as well, a mean score of the remaining items was calculated for the scale using the justification that less than 40% of the items were missing (Ryan et al., 2005). This resulted in 176 participants that provided usable data for the Taiwanese sample.

Evaluation of assumptions for hierarchical multiple regression analysis. In order to assess if the data met the criteria necessary for the main statistical analysis used, the assumptions for hierarchical multiple regression analysis were evaluated following Tabachnick and Fidell's (2001) procedures and suggestions. SPSS Regression was first used to evaluate the four major assumptions. Procedures taken and decisions made to meet each of the assumptions are described in the following.

The first assumption is regarding sample size and the ratio of cases to independent variables (IVs) for testing the multiple correlation as well as individual predictors in hierarchical multiple regression (Tabachnick & Fidell, 2001). As mentioned previously, the power analysis indicated that a total sample size of 92 participants and a sample size of 85 participants in each cultural group were required to identify a medium effect using hierarchical multiple regression analysis. This assumption was met with a sample of 277 participants in the total group as well as 101 and 176 participants in the U.S. and Taiwanese group respectively. Further, Tabachnick and Fidell (2001) suggested using $N \geq 104 + m$ (where m is the total number of IVs) as the simple rule of thumb for testing individual predictors when a medium effect at an alpha level of .05 and power at .80 is assumed. With 277 participants and seven IVs in the total group, the number of cases in the current study was found to be above the minimum requirement of 111 ($104 + 7$) for testing individual predictors in hierarchical multiple regression. Thus, the first assumption was met.

The second major assumption is regarding normality, linearity, homoscedasticity, and independence of residuals (Tabachnick & Fidell, 2001). This assumption was tested

through analysis of residuals by running regression analyses for the total sample as well as the two cultural groups. Residuals scatterplots for the total and two cultural groups in Appendix M indicated that the assumptions of normality, linearity, homoscedasticity, and independence of residuals were not seriously violated. Further, the values of the Durbin–Watson statistic for the total sample and the two cultural groups in regression analyses were nearly equal to two, which also indicated independence of residuals.

The third assumption is the absence of outliers among the IVs and on the dependent variable (DV). This assumption was also tested, first through residuals analysis in regression. Based on the statistical criterion suggested by Tabachnick and Fidell (2001), all the scatterplots of standardized residuals for the total sample and the two cultural groups showed no outliers in the solution: none of the standardized residuals exceeded 3.29. As a result, univariate and multivariate outliers were not evaluated further and identified; no variables were transformed and no cases were deleted. Thus, it was established that the third assumption was met.

The fourth assumption is the absence of multicollinearity and singularity. This assumption was evaluated through collinearity statistics and diagnostics produced in SPSS regression. According to the criteria suggested by Tabachnick and Fidell (2001), no singularity and multicollinearity were evident.

In sum, the four major assumptions for hierarchical multiple regression analysis were met based on residual analysis in regression. No variables were transformed and no cases were deleted. As a result, a total sample of 277 participants in the total group as well as 101 and 176 participants in the U.S. and Taiwanese group respectively provided

usable data for regression and post hoc analyses. In the following sections, descriptive statistics including univariate and bivariate statistics are presented, followed by the results of testing the research questions and null hypotheses. Finally, supplemental analyses are presented.

Descriptive Statistics

Since the mean of the remaining scale items was used to deal with missing data as mentioned previously, mean scores were calculated for each measure used in this study. Table 1 indicates the minimums, maximums, means, and standard deviations of mean scores of the outcome, two covariates, and other three parametric predictors for the two cultural groups. As shown in Table 1, the Taiwanese group had higher mean scores than the U.S. group in total codependency, cultural orientations of the interdependent/collectivistic self, family functioning, and psychological adjustment. The U.S group had higher scores in the independent/individualistic self and self-esteem. On average, the mean score of total codependency in the total group ($N = 277$) was 2.09, which indicated mild codependency in college students in Taiwan and the USA.

Table 1

Descriptive Statistics of Mean Scores of Codependency, Cultural Orientations, and Three Predictors for the U.S. and Taiwanese Cultural Groups

Cultural Group		Minimum	Maximum	Mean	SD
USA (N = 101)	Total Codependency	1.20	3.24	1.93	.47
	Independent Self	2.07	4.60	3.64	.42
	Interdependent Self	2.67	4.40	3.44	.38
	Family Functioning	1.00	3.33	1.64	.49
	Self-Esteem	2.10	4.00	3.31	.51
	Psychological Adjustment	.00	.68	.16	.16
Taiwan (N=176)	Total Codependency	1.20	3.92	2.18	.55
	Independent Self	2.47	4.47	3.39	.38
	Interdependent Self	2.93	4.33	3.74	.29
	Family Functioning	1.00	3.33	1.95	.47
	Self-Esteem	1.40	3.90	2.79	.46
	Psychological Adjustment	.00	.86	.25	.22

Table 2 further indicates the percentages of levels of codependency across the two cultural groups. While most of participants (62.4%) were in the level of minimal codependency in the U.S. group, most of them (48.9%) were in the level of mild codependency in the Taiwanese group. In addition, 34.6% of participants were in the level of mild codependency in the U.S. group, and 43.8% of them were in the level of minimal codependency in the Taiwanese group. Only a few of participants were in the level of moderate codependency in both of the two groups (3% and 7.4% for the U.S. and Taiwanese group respectively), and none of them were in the level of severe codependency.

Table 2

Percentages of Levels of Codependency across the Two Cultural Groups

Cultural Group	USA (N = 101)		Taiwan (N = 176)	
Level of Codependency	N	%	N	%
Minimal Codependency	63	62.4	77	43.8
Mild Codependency	35	34.6	86	48.9
Moderate Codependency	3	3	13	7.4
Severe Codependency	0	0	0	0

Further, Pearson correlation analysis was used to assess the relationships among the outcome, two covariates, and other predictors in the total group. As shown in Table 3, the results indicated that codependency was statistically significantly related to all the covariates and predictors ($p < .05$). While codependency was significantly negatively related to the independent/individualistic self, it was positively related to the interdependent/collectivistic self. Codependency was significantly positively related to cultural group, $p < .01$, but significantly negatively related to gender, $p < .05$. These results indicated that college students in the Taiwanese group had higher total codependency scores than their counterparts in the U.S. group and that male college students in the total group had higher total codependency scores than females. In addition, total codependency scores were significantly positively related to those in family functioning and psychological adjustment and however negatively related to those in self-esteem. Finally, while the two cultural orientations were significantly related to cultural group, $p < .01$, they were not significantly related to gender, $p > .05$.

Table 3

Correlations of Codependency, Cultural Orientations, and Other Predictors in the Total Group (N = 277)

		1	2	3	4	5	6	7	8
1. Total Codependency	Pearson Correlation	-	-.237**	.320**	.225**	-.145*	.495**	-.514**	.526**
	Sig.		.000	.000	.000	.016	.000	.000	.000
2. Independent Self	Pearson Correlation		-	-.051	-.293**	.017	-.261**	.508**	-.218**
	Sig.			.394	.000	.781	.000	.000	.000
3. Interdependent Self	Pearson Correlation			-	.396**	-.001	.155**	-.303**	.222**
	Sig.				.000	.985	.010	.000	.000
4. Cultural Group	Pearson Correlation				-	-.103	.302**	-.463**	.221**
	Sig.					.087	.000	.000	.000
5. Gender	Pearson Correlation					-	-.231**	.059	.029
	Sig.						.000	.325	.636
6. Family Functioning	Pearson Correlation						-	-.463**	.286**
	Sig.							.000	.000
7. Self-Esteem	Pearson Correlation							-	-.450**
	Sig.								.000
8. Psychological Adjustment	Pearson Correlation								-
	Sig.								-

Note. Cultural group was coded with USA = 0, Taiwan = 1; gender was coded with male = 0, female = 1.

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

Testing the Research Questions and Null Hypotheses

In this section the results of the testing of each of the five research questions and associated null hypotheses outlined in Chapter One are presented.

Research question one. *Question 1: Is there a relationship between codependency and cultural orientations in college students in Taiwan and the USA?* The first research question examined the relationship between codependency and cultural orientations in college students in Taiwan and the USA. A hierarchical multiple regression analysis was used, and cultural orientations of the independent/individualistic and interdependent/collectivistic self were first entered on Step 1 to assess the relationship between codependency and cultural orientations in college students in the total group. The results of the first regression model for the total group indicated that cultural orientations were statistically significantly related to codependency in college students, $F(2, 274) = 24.33, p < .001$, and that they accounted for about 15% of the variance ($R = .39$). Further, the independent self was significantly negatively related to codependency ($\beta = -.22, p < .001$), whereas the interdependent self was more strongly positively related to codependency ($\beta = .31, p < .001$).

Similar results were also found for each of the two cultural groups. In the U.S. group, cultural orientations were statistically significantly related to codependency, $F(2, 98) = 6.24, p = .003$, and that they accounted for about 11% of the variance ($R = .34$). In the Taiwanese group, cultural orientations were also significantly related to codependency, $F(2, 173) = 10.31, p < .001$, and that they accounted for about 11% of the variance ($R = .33$). For both groups, while the independent self was also significantly

negatively related to codependency ($\beta = -.21, p = .032$ and $\beta = -.20, p = .008$ for the U.S. and Taiwanese groups respectively), the interdependent self was more strongly positively related to codependency ($\beta = .31, p = .002$ and $\beta = .25, p = .001$ for the U.S. and Taiwanese groups respectively).

Research question two. *Question 2: Are cultural group, gender, family of origin experiences, self-esteem, and psychological adjustment predictive of codependency in college students in Taiwan and the USA after differences in cultural orientations are adjusted?* The second research question assessed the relationships between codependency and cultural group, gender, family functioning, self-esteem, and psychological adjustment, as well as examined whether those related characteristics are predictive of codependency in college students after differences in cultural orientations were adjusted. After cultural orientations were entered on Step 1 in the regression analysis, cultural group, gender, family functioning, self-esteem, and psychological adjustment were entered together on Step 2. The results showed that after controlling for cultural orientations, those predictor variables added a statistically significant increment, $F(7, 269) = 34.81, p < .001$, increasing the total accounted for codependency variance to 48% ($R = .69, \Delta R^2 = .32$). Table 4 displays the regression coefficients and correlations of all predictor variables for the total group after controlling for cultural orientations.

Table 4

Hierarchical Multiple Regression for Variables Predicting Codependency in College Students for the Total Group

		Correlations					
	Variables	B	SE B	Beta	Zero-order	Partial	Part
Step 1	Independent Self	-.287	.072	-.221***	-.237	-.233	-.221
	Interdependent Self	.466	.084	.308***	.320	.317	.308
Step 2	Independent Self	.003	.068	.003	-.237	.003	.002
	Interdependent Self	.271	.075	.179***	.320	.216	.160
	Cultural Group	-.133	.059	-.119*	.225	-.136	-.099
	Gender	-.094	.049	-.088	-.145	-.116	-.084
	Family Functioning	.303	.056	.281***	.495	.314	.240
	Self-Esteem	-.232	.063	-.232***	-.514	-.219	-.162
	Psychological Adjustment	.875	.133	.331***	.526	.373	.291

Note. Cultural group was coded with USA = 0, Taiwan = 1; gender was coded with male = 0, female = 1. $R^2 = .15$ for Step 1; $\Delta R^2 = .32$ for Step 2 ($ps < .001$).

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

As shown in Table 4, the results indicated that when differences in the two cultural orientations were taken into account, the independent self was no longer significantly related to codependency although the interdependent self still was. Further, those predictor variables were all significantly predictive of codependency in college students except for gender ($\beta = -.09$, $p = .057$). Among those significant predictors, psychological adjustment was the most important predictor variable ($\beta = .33$, $p < .001$), and it made the unique contribution of about 8% to the total codependency variance (part correlation, $sr = .29$). Although cultural group was a significant predictor ($\beta = -.12$, $p = .026$), it made the least unique contribution to the total codependency variance ($sr = -.10$). The results

of the first order correlations further showed that cultural group was significantly positively related to codependency, which indicated college students in Taiwan had significantly higher total codependency scores than their counterparts in the USA. Although gender was not a significant predictor, the correlation results showed a negative relationship between gender and codependency, which indicated that male college students had higher codependency scores than females in the total group.

Research question three. *Question 3: Which related characteristics are predictive of codependency in college students for each of the two cultural groups after differences in cultural orientations are adjusted?* To answer the third research question, the same procedures were employed to determine whether gender, family functioning, self-esteem, and psychological adjustment are predictive of codependency in college students for each of the two cultural groups after controlling for cultural orientations. The results showed that after controlling for cultural orientations, those predictor variables added a statistically significant increment, $F(6, 94) = 16.17, p < .001$, for the U.S. group, increasing the total accounted for codependency variance to 51% ($R = .71, \Delta R^2 = .40$). Similar results were also found for the Taiwanese group; those predictor variables added a statistically significant increment, $F(6, 169) = 22.56, p < .001$, increasing the total accounted for codependency variance to 45% ($R = .68, \Delta R^2 = .34$). Table 5 displays the regression coefficients and correlations of all the six predictor variables for each cultural group after controlling for cultural orientations.

Table 5

Comparison of Hierarchical Multiple Regression for Variables Predicting Codependency for Each Cultural Group

Cultural Group	Variables	Correlations					
		B	SE B	Beta	Zero-order	Partial	Part
USA	Step 1 Independent Self	-.240	.111	-.212*	-.142	-.215	-.207
	Interdependent Self	.387	.121	.313**	.265	.308	.305
	Step 2 Independent Self	-.012	.093	-.011	-.142	-.014	-.010
	Interdependent Self	.231	.097	.187*	.265	.239	.173
	Gender	-.242	.072	-.258**	-.219	-.328	-.243
	Family Functioning	.167	.078	.173*	.407	.216	.156
	Self-Esteem	-.300	.085	-.326**	-.544	-.343	-.256
	Psychological Adjustment	.952	.243	.318***	.481	.375	.284
Taiwan	Step 1 Independent Self	-.280	.103	-.195**	-.207	-.201	-.194
	Interdependent Self	.478	.136	.252**	.262	.258	.252
	Step 2 Independent Self	.034	.095	.023	-.207	.027	.020
	Interdependent Self	.344	.111	.182**	.262	.233	.178
	Gender	-.015	.065	-.013	-.080	-.017	-.013
	Family Functioning	.387	.076	.330***	.489	.364	.291
	Self-Esteem	-.201	.089	-.166*	-.444	-.171	-.129
	Psychological Adjustment	.822	.162	.325***	.510	.363	.291

Note. Gender was coded with male = 0, female = 1. For the U.S. group, $R^2 = .11$ for Step 1 ($p = .003$); $\Delta R^2 = .40$ for Step 2 ($p < .001$). For the Taiwanese group, $R^2 = .11$ for Step 1; $\Delta R^2 = .34$ for Step 2 ($ps < .001$).

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

As presented in Table 5, for both cultural groups, the interdependent self remained significantly related to codependency after controlling for differences in the two cultural orientations. However, the independent self was not significantly related to codependency after controlling for differences in the two cultural orientations. While the

four predictor variables of gender, family functioning, psychological adjustment, and self esteem were all significantly predictive of codependency in college students in the U.S. group ($p < .05$), gender was not significantly predictive of codependency in the Taiwanese group ($\beta = -.01, p = .820$).

Further, a difference in the level of importance of the four predictor variables was observed between the two cultural groups. In the Taiwanese group, family functioning and psychological adjustment were the most important of the predictor variables ($\beta = .33, p < .001$), and each of them equally made the unique contribution of about 8 % ($sr = .29$) to the total codependency variance. Self-esteem was the least important of the predictor variables in the Taiwanese group ($\beta = -.17, p = .026$), and it independently accounted for 2% ($sr = -.13$) of the total codependency variance.

In the U.S group, while psychological adjustment was the most important of the predictor variables ($\beta = .32, p < .001, sr = .28$), self-esteem and gender were more important predictor variables ($\beta = -.33, p = .001, sr = -.26$; $\beta = -.26, p = .001, sr = -.24$) than family functioning ($\beta = .17, p = .034, sr = .16$). Furthermore, the results showed that gender was significantly negatively related to codependency in the U.S. group, which indicated that male college students in the USA had significantly higher total codependency scores than females.

Research question four. *Question 4: What differences exist in codependency in college students in Taiwan and the USA?* The fourth research question examined the mean differences in the five codependency subscales in college students in Taiwan and the USA after the effects of cultural group or/and gender on codependency were found in

the regression analysis. A 2×2 (Gender \times Cultural group) ANOVA was performed for each subscale with the significance level set at $\alpha = .01$. The results in Appendix P indicated a significant main effect for cultural group for the subscales of other focus/self-neglect, self-worth, and medical problems, $F(1, 273) = 14.14, 19.89, 41.49, p < .001$, Partial $\eta^2 = .049, .068$, and $.132$ respectively. However, only a significant main effect for gender was found in the subscale of family of origin issues, $F(1, 273) = 11.34, p = .001$, Partial $\eta^2 = .040$. No interaction effect between gender and cultural group was found for each subscale.

Research question five. *Question 5: What differences exist in cultural orientations in college students in Taiwan and the USA?* The fifth research question examined the differences in the two cultural orientations in college students in Taiwan and the USA. A 2×2 (Gender \times Cultural group) ANOVA were performed for each of the two cultural orientations with the significance level set at $\alpha = .025$. The results in Appendix Q indicated a significant main effect for cultural group for the independent self, $F(1, 273) = 25.58, p < .001$, Partial $\eta^2 = .086$, as well as for the interdependent self, $F(1, 273) = 51.78, p < .001$, Partial $\eta^2 = .159$. However, neither significant main effect for gender nor interaction effects between gender and cultural group were found in the two cultural orientations.

Follow-up Analyses

Follow-up analyses were conducted to further examine the differences in the codependency subscales and two cultural orientations found in the results of testing the fifth and sixth research questions. Figure 1 illustrates the mean scores of each

codependency subscale for the two cultural groups. The findings showed that college students in Taiwan had significantly higher codependency scores in the subscales of self-worth and medical problems than their counterparts in the USA, but they had significantly lower codependency scores in the subscale of other focus/self-neglect. Taiwanese college students also had higher codependency scores in the subscales of hiding self and family of origin issues, but the differences in the two subscales between college students in Taiwan and the USA were not statistically significant.

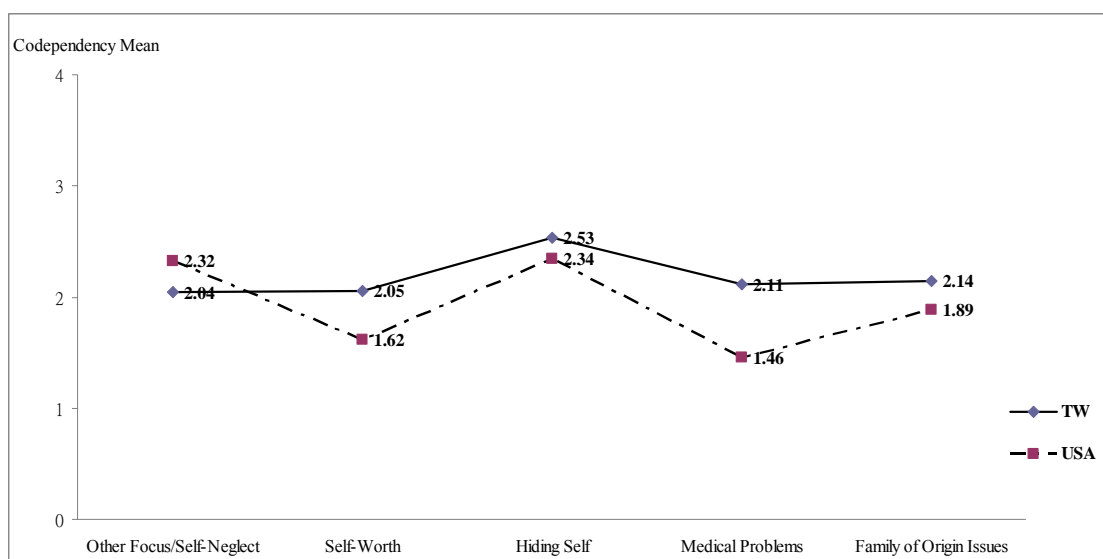


Figure 1. Mean scores of each codependency subscale for the Taiwanese and U.S. groups.

Further, independent sample *t*-tests were performed to assess gender differences in the codependency subscale of family of origin issues for each cultural group. The results indicated that the gender difference in family of origin issues was only found in the U.S. group, $t(99) = 3.33$, $p = .001$, with college males having significantly higher mean scores ($M = 2.18$, $SD = .92$) than females in the USA ($M = 1.64$, $SD = .73$).

Finally, the mean scores of the independent and interdependent self for the two cultural groups are illustrated in Figure 2. The results of independent sample *t*-tests indicated that college students in the USA had significantly higher scores in the independent self than their counterparts in Taiwan, $t(275) = 5.07, p < .001$, and they had significantly lower scores in the interdependent self than those in Taiwan, $t(168) = -6.66, p < .001$. In other words, college students in the USA tended to be more independent/individualistic oriented, and Taiwanese college students tended to be more interdependent/collectivistic oriented.

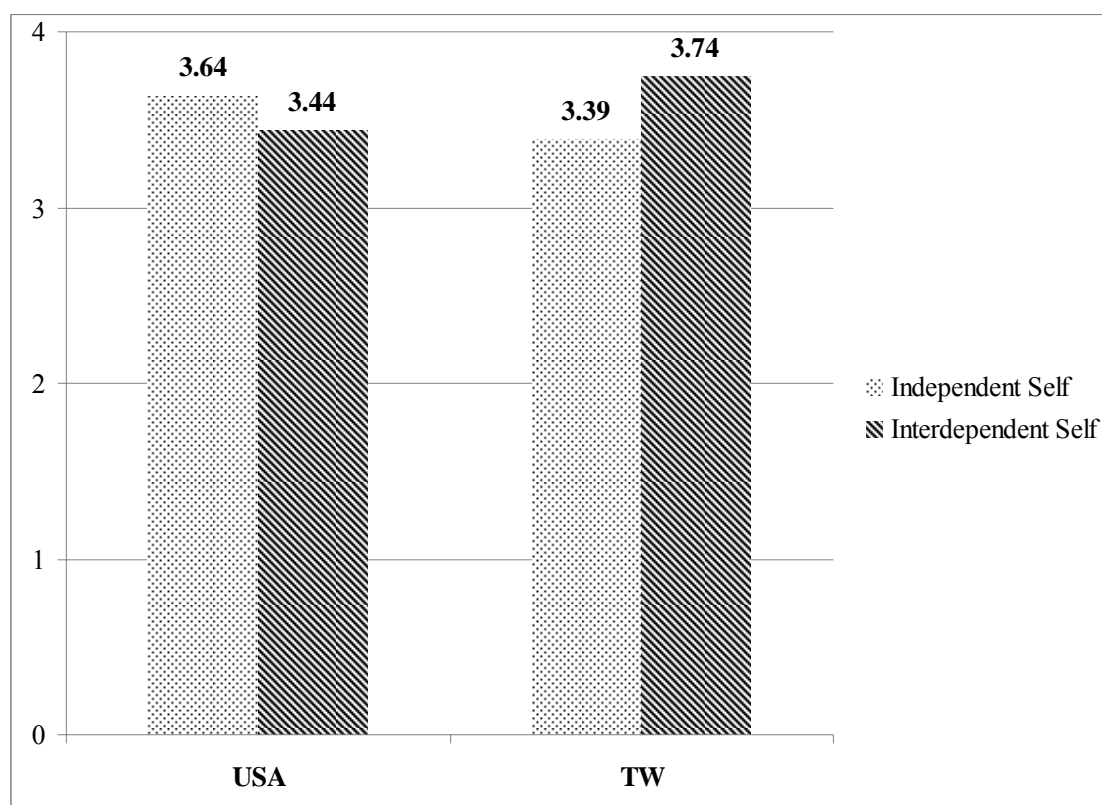


Figure 2. Mean scores of the independent and interdependent self for the Taiwanese and U.S. groups.

Supplemental Analyses

Additional analyses were conducted to examine possible two-way interaction effects among the five predictor variables in the regression analysis for the total group with the significance level set at $\alpha = .05$. However, no significant interaction effect was found among the five predictor variables, and therefore no other interaction effects were further tested either for the total or each cultural group.

The results of the hierarchical regression analysis for the total group indicated that a suppressor variable might be present among the covariate and predictor variables since the simple correlations and beta weights of the independent self and cultural group had opposite signs. As suggested by Tabachnick and Fidell (2001), a further hierarchical regression analysis was used to identify the possible suppressor variable of the interdependent self, family functioning, self-esteem, gender, and psychological adjustment for the entire group. The results in the Appendix S revealed that the interdependent self, family functioning, and self-esteem might be suppressor variables since they all enhanced the importance of cultural group from a non-significant predictor to a significant one, $p < .05$. Particularly, after family functioning was entered in the regression analysis, gender was changed from a significant predictor of codependency, $p = .002$, to a non-significant one, $p = .057$.

Summary

In this chapter, results of the analyses for statistical assumptions and research questions were reported. Results from the first research question revealed that cultural orientations were significantly related to codependency in college students in Taiwan and

the USA. While the independent self was significantly negatively related to codependency, the interdependent self was more significantly positively related to codependency in college students in the current study. Further results indicated that after controlling for cultural orientations, the independent self was no longer significantly related to codependency, whereas the interdependent self remained significantly related to codependency in the total sample and in the Taiwanese and USA cultural groups.

Results from the second research question showed that with the exception of gender, the predictor variables of cultural group, family functioning, self-esteem, and psychological adjustment were all significantly predictive of codependency in the total sample. Further results indicated that college students in Taiwan had a significantly higher level of codependency than those in the USA after controlling for differences in cultural orientations.

Results from the third research question revealed differences in the importance of predictor variables between the two cultural groups. After controlling for cultural orientations, gender, family functioning, self-esteem, and psychological adjustment were all significantly predictive of codependency in college students in the U.S. group. In the U.S. group, psychological adjustment was the most important predictor. Self-esteem and gender were more important predictors than family functioning. The results further indicated that male college students in the USA had a significantly higher level of codependency than females in the current study.

However, in the group of Taiwanese college students, gender was not a significant predictor. Family functioning and psychological adjustment were the two most important

predictors of codependency, and self-esteem was the least important predictor in the Taiwanese group. Results from the fourth research question and follow-up analyses indicated that college students in Taiwan had significantly higher codependency scores in the subscales of self-worth and medical problems but lower scores in the subscale of other focus/self-neglect than their counterparts in the USA. Gender differences were only found in the subscale of family of origin issues in the U.S. group, and college males in the USA had significantly higher mean scores than females in the current study. In addition, results from the fourth research question and follow-up analyses showed that college students in the USA tended to be more independent/individualistic oriented, whereas Taiwanese college students tended to be more interdependent/collectivistic oriented.

Finally, no significant interaction effect was found among the five predictors. Supplemental analyses indicated that the interdependent self, family functioning, and self-esteem might be suppressor variables. A discussion of these results is presented in the next chapter along with implications, limitations, and suggestions for future research.

Chapter 5: Summary, Discussion, and Conclusions

Introduction

In the preceding chapter, the results of data analyses for the research questions were presented and reported. This chapter consists of a summary of the study, discussion of the findings, implications, limitations and recommendations for future research, as well as conclusions. The latter sections aim to expand on the findings in this study to provide a further understanding of codependency among college students in the USA and Taiwan as well as its cultural and other related factors. Theoretical and clinical implications, limitations of this study, as well as recommendations for future research on codependency and cultural differences are presented and discussed. Finally, a synthesizing statement is offered to capture the substance and scope of this study.

Summary of the Study

The purpose of this study was to compare and examine college students' codependency in different cultural contexts by conducting a cross-cultural comparison study in the USA and Taiwan. Taking cultural contexts into account, this study utilized independent/individualistic and interdependent/collectivistic cultural orientations as cultural values, and examined the relationships between codependency and cultural orientations in college students in the USA and Taiwan. In addition, supplementing recent research on codependency in college student populations, this study also examined and assessed the relationship between codependency and other related characteristics including cultural group, gender, family functioning, self-esteem, and psychological

adjustment in the total and in the Taiwanese and USA cultural groups after controlling for differences in cultural orientations.

A survey packet, with equivalent versions and order in English and Chinese was developed for this study. It included demographic information such as age and gender as well as five separate instruments measuring: (a) codependency (CODAT), (b) cultural orientations (SCS), (c) family functioning (FAD-GF), (d) self-esteem (RSE), and (e) psychological adjustment (GHQ-28). The order of the CODAT and SCS were counterbalanced and the other three measures followed them in the survey packet.

The CODAT was used for the first time with a Taiwanese population in the current study, and therefore the back-translation method was applied to ensure translation accuracy. Further, the translated CODAT was administered to 25 Taiwanese undergraduates in the pilot study. Language use was validated using the Taiwanese pilot sample, and reliability was established with $\alpha = .85$ for the total scale and a range of .59 - .87 for the five subscales. In the current study, the reliability coefficient (α) for the total scale was .88 and .86 for the Taiwanese and U.S. cultural comparison samples respectively. The subscale reliability coefficients ranged from .68 to .85 for the Taiwanese sample and from .67 to .81 for the U.S. sample. The reliabilities for other instruments were also analyzed and reported for each of the two cultural groups.

Convenience sampling was used for this study, and participants were solicited mainly from general education courses in a university in the Midwest of the USA and a university in Taiwan. A final sample of 101 undergraduate students with various majors from the university in the USA and a final sample of 176 undergraduates from the

university in Taiwan comprised the two cultural comparison samples and provided usable data for this study. Identical data collection procedures were followed with each cultural comparison sample with participants responding to the study questionnaires in a single class sitting, voluntarily and anonymously.

Five research questions were developed:

1. Is there a relationship between codependency and cultural orientations in college students in Taiwan and the USA?
2. Are cultural group, gender, family of origin experiences, self-esteem, and psychological adjustment predictive of codependency in college students in Taiwan and the USA after differences in cultural orientations are adjusted?
3. Which related characteristics are predictive of codependency in college students for each of the two cultural groups after differences in cultural orientations are adjusted?
4. What differences exist in codependency in college students in Taiwan and the USA?
5. What differences exist in cultural orientations in college students in Taiwan and the USA?

Questions one, two, and three were answered using the results from hierarchical multiple regression analysis for the total and each of the two cultural groups. To answer question one, cultural orientations of the independent/individualistic as well as interdependent/collectivistic self were entered on Step 1 in the regression analysis for the total and each cultural group. To answer question two, cultural group, gender, family

functioning, self-esteem, and psychological adjustment were entered together on Step 2 for the total group. Similar procedures were taken to answer question three, and those related characteristics except cultural group were entered together on Step 2 for each of the two cultural groups.

Questions four and five were answered using the results from two-way ANOVAs for gender and/or cultural group differences in codependency and cultural orientations in college students in Taiwan and the USA. Once the effects of cultural group or gender on codependency were found in the regression analysis, a 2×2 (Gender \times Cultural group) ANOVA was performed for each of the five codependency subscales with the significance level set at $\alpha = .01$. Similarly, to answer question five, a 2×2 (Gender \times Cultural group) ANOVA was performed for each of the two cultural orientations with the significance level set at $\alpha = .025$.

Discussion of the Findings

As mentioned previously, the purpose of this study was to compare and examine relationships between codependency and cultural orientations and other related characteristics in college students in Taiwan and the USA. This section discusses the implications of the findings for the five research questions and follow-up as well as additional analyses.

Research question one. *Is there a relationship between codependency and cultural orientations in college students in Taiwan and the USA?*

The findings resulting from research question one indicated a significant relationship between codependency and cultural orientations in college students in

Taiwan and the USA. Cultural orientations accounted for about 15% of the variance of codependency in the total group and about 11% of the variance in each of the two cultural groups. In the total group as well as in each cultural group, the independent/individualistic self was significantly negatively related to codependency, and the interdependent/collectivistic self was significantly positively related to codependency. Hogg and Frank (1992) have suggested that cultural values may have an impact on individuals' codependent behaviors in the family or interpersonal relationships. Researchers in Taiwan (Chen & Wu, 2008; Wu & Wu, 2005) have also suggested that cultural values may have a specific impact on the development of codependency in college students. The findings in the current study lend support to the view that cultural values, particularly those of interdependent/collectivistic orientations, are related to codependency in college students in both of Taiwan and the USA. This provides a valuable addition to the professional literature on codependency and cultural values. Similar to feminist critiques of codependency that opine that females are penalized for caretaking behaviors and identified as being codependent (Anderson, 1994; Collins, 1993; Granello & Beamish, 1998), the current findings indicate that people with interdependent/collectivist cultural orientations may be assessed as being codependent while in fact they are demonstrating culturally valued behaviors.

Research question two. *Are cultural group, gender, family of origin experiences, self-esteem, and psychological adjustment predictive of codependency in college students in Taiwan and the USA after differences in cultural orientations are adjusted?*

The findings for research question two showed that cultural group, gender, family functioning, self-esteem, and psychological adjustment added a significant increment in the total variance of codependency to 48%. After differences in cultural orientations were adjusted, the independent/individualistic self was no longer significantly related to codependency in college students in Taiwan and the USA, however the interdependent/collectivistic self still was. This confirms the findings in research question one that the interdependent/collectivistic self is more related to codependency than the independent/individualistic self. College students with more interdependent/collectivistic cultural orientations tend to have higher levels of codependency.

Further, the findings also showed that cultural group, family functioning, self-esteem, and psychological adjustment were all significantly predictive of codependency in college students in Taiwan and the USA after controlling for cultural orientations. Among the four significant predictors, psychological adjustment accounted for the most variance in codependency, and cultural group accounted for the least variance. However, gender was not a significant predictor of codependency in college students in the current study. These findings make a unique contribution to the professional literature for this study incorporated cultural orientations to examine the effect of cultural group as well as the other related characteristics on codependency in college students in both Taiwan and the USA.

Specifically, the results indicated that college students in Taiwan had significantly higher levels of codependency than their counterparts in the USA after differences in

cultural orientations were taken into account. Although no significant gender effect on codependency was found in the total group, the results showed that male rather than female college students had slightly higher levels of codependency. Prior research conducted in Western countries and Taiwan using different measures of codependency (e.g., Chen & Wu, 2008; Cretser & Lombardo, 1999; Cullen & Carr, 1999; Wells et al., 1998, 1999, 2006; Wu & Wu, 2005) has indicated no gender effect on codependency in college populations. The implication here is contrary to feminist views on codependency (Anderson, 1994; Collins, 1993; Granello & Beamish, 1998); gender may not be such a significant predictor of codependency in college students as compared with other predictors such as cultural values or family of origin experiences. However, due to the different codependency measures used in this study and prior work, the finding of no gender effect on codependency in college populations should be examined further.

Further, among those four significant predictors, psychological adjustment, family functioning, and self-esteem were more powerful predictors of codependency in college students in Taiwan and the USA than the predictor of cultural group. College students with more codependent characteristics reported more psychological problems, more family-of-origin difficulties, and lower self-esteem in this study. This is consistent with previous research findings (e.g., Cullen & Carr, 1999; Fuller & Warner, 2000; Springer et al., 1998; Tsai & Wu, 2003; Wells et al., 1999; Wu & Wu, 1999) that indicated significant relationships between codependency and psychological problems, family of origin difficulties or dysfunction, and low self-esteem.

Research question three. *Which related characteristics are predictive of codependency in college students for each of the two cultural groups after differences in cultural orientations are adjusted?*

The findings for research question three showed that gender, family functioning, self-esteem, and psychological adjustment were all significantly predictive of codependency and added a significant increment in the total variance of codependency to 51% in the U.S. group after differences in cultural orientations were adjusted. In the Taiwanese group, the four predictors also added a significant increment in the total accounted variance of codependency to 45%, but gender was not a significant predictor after controlling for cultural orientations. As in research question two, the independent self was no longer significantly related to codependency but the interdependent self still was after differences in cultural orientations were adjusted in both of the cultural groups. Moreover, the importance of the significant predictors was somewhat different for each of the two cultural groups. These findings add to the literature on codependency in college populations, particularly in terms of cultural similarities and differences.

First, the findings indicated that while male college students in both Taiwan and the USA had higher levels of codependency than females, a significant gender difference in codependency was only found in the U.S. group. This finding is contrary to feminist critiques of gender bias on codependency contending that it overlooks social and cultural contexts where women are socialized to develop other-oriented caretaking behaviors (Anderson, 1994; Collins, 1993; Granello & Beamish, 1998). The current research findings further support previous research findings with college students in the USA

(Cretser & Lombardo, 1999) indicating that male rather than female college students had significantly higher levels of codependency. Similarly in Taiwan, researchers (Chen & Wu, 2008; Wu & Wu, 2005) have also found that male college students had significantly higher levels of codependency than females particularly in terms of other focus/self-neglect, hiding self, and family of origin issues. Although no significant gender difference in codependency was found in the Taiwanese group in this study, the findings seem to point to the same trend that college males tend to have slightly higher levels of codependency than females. As Cretser and Lombardo (1999) have suggested, college females today are less likely to be or feel oppressed, and may therefore be less likely to develop codependent characteristics as compared to women in general. Further, college males may tend to hide themselves and suppress their emotions and therefore tend to be more codependent than females, especially under the influence of specific cultural values or gender role expectations (Chen & Wu, 2008; Wu & Wu, 2005). Thus, codependent characteristics are not necessarily enhanced in females; they seem to appear with at least equal incidence across gender in college populations.

Second, the findings showed that psychological adjustment was the strongest predictor of codependency in college students in both Taiwan and the USA after controlling the effects of cultural orientations. The implication here is that college students with more codependent characteristics in both Taiwan and the USA have more psychological adjustment problems in terms of somatic symptoms, anxiety and insomnia, social dysfunction, as well as depression. This is consistent with theoretical assumptions and research findings in Cullen and Carr's study (1999) on college students in Ireland. It

is worth noting that college students in both the USA and Taiwan with codependent characteristics also experience psychological problems. Third, the findings revealed that family functioning was also the strongest predictor of codependency in college students in Taiwan, whereas self-esteem and gender were stronger predictors than family functioning in college students in the USA. This finding could be explained by understanding that since Taiwanese cultural values emphasize family loyalty and care for family members (Wang & Heppner, 2002; Yang, 2004), family of origin dysfunction may have a greater impact on the development of codependency in college students in Taiwan. While family functioning was also a significant predictor, it was not more strongly predictive of codependency than self-esteem and gender in college students in the USA after controlling for cultural orientations. The implication for the stronger relationships between codependency and self-esteem and gender in college students in the USA may reflect the American cultural values that emphasize individualism and autonomy. As compared with family of origin dysfunction, which was the strongest predictor of codependency among college students in Taiwan, low self-esteem was more significantly related to codependency in college students in the USA, especially for college males. This difference in the predictors of codependency in the two cultural groups in the study is of relevance to clinicians working with Taiwanese or USA students with codependency.

Finally, the study found a significant relationship between codependency and self-esteem although self-esteem accounted for the least variance in codependency in the Taiwanese group after cultural orientations were taken into account. This finding is

consistent with theoretical assumptions and previous research findings (Cullen & Carr; 1999; Springer et al., Wells et al., 1999) with college populations in Western countries which point to a link between lower self-esteem and codependency. Taiwanese students with more codependent characteristics are similar to their Western counterparts in having lower self-esteem despite coming from an interdependent/collectivistic cultural orientation. This lends support to the shame-based essence of codependency that is derived from a dysfunctional or stressful family environment in college students across cultural groups.

Research question four. *What differences exist in codependency in college students in Taiwan and the USA?*

The findings resulting from research question four indicated a significant main effect for cultural group in three subscales of codependency, that is, other focus/self-neglect, self-worth, and medical problems. Follow-up analyses showed that college students in Taiwan had significantly higher codependency scores in low self-worth and medical problems but lower scores in other focus/self-neglect than students in the USA. College students in Taiwan in this study had significantly higher levels of codependency than their counterparts in the USA, and showed more codependent characteristics particularly in low self-worth or self-esteem and physical problems. However, college students in the USA in this study showed more codependent characteristics particularly in external focus and neglect of self.

The differences found in college students' codependency in Taiwan and the USA can be elaborated on by the codependency measurement used in this study. When

developing and testing the CODAT, Hughes-Hammer et al. (1998a) found that the core symptom or characteristic of codependency is other focus/self-neglect. Three associated symptoms of codependency, that is, low self-worth, hiding self, and family of origin issues are overlapped with the core symptom, and medical problems are conceptualized as a result of both the core and three associated symptoms. In Taiwan, Yang (2000) developed the CCDAT based on Hughes-Hammer et al.'s codependency model, on four other codependency measures, as well as on field study. The CCDAT consists of 58 items, and among them, 17 items are extracted from the CODAT. Interestingly, Yang also found the same five factors as in the CODAT, but the core characteristic in the CCDAT was low self-worth instead. Accordingly, the findings in this study may shed light on the different characteristics that college students in Taiwan and the USA particularly show in codependency. As compared with those in the USA, college students in Taiwan tend to show more codependent characteristics in low self-worth and associated physical problems, whereas they tend to show fewer characteristics in focusing on the need to care for and control others.

A significant main effect for gender was found in the codependency subscale of family of origin issues in the U.S. group, and no interaction effect between gender and cultural group was found for each of the subscales. This finding showed that when American male college students had significantly higher levels of codependency than American females in this study, they showed more codependent characteristics particularly in unresolved family of origin issues. This finding is not consistent with prior research conducted in Western countries that found females had higher levels of

codependency than males (Cowan et al., 1995; Dear & Roberts, 2002; Fuller & Warner, 2000; Lindley et al., 1999).

Research question five. *What differences exist in cultural orientations in college students in Taiwan and the USA?*

The findings for research question five indicated a significant main effect for cultural group for each of the cultural orientations. Further findings from follow-up analyses showed that college students in Taiwan had significantly higher scores in the interdependent/collectivistic self but lower scores in the independent/individualistic self than their counterparts in the USA. However, no gender differences or interaction effects between gender and cultural group were found for each cultural orientation in this study. The findings are consistent with previous research (Wang & Mallinckrodt, 2006) that indicated cultural group differences in the cultural orientation in college students in Taiwan and the USA. According to Singelis et al. (1999), the two aspects of the independent and interdependent self can coexist within individuals, and members of collective cultures have more interdependent self, but less independent self than those in individualist groups. The findings in this study lend support to the belief that college students in Taiwan tend to be more interdependent/collectivistic oriented than those in the USA, whereas college students in the USA tend to be more independent/individualistic oriented than those in Taiwan. In addition, there are no gender differences in the two cultural orientations in college students in either Taiwan or the USA.

Supplemental analyses. Supplemental analyses revealed that while the interdependent self, family functioning, and self-esteem were significant predictors of

codependency, they might serve as suppressor variables in this study. They all enhanced the importance of cultural group from a non-significant predictor to a significant one, and particularly, family functioning influenced the effect of gender changing it from a significant predictor to a nonsignificant one. However, it is difficult to identify specifically which variables served as suppressor variables given that there were more than three predictor variables in this study (Tabachnick & Fidell, 2001). Following is a discussion of the suppression based on each of three possible suppressor variables, which may provide further implications for the findings in this study.

First of all, the interdependent self as the suppressor variable that suppressed irrelevant variance in cultural group and hence enhanced the prediction of cultural group may imply that the role of cultural group is displayed by the interdependent self. According to Singelis et al. (1999), the interdependent/collectivistic and independent/individualistic cultural orientations can be conceptualized and assessed at both individual and cultural levels. At the individual level, the two aspects of the independent and interdependent self can coexist to varying degrees within individuals (Singelis, 1994; Singelis et al., 1999). At the cultural level, Singelis et al. (1999) suggested that the two views of self can be aggregated to represent the shared subjective culture or shared aspects of the group. In this study, the interdependent self was found to be more significantly related to codependency than the independent self, and college students in Taiwan had significantly higher scores in the interdependent self than their counterparts in the USA. As a result, the interdependent self might increase the prediction of cultural group.

Secondly, self-esteem as a suppressor variable might do similar suppression to enhance the importance of cultural group as in the case of the interdependent self. In this study, self-esteem was significantly negatively related to codependency, and college students in Taiwan had lower scores in self-esteem than their counterparts in the USA. Further, self-esteem was found to be significantly positively related to the independent self but negatively related to the interdependent self in college students in Taiwan and the USA. In Singelis et al.'s study (1999), they also found that self-esteem was significantly positively related to the independent self but negatively related to the interdependent self across three groups of college students in the USA, Hawaii, and Hong Kong. Due to the relation between cultural orientations and self-esteem, as well as the relation between self-esteem and codependency, self-esteem might also increase the prediction of cultural group on codependency in college students in Taiwan and the USA.

Finally, family functioning might also serve as a suppressor variable that enhanced the importance of cultural group but reduced the importance of gender. This finding might be explained from systemic perspectives on codependency. Applying Bowen's concept of undifferentiated self to codependency, Fagan-Pryor and Haber (1992) suggested that both male and female individuals can be influenced in the family emotional system and develop levels of differentiation and codependency to varying degrees. In this study, family functioning played an important role in college students' development of codependency, especially for Taiwanese college students. Therefore, when family functioning was included as one of the predictors, the importance of gender was reduced and the importance of cultural group was enhanced.

Implications

The findings in this study can augment current literature on codependency and cultural values. They can also provide important implications for theory and clinical practice.

Theoretical implications. Despite critiques of the construct of codependency for its broad definitions, vague diagnostic criteria, as well as gender or cultural bias (Anderson, 1994; Collins, 1993; Hogg & Frank, 1992; Granello & Beamish, 1998; Stafford, 2001), the findings in this study indicate that codependency may be a valid psychological construct, and that it is related to cultural values, particularly interdependent/collectivistic cultural orientations, in both Taiwan and the USA. College students in both countries with more interdependent/collectivistic cultural orientations tended to have higher levels of codependency. By contrast, college students with more independent/individualistic cultural orientations tended to have lower levels of codependency. This link between cultural orientations and codependency using the concepts of independent/individualistic and interdependent/collectivistic cultural orientations has not been previously made and provides empirical support for the idea that cultural factors may be influential in the development of codependency. Furthermore, findings indicated that college students in both countries with higher levels of codependency tended to have more family of origin difficulties, lower self-esteem, and more psychological adjustment problems. Once again these findings demonstrated that “lost selfhood” (Whitfield, 1991) is associated with issues that may prevent people with high codependency living psychologically well-adjusted lives.

Findings in this study lend some support to theoretical assumptions of codependency from systemic, developmental, as well as feminist perspectives. Accordingly, codependency can be viewed as excessively other-oriented caretaking traits and behaviors that are derived from a dysfunctional family environment from either systemic or developmental perspectives. While this study found support for a relationship between codependency and cultural values, particularly in individuals with interdependent/collectivistic cultural orientations, findings regarding gender and codependency were contrary to theoretical formulations indicating that women were erroneously attributed with higher levels of codependency due to gender bias (Anderson, 1994; Collins, 1993; Frank & Golden, 1992). Findings with the whole sample comprising the two cultural groups showed no significant gender differences in codependency among college students. Taiwanese theorists have opined that males may have higher levels of codependency than females under the influences of specific cultural values or gender role expectations that require men, particularly the eldest son in a family, to assume a care-taking role for the entire family (Chen & Wu, 2008; Wu & Wu, 2005).

Findings in this study also lend support to systemic perspectives of codependency based on Bowen's theory that indicate that family functioning plays an important role in the development of codependency. Because both males and females can be influenced by the family emotional system, both can develop certain levels of codependency (Fagan-Pryor & Haber, 1992). In Taiwan, with cultural values that emphasize family loyalty and interpersonal harmony (Wang & Heppner, 2002; Yang, 2004), family functioning or family of origin experiences have a great impact on the development of codependency.

In addition, the findings in this study also lend support to the shame-based essence of codependency in college students in both countries, although Taiwanese college students tend to be more interdependent/collectivistic-oriented as compared with American students. College students with more codependent characteristics tend to have lower self-esteem. Further, the findings lend support to the belief that codependency may be a valid psychological construct for college students in terms of their psychosocial development. College students are in a transition from adolescence to adulthood (Arnstein, 1984; White, 1980), and codependent styles that develop to cope with a limiting family environment may influence their search for self-identity and intimate relationships, which in turn may result in low self-esteem and psychological problems. In both Taiwan and the USA, psychological adjustment was the strongest predictor of college students' codependency, and college students with higher levels of codependency tended to have more psychological adjustment problems in terms of somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. As theorists (Fagan-Pryor & Haber, 1992; Hogg & Frank, 1992; Whitfield, 1991) suggested, individuals with varying levels of codependency may experience many relevant psychological symptoms. Wells et al. (2006) also suggested that college students who are codependent may be in crisis and need tertiary prevention in addition to the primary and secondary prevention issues. The findings in this study provide validation of the construct of codependency among college students in both countries when taking cultural values into account. Clinical implications based on theoretical assumptions and the research findings are presented as follows.

Clinical implications. Based on the aforementioned, the findings in this study can further inform multicultural counseling practice. Also, they can provide important implications for counseling college students who experience codependency in both Taiwan and the USA. Counselors focused on developing multicultural awareness, knowledge, and skills would benefit from considering the influence of gender and cultural values on codependency and thus avoid pathologizing caretaking behaviors that are culturally valued. They might also consider the differences between college males and females in general within the particular culture. Some cultural values may also differ based on the particular region of the country in which data is collected.

While a relationship between codependency and cultural orientations was found in college students in both countries, the importance of predictors as well as particular codependent characteristics shown were somewhat different for each cultural group. Counselors who work with Taiwanese college students need to pay particular attention to clients' family-of-origin experiences and how those experiences may influence their development of codependency and related symptoms. The role of family functioning in codependency can be better understood by clinicians who understand and acknowledge the importance of traditional Taiwanese cultural values of family loyalty and filial piety, which stipulate that children are educated to obey and fulfill their parents' expectations and needs (Wang & Heppner, 2002). Children are also expected to be responsible and care for their family members. In addition to individual self, an important part of Taiwanese college students' self-identity is associated with family and social self (Yang, 2004). As a result, while counselors can empower clients to develop more independent,

differentiated self through enhancing self-understanding and self-acceptance in supportive counseling relationships, clients' conflicts and struggles in balancing their emotional needs of autonomy and connection must be recognized and reframed in the cultural context.

Counselors who work with American college students also need to pay attention to college males' unresolved family-of-origin issues and the impact of family-of-origin experiences as well as cultural values on their development of codependency and related symptoms. As mentioned previously, males and females can be influenced by dysfunctional family systems, and thus codependency is not necessarily anticipated in females. Further, low self-esteem may be more strongly related to codependency than family functioning in college males given independent/individualistic cultural orientations in the USA. In addition to family-of-origin work in counseling, counselors can empower clients to nurture and take care of themselves through distinguishing between excessively other-oriented care-taking behaviors and normative nurturant behaviors (O'Gorman, 1993; Scaturro et al., 2000). Counselors can also encourage clients to get their own needs met and set appropriate boundaries in relationships.

Counselors working in college and high school settings could facilitate activities that help students examine and understand the roles they have played in their family of origin. As noted by Erickson (1968), during adolescence and early adulthood, the search for one's identity is an important task. Counselors could facilitate development in this area by conducting counseling groups or workshops that integrate with family therapy strategies such as the use of genograms to explore students' family-of-origin issues to

facilitate their identity development. Understanding one's roles within the family through group discussion and feedback exchange in the group process could promote the process of individuation, autonomy, and differentiation. This in turn could reduce codependency and related symptoms. Counseling using a Bowenian theoretical framework could be helpful in both individual and group counseling to help clients to understand the impact of family-of-origin experiences on the development of codependency as well as to promote a greater level of differentiation of self.

Limitations of this Study and Recommendations for Future Study

The findings of this study must be considered in the light of limitations when interpreting the findings and applying implications to clinical practice and future research. First, due to the relational design of this study, no causality could be established between codependency and cultural values and other significant predictors such as self-esteem and psychological adjustment. It is possible that individuals with lower self-esteem and more psychological problems tend to develop more codependent characteristics to cope with stress. Mediating relationships among codependency and the predictors were not specifically explored in the current study but supplemental analyses did indicate the influence of suppressor variables. Thus, future researchers may wish to conduct experimental or quasi-experimental studies to further examine causal or reciprocal links between codependency, cultural values and other variables.

Secondly, due to convenience sampling used in this study, the generalizability of the findings is limited. The findings can only be generalized to college students with similar characteristics in the same area in either the USA or Taiwan. Further, the

majority (85%) of participants in the U.S sample were white Caucasians, and therefore, the findings in the U.S. group might not represent college students from other ethnic groups. While the average age of 21 in each sample represents traditional-aged college students in Taiwan and the USA, the findings might not reflect students who are older. Future researchers may wish to explore codependency among graduate students or non-traditional undergraduates in more racially diverse environments. Other avenues for further study are to examine the developmental relationship between codependency and other variables such as attachment styles, levels of differentiation, and identity formation.

Thirdly, other limitations of this study are involved with measurement issues and unequal sample sizes. Due to the lack of consistent definitions and measurements of codependency, the finding of no gender effect on codependency must be considered with caution. Future researchers could use the same codependency measure with other college populations with equal sample sizes for gender to determine whether there is a gender effect on codependency in college populations. Further, the reliability of the Interdependent subscale in the SCS for both American and Taiwanese respondents was in the range of .57 to .63 in this study. This may be attributed to the 5-point Likert-type scale used in this study. Thus, future researchers may wish to use the original 7-point scale in order to increase the reliability of the SCS. In addition, although the findings in this study supported the presence of self-esteem as a universal phenomenon independent of culture, there may be bias in the scale used to measure global self-esteem from a Western perspective. As Singelis et al. (1999) suggested, future research may explore the

dimension of interdependent self-esteem and incorporate both independent and interdependent self-esteem to represent one's global self-esteem to avoid cultural bias.

Due to self-report measurement used in this study, all data were vulnerable to certain degrees of biases such as social-desirability bias. Future researchers may benefit from adding a social desirability check in their design. In addition, due to unequal sample sizes of the two cultural groups in this study, differences found in the importance of predictors of codependency cannot be determined. Future research is needed to recruit more participants in the U.S. sample to compare and determine the importance of predictors of codependency in the two cultural groups.

Another limitation of this study is about the equivalence of the translation of measures. Although translated measures including the CODAT, SCS, and GHQ-28 have undergone back translation and linguistic validation processes for Taiwanese users, it is also possible that differences found in codependency and cultural orientations, as well as the importance of predictors, were the result of nonequivalence of the translation rather than the result of true differences in the two samples. Finally, future researchers may wish to employ qualitative research methods to explore the effects of cultural values as well as other factors on the development as well as recovery of codependency and its related symptoms in college students in different cultural contexts.

Conclusions

This cross-cultural comparison study aimed to compare and examine codependency and other related characteristics in college students in Taiwan and the USA when taking cultural values into account. The findings of this study lend some

support to theoretical assumptions of codependency from systemic, developmental, and feminist perspectives. Codependency was found to be related to cultural values, particularly interdependent/collectivistic cultural orientations, in college students in both countries. After controlling for the effects of cultural orientations, college students in Taiwan had higher levels of codependency than their counterparts in the USA. However, the findings indicated no gender differences in codependency in college students. Contrary to expectations, college males had higher levels of codependency than females although only a significant gender difference was found in the U.S. sample. Further, the findings in this study lend support to the idea that codependency may be a valid psychological concept for college students. College students in both countries with higher levels of codependency tend to report more family-of-origin dysfunction or difficulties, lower self-esteem, and more psychological adjustment problems in terms of somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. Moreover, the importance of those predictors and particular codependent characteristics shown were somewhat different for college students in each cultural group. Accordingly, the findings in this study can add to the current literature on codependency and cultural values and provide important implications for counseling college students who experience codependency and related symptoms in both Taiwan and the USA.

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Appendix A: Approval from the Institutional Review Board



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Office of the Vice President for
Research

09X164

Office of Research Compliance
RTEC 117
Athens, OH 45701-2979

T: 740.593.0664
F: 740.593.9838
www.research.ohiou.edu

The following research study has been approved by the Institutional Review Board at Ohio University for the period listed below. This review was conducted through an expedited review procedure as defined in the federal regulations as Category(ies):

7

Project Title: Codependency among College Students in the United States and Taiwan: A Cross-Cultural Study

Primary Investigator: Shih-Hua Chang

Co-Investigator(s):

Faculty Advisor: Christine Suniti Bhat
(if applicable)

Department: Counseling & Higher Education

Rebecca Cale

Rebecca Cale, AAB, CIP
Office of Research Compliance

10/16/09

Approval Date

10/15/10

Expiration Date

This approval is valid until expiration date listed above. If you wish to continue beyond expiration date, you must submit a periodic review application and obtain approval prior to continuation.

Adverse events must be reported to the IRB promptly, within 5 working days of the occurrence.

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved by the IRB (as an amendment) prior to implementation.

S

Appendix B: Letter of Permission to Use and Translate the Codependency

Assessment Tool

From: MARTSOLF, DONNA

To: Christine Bhat ; 'Shona Chang'

Sent: Sunday, July 26, 2009 6:01 AM

Subject: RE: Permission for using and translating CODAT.

Chris,

Please use this email as written confirmation of my permission to translate into Chinese and to use the CODAT. Dr Hughes-Hammer has been retired for many years. She has transferred to me the responsibility of granting permission for use. I would request a copy of the translated tool and would ask that Shona provide me with reliability information after the study has been conducted. Good luck both to Shona and to you as the chair. Donna

Donna S. Martsolf, PhD
Professor
347 Henderson Hall
Kent State University
Kent, OH 44242

From: Shona Chang [mailto:shona@cycu.edu.tw]

Sent: Tuesday, July 21, 2009 5:00 AM

To: dmartsol@kent.edu

Cc: Christine Bhat

Subject: Permission for using and translating CODAT.

Dear Dr. Martsolf,

This is Shih-Hua Shona Chang, and I'm a doctoral student in Counselor Education at Ohio University. Now I'm in the stage of working on my dissertation, and I'm interested in conducting a cultural comparison study regarding codependency among college students in Taiwan and the United States. I'm very interested in the Codependency Assessment Tool, which is developed by Cyrilla Hughes-Hammer, you and Richard Zeller (1998), and would like to translate and use it in my study. I would like to ask for your permission to use and translate it in Chinese. Also, I was wondering if you can help me to contact with Dr. Hughes-Hammer to get her permission as well for I can't find her contact information from the internet. Thank you for your help and I look forward to hearing from you.

Cordially,

Shona

Appendix C: Letter of Permission to Use Self-Construal Scale

From: Singelis, Ted
To: Shona Chang
Sent: Tuesday, July 07, 2009 1:32 AM
Subject: RE: Chinese Version of Self-Construal Scale

Shona,

Yes you may use the SCS in your research. I am attaching the latest version with scoring instructions. I am also attaching some Chinese versions I have but you **MUST** check these for equivalence. I do not attest to their equivalence or validity. I ask only that you send me your results and any new translations you do.

Ted

From: Shona Chang [mailto:shona@cycu.edu.tw]
Sent: Thursday, July 02, 2009 6:06 AM
To: Tsingelis@csuchico.edu
Cc: tsingelis@csuchico.edu; Christine Bhat
Subject: Chinese Version of Self-Construal Scale

Dear Dr. Singelis,

This is Shih-Hua Shona Chang, and I'm a doctoral student in Counselor Education of Ohio University. Now I'm in the stage of working on my dissertation, and I'm interested in conducting a cultural comparison study regarding codependency among college students in Taiwan and the United States. I would like to use your Self-Construal Scale as one of my measures in my study and would like to ask for your permission to use it. Also, I've learned that you have developed the Chinese version of SCS, and I was wondering how I can get the Chinese version. Could you please send me a copy or direct me to get it? Thank you for your help and I look forward to hearing from you.

Cordially,
Shona

Appendix D: Letter of Copyright Inquiry and Permission to Use Family Assessment

Device

From: [Ryan, Christine Ph.D.](#)
To: [Shona Chang](#)
Cc: [Christine Bhat](#)
Sent: Wednesday, August 26, 2009 9:58 PM
Subject: RE: Copyright Inquiry and Permission to Use FAD.

Shona -

Thank you for your interest in the Family Assessment Device (FAD). I have attached an order form for the book *Evaluating and Treating Families* (\$40. for the paperback version) which includes the FAD, permission to make copies to use it for clinical, research, and teaching purposes. In addition, to the FAD, the book includes our research work over the past 40 years and provides information about the McMaster model (from which the FAD is derived), health/pathology cut-off scores, case studies, comparisons of cross-cultural ratings as well as scores for medical, psychiatric, and 'normal' populations, references from many sources of researchers who have used the FAD/MCRS, a chapter on frequently asked questions about the model, its application, and research methodology.

If you purchased a copy of the book, you have permission to use the FAD for clinical, research, or teaching purposes. If you are copying the FAD from another source, we ask that you obtain your own copy - there is a onetime fee (now increased to \$41.95, I believe). The 53-item FAD should not be used -- the book includes the 60-item FAD on which all the reliability, validity, and research studies are based. Also, the FAD has now been translated into 24 languages.

Please let me know if you have any other questions.

Sincerely,

Christine E. Ryan, Ph.D.
Director, Family Research Program
Assistant Director, Mood Disorders Program
Rhode Island Hospital
Department of Psychiatry & Human Behavior
The Warren Alpert School of Medicine at Brown University
Tel. 401-444-3534
FAX 401-444-3298

From: [Ryan, Christine Ph.D.](#)
To: [Shona Chang](#)

Cc: [Christine Bhat](#)
Sent: Thursday, August 27, 2009 8:29 PM
Subject: RE: Copyright Inquiry and Permission to Use FAD.

The copyright for translated versions of the FAD remains with the Brown Family Research Program (translations are backtranslated and reviewed by this group - and we work with the translators to use the most accurate translations). Once you have purchased the book, let me know and I will send you the Chinese versions. FYI, we have two Chinese versions - a simple one and a complex. I can send you both as soon as you have the book.

Chris Ryan

From: [Ryan, Christine Ph.D.](#)
To: [Shona Chang](#)
Cc: [Christine Bhat](#)
Sent: Thursday, September 24, 2009 8:59 PM
Subject: RE: Copyright Inquiry and Permission to Use FAD.

Dear Shona,

Attached are the original Chinese FAD and a 'Simple' Chinese FAD - I am not sure which would be more appropriate for your sample.

Could you please:

1. Provide references if you publish/use the data. :

Family Assessment Device (FAD) by Nathan B. Epstein, Lawrence M. Baldwin, Duane S. Bishop, 1983. In Evaluating and Treating Families: The McMaster Approach, CE Ryan, NB Epstein, GI Keitner, IW Miller, DS Bishop, Routledge, New York, 2005.

2. Please do not put on the internet.

Let me know if you have any questions.

Chris Ryan

From: Shona Chang [mailto:shona@cycu.edu.tw]
Sent: Tuesday, August 25, 2009 2:12 AM
To: [Christine_Ryan@Brown.EDU](#)
Cc: Christine Bhat
Subject: Copyright Inquiry and Permission to Use FAD.

Dear Dr. Ryan,

This is Shih-Hua Shona Chang from Ohio University. I'm a doctoral student in Counselor Education at OU, and my advisor is Dr. Christine Bhat. Now I'm in the stage of working on my dissertation, and consider to use Family Assessment Device as one of measures in my study regarding codependency among college students in Taiwan and the United States. I found the whole FAD in your book of *Evaluating and Treating families: The McMaster approach* (2005), and was wondering how to get the permission to use it in my study. I've learned that Dr. Epstein, the first author to develop the origin FAD with 53 items, may be retired, and I can't find his contact information. I was wondering if you can direct me to get the permission to use the FAD in my study. Thank you for your help and I look forward to hearing from you.

Cordially,

Shona

Appendix E: Letter of Agreement to Use and Translate General Health

Questionnaire

From: Lyra Lavazais
To: shona@cycu.edu.tw
Sent: Tuesday, October 13, 2009 9:22 PM
Subject: RE: 14605_The Chinese version of GHQ-28.
 Dear Shona,

Thank you for your message and your interest in the GHQ.

The use of the GHQ is licensed by GL Assessment. License agreement must be completed and User fee is required.

We invite you to contact: *GL Assessment, The Chiswick Centre, 414 Chiswick High Road, London W4 5TF, UK. E-mail: international@gl-assessment.co.uk - www.gl-assessment.co.uk*

*Distribution of translations: Mapi Research Trust has been contracted by **GL Assessment**, the copyright owners and publishers of the GHQ, the international distribution of the GHQ translations. To receive a copy of the needed translation(s) from Mapi Research Trust, you must first register with GL Assessment.*

We will be very pleased to provide you with the GHQ upon completion and signature of the User Agreement that is downloadable from our website at: <http://mapi-trust.org/services/questionnairelicensing/cataloguequestionnaires/52-GHQ>.

To speed up the procedure you can return the **GL Assessment License Agreement, signed by both parties, as well as the User Agreement** to us by fax at the following number: +33 472 13 66 82 to my attention or by email if you can have your signature scanned.

Important notice: the original copy of the User Agreement must follow by regular mail. Upon receipt, we will be able to provide you with the requested version.

I invite you to please visit our website for more information and review copy at <http://www.mapi-trust.org/services/questionnairelicensing/cataloguequestionnaires/52-GHQ>. In able to view the questionnaire, please complete the limited use agreement.

As per your request, please be informed that the Mandarin version only exist for the GHQ-12. However, we have a GHQ-28 in Cantonese.

May you have other questions, please feel free to get back to me directly.

Best regards,

Lyra

Lyra LAVAZAIS
Information Resources Unit Assistant

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Tel: +33 (0) 4 72 13 65 75 | Fax: +33 (0) 4 72 13 66 82 | llavazais@mapigroup.com | www.mapi-trust.org | www.groupemapi.com | www.proqolid.org | www.mapi-prolabels.org

From: [Lyra Lavazais](#)
To: [Shona Chang](#)
Sent: Tuesday, October 20, 2009 3:11 PM
Subject: RE: 14605_The Chinese version of GHQ-28_TA sent
Dear Shona,

First, please accept my most sincere apologies re my previous email. I thought I sent you the US English but I'm afraid, we don't have any US English versions. Again, I'm sorry for my mistake.

As for the Cantonese version I sent you, if you are interested in adapting this version into Chinese for Taiwan, we would be happy to give you the permission to do so. I invite you to please send me back duly completed the attached Translation agreement. Upon receipt, I will send you the linguistic validation guidelines to help you with the translation process.

I hope this is fine with you.

Kind regards,
Lyra

From: [Lyra Lavazais](#)
To: [Shona Chang](#)
Sent: Wednesday, October 21, 2009 10:53 PM
Subject: RE: 14605_The Chinese version of GHQ-28_Translation into Chinese for Taiwan
Dear Shona,

Thank you.

As mentioned earlier, please find attached the linguistic validation guidelines to help you perform the translation. We hope to hear from you by end of the year with the translated version and the translation report.

Thank you for your precious collaboration.

Wishing you all the best in your work and a lovely day,

Lyra

De : Shona Chang [mailto:shona@cycu.edu.tw]
Envoyé : dimanche 18 octobre 2009 19:20
À : Lyra Lavazais
Objet : Re: 14605_The Chinese version of GHQ-28
 Dear Lyra,

Thank you for your support and help. I will send you the original copies by regular mail.

However, I have two further questions and hope that you don't mind to answer them. First, I checked the English version of GHQ-28, and found that they are all the same. Because the file name you sent is "English UK GHQ-28". I was wondering if that is the US English version. Could you please check that for me again? If they are different, could you please email me the US English version again. If not, please don't mind it. I will use the original English version. Second, because the Chinese version of GHQ-28 is Cantonese, I was wondering if I can make some minor changes to fit the traditional Chinese used in Taiwan. Most of the items in the Chinese version of GHQ-28 are good, but I wonder if I can undergo a linguistic validation.

Thank you again for your help and I appreciate that.

Have a great day.

Regards,

Shona

De : Shona Chang [mailto:shona@cycu.edu.tw]
Envoyé : dimanche 11 octobre 2009 17:19
À : Vanessa MARTEL
Objet : The Chinese version of GHQ-28.
 Dear MAPI Research Trust,

This is Shih-Hua Shona Chang from Ohio University. I was directed to contact with you to receive the Chinese version of GHQ-28. Attached is my countersigned permission agreement from GL Permissions. I will need about 100 administrations of the Chinese version of GHQ-28, and the traditional Chinese version is preferred since I will use it in my study in Taiwan. Could you please let me know what form I need to fill in and any fee charged to get the Chinese version of GHQ-28.

Thank you and I look forward to hearing from you soon.

Cordially,

Shona

Appendix F: The Codependency Assessment Tool

Cyrilla Hughes-Hammer, Donna S. Martsolf, and Richard A. Zeller

Instructions: Below are a number of statements about yourself. Read each statement carefully, and decide how well it describes you. Beside each statement write the number that best matches how you feel. 1 = rarely, 2 = occasionally, 3 = often, 4 = usually, and 5 = most of time.

- _____ 1. I feel compelled or forced to help other people solve their problems (ie, offering unwanted advice).
- _____ 2. I try to control events and how other people should behave.
- _____ 3. I become afraid to let other people be who they are and allow events to happen naturally.
- _____ 4. I feel ashamed of who I am.
- _____ 5. I try to control events and people through helplessness, guilt, coercion, threats, advice-giving, manipulation, or domination.
- _____ 6. I worry about having stomach, liver, bowel, or bladder problems.
- _____ 7. I am preoccupied with the idea that my body is failing me.
- _____ 8. I feel compelled or forced to help people solve their problems (ie, offering advice).
- _____ 9. I feel that my general health is poor compared with my family and friends.
- _____ 10. I put on a happy face when I am really sad or angry.
- _____ 11. I keep my feelings to myself and put up a good front.
- _____ 12. I feel ill and run down.
- _____ 13. I hide myself so that no one really knows me.
- _____ 14. I keep my emotions under tight control.
- _____ 15. When I was growing up, my family didn't talk openly about problems.
- _____ 16. I have stomach, bladder, or bowel trouble.
- _____ 17. I pick on myself for everything, including the way I think, feel, look, act, and behave.
- _____ 18. I push painful thoughts and feelings out of my awareness.
- _____ 19. I grew up in a family that was troubled, unfeeling, chemically dependent, or overwrought with problems.
- _____ 20. My family expressed feelings and affection openly when I was growing up.
- _____ 21. I blame myself for everything too much.
- _____ 22. I am unhappy now about the way my family coped with problems when I was growing up.
- _____ 23. I am unhappy about the way my family communicated when I was growing up.
- _____ 24. I feel humiliated or embarrassed.
- _____ 25. I hate myself.

Appendix G: Chinese Version of the CODAT

以下是關於個人的一些陳述，請仔細閱讀下列各項，並在每項陳述後 1~5 選中，圈選一個最符合您狀況的答案。「很少如此」請選 1，「偶爾如此」請選 2，「時常如此」請選 3，「通常如此」請選 4，「總是如此」請選 5。

	很少 如此	偶 爾 如 此	時 常 如 此	通 常 如 此	總 是 如 此
1.我覺得自己會不自主地或強迫自己去幫助別人解決他們的問題 (例如：提供別人不需要的建議)。	1	2	3	4	5
2.我會試圖去控制事情和別人。	1	2	3	4	5
3.我會害怕讓別人表現自己或讓事情以自然的方式進行。	1	2	3	4	5
4.我對我自己感到羞愧。	1	2	3	4	5
5.我試圖以無助、罪惡感、強制、威脅、勸告或操控的方式， 去控制事情或別人。	1	2	3	4	5
6.我擔心自己有胃、肝、腸或膀胱方面的問題。	1	2	3	4	5
7.在我心中，一直有「我的身體正逐漸衰敗中」的念頭盤據著。	1	2	3	4	5
8.我會不自主地或是強迫自己地去幫助別人解決問題(例如： 提供建議)。	1	2	3	4	5
9.與我的家人和朋友比起來，我覺得我的健康狀況比他們差。	1	2	3	4	5
10.當我真的難過或生氣時，我仍會擺出一副笑臉。	1	2	3	4	5
11.我會隱藏好自己的感覺，並呈現出都很好的樣子。	1	2	3	4	5
12.我覺得身體不適，健康狀況不佳。	1	2	3	4	5
13.我會隱藏我自己，以至於沒有人真正瞭解我。	1	2	3	4	5
14.我會嚴密地控制自己的情緒。	1	2	3	4	5
15.在我成長的過程中，家人不會公開地談論問題。	1	2	3	4	5
16.我有腸胃或膀胱方面的困擾。	1	2	3	4	5
17.我會批評自己的每一件事情，包括想法、感受、外表、行為 和舉止表現等方面。	1	2	3	4	5
18.我會壓抑痛苦的想法和感覺，以使自己不再覺察這些想法和 感覺。	1	2	3	4	5
19.我成長在一個混亂不安、無情、有酗酒或其他藥癮問題的問題 家庭中。	1	2	3	4	5
20.我的家人在我成長的過程中，能夠很開放地表達情感受和情 感。	1	2	3	4	5
21.對每一件事情我都會過於苛責自己。	1	2	3	4	5
22.我對我家人處理問題的方式很不滿意。	1	2	3	4	5
23.我對我家人的溝通方式很不滿意。	1	2	3	4	5
24.我常覺得丟臉或不好意思。	1	2	3	4	5
25.我厭惡我自己。	1	2	3	4	5

Appendix H: The Back-Translated CODAT

Below are some statements about yourself. Please read each item carefully and choose the degree that best applies to you based on the following scale. 1= rarely, 2= occasionally, 3= often, 4= usually, and 5=always.

1. I feel forced to help people solve their problems (e.g. giving unneeded suggestions).	1	2	3	4	5
2. I try to control things and reactions of other people.	1	2	3	4	5
3. I am afraid to let people be themselves and allow things happen naturally.	1	2	3	4	5
4. I am ashamed of myself.	1	2	3	4	5
5. I try to use helplessness, guilty, coercion, threats, persuasions or manipulation to control things and other people.	1	2	3	4	5
6. I am worried that I could have problems in my stomach, liver, intestines or bladder.	1	2	3	4	5
7. I always have the thought that “my body is getting worse and worse.”	1	2	3	4	5
8. I feel forced to help other people solve their problems. (e.g. giving suggestions)	1	2	3	4	5
9. Compared with my family and friends, I think I am less healthy than them.	1	2	3	4	5
10. When I am sad or angry, I would still show my smile.	1	2	3	4	5
11. I would hide my own true feelings and show to others that everything is fine.	1	2	3	4	5
12. I feel tired and weak.	1	2	3	4	5
13. I would hide myself so that no one really understands me.	1	2	3	4	5
14. I would control my emotion harshly.	1	2	3	4	5
15. When I was growing up, my family did not discuss things openly.	1	2	3	4	5
16. I have problems in my stomach, intestine, or bladder.	1	2	3	4	5
17. I am picky about everything for myself, e.g. my thoughts, feelings, appearance, behaviors and so on.	1	2	3	4	5
18. I would push my painful feelings and thoughts out of awareness.	1	2	3	4	5
19. I grew up in a family that was troubled, heartless, having drinking or drug problems.	1	2	3	4	5
20. When I was growing up, my family were always willing to share their feelings and opinions.	1	2	3	4	5
21. I blame myself too much for everything.	1	2	3	4	5
22. I am dissatisfied with the ways that my family used to deal with problems.	1	2	3	4	5
23. I am dissatisfied with the way my family used to communicate.	1	2	3	4	5

24. I often feel ashamed or embarrassed.	1	2	3	4	5
25. I hate myself.	1	2	3	4	5

Back-translated by a graduate student, Huei-Ching Kang, in the department of Linguistics at Ohio University, who is bilingual in Chinese and English.

Appendix I: Self-Construal Scale

Theodore M. Singelis

Instructions: This is a questionnaire that measures a variety of feelings and behaviors in various situations. Listed below are a number of statements. Read each one as if it referred to you. Beside each statement write the number that best matches your agreement or disagreement. Please respond to every statement. Thank you.

1=STRONGLY DISAGREE 4=DON'T AGREE OR 5=AGREE SOMEWHAT
2=DISAGREE DISAGREE 6=AGREE
3=SOMEWHAT DISAGREE 7=STRONGLY AGREE

- ___ 1. I enjoy being unique and different from others in many respects.
- ___ 2. I can talk openly with a person who I meet for the first time, even when this person is much older than I am.
- ___ 3. Even when I strongly disagree with group members, I avoid an argument.
- ___ 4. I have respect for the authority figures with whom I interact.
- ___ 5. I do my own thing, regardless of what others think.
- ___ 6. I respect people who are modest about themselves.
- ___ 7. I feel it is important for me to act as an independent person.
- ___ 8. I will sacrifice my self interest for the benefit of the group I am in.
- ___ 9. I'd rather say "No" directly, than risk being misunderstood.
- ___ 10. Having a lively imagination is important to me.
- ___ 11. I should take into consideration my parents' advice when making education/career plans.
- ___ 12. I feel my fate is intertwined with the fate of those around me.
- ___ 13. I prefer to be direct and forthright when dealing with people I've just met.
- ___ 14. I feel good when I cooperate with others.
- ___ 15. I am comfortable with being singled out for praise or rewards.
- ___ 16. If my brother or sister fails, I feel responsible.
- ___ 17. I often have the feeling that my relationships with others are more important than my own accomplishments.
- ___ 18. Speaking up during a class (or a meeting) is not a problem for me.
- ___ 19. I would offer my seat in a bus to my professor (or my boss).
- ___ 20. I act the same way no matter who I am with.
- ___ 21. My happiness depends on the happiness of those around me.
- ___ 22. I value being in good health above everything.
- ___ 23. I will stay in a group if they need me, even when I am not happy with the group.
- ___ 24. I try to do what is best for me, regardless of how that might affect others.
- ___ 25. Being able to take care of myself is a primary concern for me.
- ___ 26. It is important to me to respect decisions made by the group.
- ___ 27. My personal identity, independent of others, is very important to me.
- ___ 28. It is important for me to maintain harmony within my group.
- ___ 29. I act the same way at home that I do at school (or work).
- ___ 30. I usually go along with what others want to do, even when I would rather do something different.

Appendix J: Chinese Version of SCS

以下是一些在不同情形下的感受和行為描述，請仔細閱讀下列各項，並在每項描述後的選項中，圈選一個最能反映您同意或不同意程度的答案。「非常不同意」請選 1，「不同意」請選 2，「中立意見」請選 3，「同意」請選 4，「非常同意」請選 5。

	非常 不同 意	不 同 意	中 立 意 見	同 意	非 常 同 意
1.在很多方面，我享受自己是獨一無二和跟別人不同的。	1	2	3	4	5
2.我能夠和初次見面的人坦誠交談，即使這個人比我年長很多。	1	2	3	4	5
3.即使當我和團體成員的意見很不合時，我也會避免爭執。	1	2	3	4	5
4.我尊重那些與我互動的權威人士。	1	2	3	4	5
5.我做自己的事，不管別人怎麼想。	1	2	3	4	5
6.我尊敬謙卑自己的人。	1	2	3	4	5
7.我覺得做一個獨立的人對我很重要。	1	2	3	4	5
8.我會為了團體的利益犧牲我自己的權益。	1	2	3	4	5
9.我寧願直接說“不”，也不願冒被誤解的危險。	1	2	3	4	5
10.有生動的想像力對我來說很重要。	1	2	3	4	5
11.在訂定學業或生涯計劃時，我應該考慮父母的建議。	1	2	3	4	5
12.我覺得自己的命運是和周圍人的命運連結在一起的。	1	2	3	4	5
13.與剛認識的人交往時，我比較喜歡用直截了當的方式。	1	2	3	4	5
14.跟別人合作時，我感覺很愉快。	1	2	3	4	5
15.被單獨挑選出來表揚或獎勵，我覺得很自在。	1	2	3	4	5
16.如果我的兄弟姐妹失敗了，我覺得自己也有責任。	1	2	3	4	5
17.我時常感到我與別人的關係比我個人的成就更為重要。	1	2	3	4	5
18.在課堂(或會議)上發言對我不成問題。	1	2	3	4	5
19.在公車上，我會讓位給我的老師(或老闆)。	1	2	3	4	5
20.無論跟誰在一起，我的行為表現都一樣。	1	2	3	4	5
21.我的快樂取決於身邊周圍人的快樂。	1	2	3	4	5
22.我認為身體健康比什麼都重要。	1	2	3	4	5
23.即使在團體中不開心，但如果他們需要我，我還是會留在這團體。	1	2	3	4	5
24.我會試著去做對自己最有益的事，不管對別人會造成什麼樣的影響。	1	2	3	4	5
25.我最關心的是能把自己照顧好。	1	2	3	4	5
26.對我來說，尊重團體的決定很重要。	1	2	3	4	5
27.我個人獨立的身份對我很重要。	1	2	3	4	5
28.對我而言，維持團體的和諧很重要。	1	2	3	4	5
29.我在家裡的行為表現跟在學校(或工作)一樣。	1	2	3	4	5
30.我常是跟著別人做他們想做的事，即便有時我寧可做其他不一樣的事。	1	2	3	4	5

Appendix K: Consent Form (English Version)

Ohio University Consent Form

Title of Research: Codependency among College Students in the United States and Taiwan.

Researcher: Shih-Hua Chang

Advisor: Dr. Christine Suniti Bhat

You are being asked to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered. This will allow your participation in this study. You should receive a copy of this document to take with you.

Explanation of Study

This research is a cross-cultural comparison study of codependency among college students in the USA and Taiwan. It aims to compare and examine the influence of cultural values and other related factors on the development of codependency traits in college students. The study survey consists of six parts. The first part includes the demographic information such as age, gender, and class level. The second through the sixth parts include different measures to assess your personal characteristics, cultural values, family of origin experiences, and psychological adjustment. It will take about 10 minutes to complete the survey. All the surveys are anonymous, and your participation in the study will not be linked to the class in which you are enrolled or your status as students at OU.

Risks and Discomforts

This research presents minimal risks to participants. No names or other identifying information will be included or required on the surveys. Your status at OU will be in no way affected by participation or non-participation in the study. However, responding to questions on the survey might lead to heightened distress or emotionality due to related negative past experiences. If you experience any discomforts following your participation in the study, please contact Counseling & Psychological Services, 3rd Floor at Hudson Health Center, Ohio University, (740)593-1616.

Benefits

No direct benefits are available. However, your participation will contribute to greater understanding of the construct of codependency and its related characteristics in different cultural contexts, which in turn will benefit the mental health profession as well as multicultural counseling practice.

Confidentiality and Records

No personally identifying information will be requested and confidentiality will be maintained at all times. There will be no effort made to link responses to individual

respondents. The data will not be available to other personnel or agencies and the primary researcher will be the only person who will have access to the data.

Additionally, while every effort will be made to keep your study-related information confidential, there may be circumstances where this information must be shared with:

- * Federal agencies, for example the Office of Human Research Protections, whose responsibility is to protect human subjects in research;
- * Representatives of Ohio University (OU), including the Institutional Review Board, a committee that oversees the research at OU.

Contact Information

If you have any questions regarding this study, please contact:

Shih-Hua Chang

Counseling and Higher Education

sc180707@ohio.edu

Dr. Christine Suniti Bhat

Counseling and Higher Education

374 McCracken Hall

Phone (740)593-4425

bhatc@ohio.edu

If you have any questions regarding your rights as a research participant, please contact

Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740)593-0664.

By completing the research survey, you are agreeing that:

- you have read this consent form (or it has been read to you) and have been given the opportunity to ask questions
- known risks to you have been explained to your satisfaction.
- you understand Ohio University has no policy or plan to pay for any injuries you might receive as a result of participating in this research protocol
- you are 18 years of age or older
- your participation in this research is given voluntarily
- you may change your mind and stop participation at any time without penalty or loss of any benefits to which you may otherwise be entitled.

Version Date: 10/16/09

Appendix L: Consent Form (Chinese Version)**研究知會同意書**

親愛的同學，您好：

首先感謝您願意抽空參與這份研究。這是一份跨文化的研究，主要想比較美國和台灣大學生的共依附特質以及了解文化和其他相關因素對共依附特質的影響。此研究問卷共分六大部份，除第一部份是您的基本資料外，其他部份則包含個人特質、文化價值觀、家庭經驗、及身心適應等方面的問卷。所有的問卷都是匿名的，無須填寫如姓名或學號等個人資料，所有的題目也沒有所謂的「標準答案」或對錯之分，因此您可以放心依照自己的真實狀況填寫。請您詳細閱讀每個說明，依序回答每個問題，如有任何問題，請隨時詢問施測人員。您所填寫的資料都是絕對保密，問卷結果也將僅供學術使用，不做其它用途。在填寫的過程中，您有權隨時停止，然而，十分希望您能支持我們的研究並完成這份問卷。您的參與將有助於了解共依附特質的文化因素並進而對心理輔導專業與多元文化諮商有很大的助益。若您對此研究有任何的問題，非常歡迎您與研究者聯繫。若因回答問卷題目引發過往相關的負面經驗而造成您心理上的不適，您可進一步尋求諮商輔導中心的協助(03-265-2131)。非常謝謝您的協助與合作。

美國俄亥俄大學諮商教育研究所
指導教授 Dr. Christine Suniti Bhat
博士候選人 張世華敬上
shona@cycu.edu.tw
2009/11/23

Appendix M: Scatterplots of Residuals for the Total Sample and the Two Cultural Groups

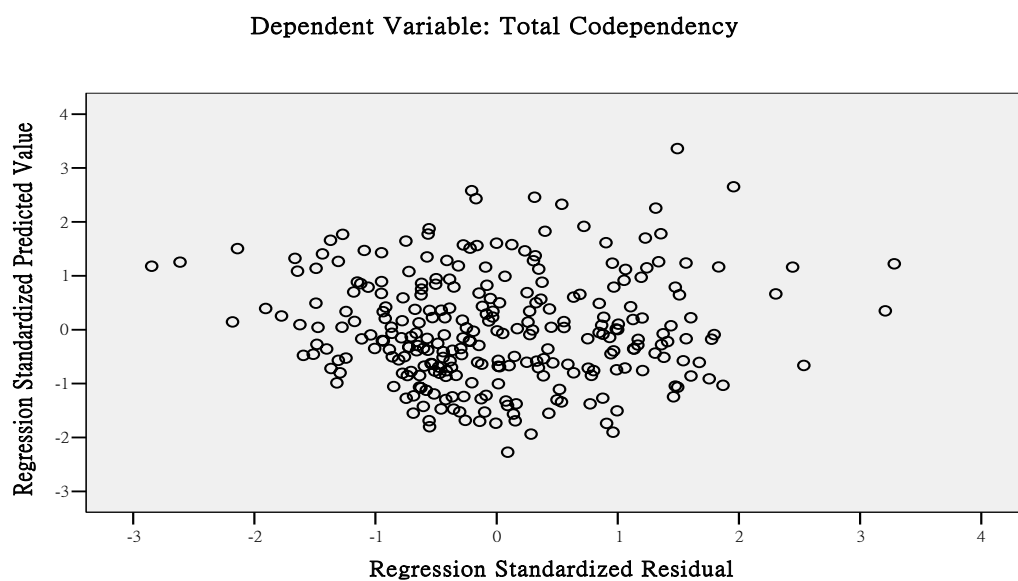


Figure 3. Scatterplot of Residuals for the Total Sample.

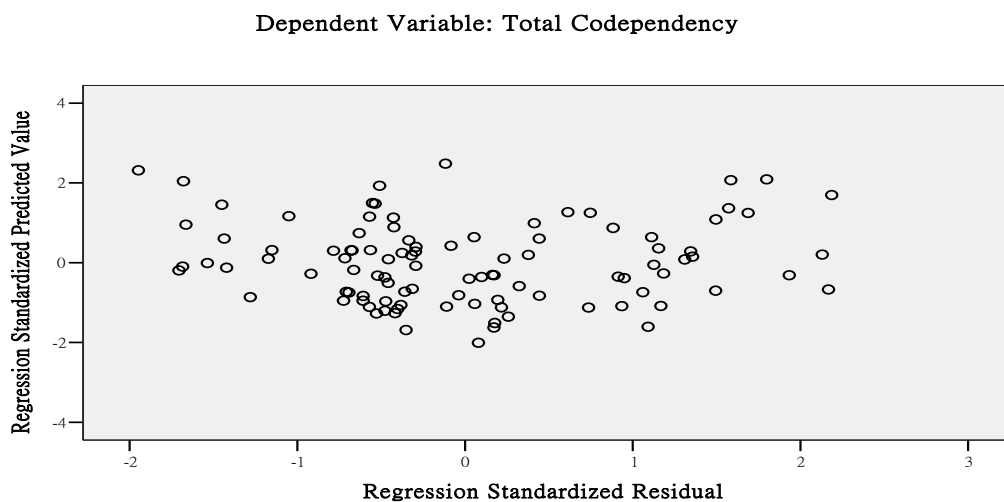


Figure 4. Scatterplot of Residuals for the U.S. Group.

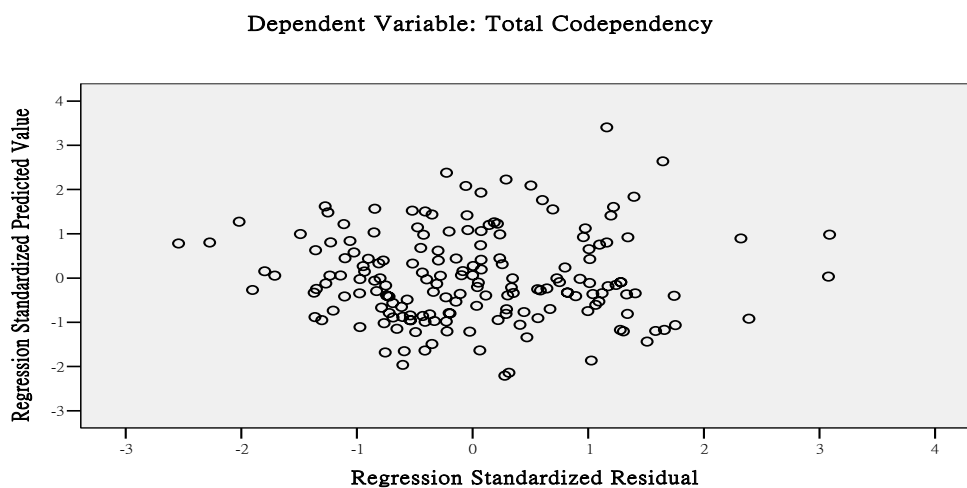


Figure 5. Scatterplot of Residuals for the Taiwanese Group.

Appendix N: Correlation Matrix of All Variables for Each Cultural Group

Table 6

Correlations of Codependency, Cultural Orientations, and Other Predictors for the U.S. and Taiwanese Cultural Groups

Cultural Group	Variables		1	2	3	4	5	6
USA (N = 101)	1. Total Codependency	Pearson Correlation	-	-.142	.265**	.407**	-.544**	.481**
		Sig.		.157	.007	.000	.000	.000
	2. Independent Self	Pearson Correlation		-	.226*	-.088	.364**	-.160
		Sig.			.023	.380	.000	.111
	3. Interdependent Self	Pearson Correlation			-	.071	-.171	.138
		Sig.				.484	.087	.170
	4. Family Functioning	Pearson Correlation				-	-.345**	.137
		Sig.					.000	.170
	5. Self-Esteem	Pearson Correlation					-	-.435**
		Sig.						.000
	6. Psychological Adjustment	Pearson Correlation						-
		Sig.						-
Taiwan (N = 176)	1. Total Codependency	Pearson Correlation	-	-.207**	.262**	.489**	-.444**	.510**
		Sig.		.006	.000	.000	.000	.000
	2. Independent Self	Pearson Correlation		-	-.049	-.255**	.493**	-.171*
		Sig.			.518	.001	.000	.024
	3. Interdependent Self	Pearson Correlation			-	.018	-.129	.166*
		Sig.				.808	.089	.028
	4. Family Functioning	Pearson Correlation				-	-.408**	.283**
		Sig.					.000	.000
	5. Self-Esteem	Pearson Correlation					-	-.400**
		Sig.						.000
	6. Psychological Adjustment	Pearson Correlation						-
		Sig.						-

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Appendix O: Tables of Hierarchical Regression Analysis Results for the Total Sample and the Two Cultural groups

Table 7

Hierarchical Regression Analysis for the Total Sample

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.388 ^a	.151	.145	.49707	.151	24.332	2	274	.000	
2	.689 ^b	.475	.462	.39435	.324	33.265	5	269	.000	2.157

a. Predictors: (Constant), Interdependent Self, Independent Self

b. Predictors: (Constant), Interdependent Self, Independent Self, Gender, Psychological Adjustment, Family Functioning, Cultural Group, Self-Esteem

Table 8

Hierarchical Regression Analysis for the Two Cultural Groups

Cultural Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
						R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
USA	1	.336 ^a	.113	.095	.44799	.113	6.242	2	98	.003	
	2	.713 ^b	.508	.476	.34071	.395	18.857	4	94	.000	2.092
Taiwan	1	.326 ^a	.106	.096	.52568	.106	10.305	2	173	.000	
	2	.667 ^c	.445	.425	.41925	.338	25.745	4	169	.000	2.191

a. Predictors: (Constant), Interdependent Self, Independent Self

b. Predictors: (Constant), Interdependent Self, Independent Self, Family Functioning, Psychological Adjustment, Gender, Self-Esteem

c. Predictors: (Constant), Interdependent Self, Independent Self, Gender, Psychological Adjustment, Family Functioning, Self-Esteem

Appendix P: Tables for Two-Way ANOVA Analyses for Null Hypothesis Five

Table 9

Tests of Between-Subjects Effects for Null Hypothesis Five (Other Focus/Self-Neglect)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	2.226	1	2.226	5.430	.021	.020
Cultural Group	5.797	1	5.797	14.144	.000*	.049
Gender * Cultural Group	.250	1	.250	.609	.436	.002

* $p < .01$

Table 10

Tests of Between-Subjects Effects for Null Hypothesis Five (Self-Worth)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.005	1	.005	.009	.926	.000
Cultural Group	11.851	1	11.851	19.890	.000*	.068
Gender * Cultural Group	.014	1	.014	.023	.879	.000

* $p < .01$

Table 11

Tests of Between-Subjects Effects for Null Hypothesis Five (Hiding Self)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	3.672	1	3.672	6.260	.013	.022
Cultural Group	1.894	1	1.894	3.229	.073	.012
Gender * Cultural Group	.042	1	.042	.071	.790	.000

Table 12

Tests of Between-Subjects Effects for Null Hypothesis Five (Medical Problems)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.146	1	.146	.222	.638	.001
Cultural Group	27.156	1	27.156	41.486	.000*	.132
Gender * Cultural Group	.079	1	.079	.121	.728	.000

* $p < .01$

Table 13

Tests of Between-Subjects Effects for Null Hypothesis Five (Family of Origin Issues)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	7.444	1	7.444	11.337	.001*	.040
Cultural Group	3.338	1	3.338	5.084	.025	.018
Gender * Cultural Group	2.637	1	2.637	4.017	.046	.015

* $p < .01$

Appendix Q: Tables for Two-Way ANOVA Analyses for Null Hypothesis Six

Table 14

Tests of Between-Subjects Effects for Null Hypothesis Six (SCS-Independent Self)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.017	1	.017	.109	.741	.000
Cultural Group	4.042	1	4.042	25.577	.000*	.086
Gender * Cultural Group	.025	1	.025	.159	.690	.001

Table 15

Tests of Between-Subjects Effects for Null Hypothesis Six (SCS-Interdependent Self)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	.112	1	.112	1.045	.307	.004
Cultural Group	5.540	1	5.540	51.779	.000*	.159
Gender * Cultural Group	.162	1	.162	1.512	.220	.006

Appendix R: Tables of Independent Samples T-Tests for Follow-up Analyses

Table 16

Independent-Samples T-Test for Cultural Group Differences in Each Codependency Subscale

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Other Focus/Self-Negle	Equal variances assum	3.320	.070	3.522	275	.001	.283	.080	.125	.442
	Equal variances not assumed			3.407	188.120	.001	.283	.083	.119	.447
Self-Worth	Equal variances assum	6.983	.009	-4.507	275	.000	-.433	.096	-.622	-.244
	Equal variances not assumed			-4.726	238.892	.000	-.433	.092	-.613	-.252
Hiding Self	Equal variances assum	1.747	.187	-2.061	275	.040	-.199	.097	-.389	-.009
	Equal variances not assumed			-2.131	229.787	.034	-.199	.093	-.383	-.015
Medical Problem:	Equal variances assum	28.993	.000	-6.437	275	.000	-.648	.101	-.847	-.450
	Equal variances not assumed			-7.312	274.304	.000	-.648	.089	-.823	-.474
Family of Origin Issues	Equal variances assum	1.090	.297	-2.544	275	.011	-.262	.103	-.465	-.059
	Equal variances not assumed			-2.498	197.048	.013	-.262	.105	-.469	-.055

Table 17

Independent-Samples T-Test for Gender Differences in the Subscale of Family of Origin Issues for Each Cultural Group

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Cultural Group										Lower	Upper
USA	Family of Origin Issues	Equal variances assumed	3.935	.050	3.330	99	.001	.546	.164	.221	.872
		Equal variances not assumed			3.265	85.604	.002	.546	.167	.214	.879
Taiwan	Family of Origin Issues	Equal variances assumed	2.145	.145	1.134	174	.258	.139	.122	-.103	.380
		Equal variances not assumed			1.104	143.149	.272	.139	.126	-.110	.387

Table 18

Mean and Standard Deviation for SCS-Independent Self

Gender	Cultural Group	Mean	SD	N
Male	USA	3.66	.35	46
	Taiwan	3.39	.37	99
	Total	3.47	.38	145
Female	USA	3.62	.46	55
	Taiwan	3.39	.41	77
	Total	3.49	.44	132
Total	USA	3.64	.42	101
	Taiwan	3.39	.38	176
	Total	3.48	.41	277

Table 19

Mean and Standard Deviation for SCS-Interdependent Self

Gender	Cultural Group	Mean	SD	N
Male	USA	3.39	.40	46
	Taiwan	3.74	.30	99
	Total	3.63	.37	145
Female	USA	3.49	.36	55
	Taiwan	3.73	.28	77
	Total	3.63	.34	132
Total	USA	3.44	.38	101
	Taiwan	3.74	.29	176
	Total	3.63	.36	277

Table 20

Independent-Samples T-Test for Cultural Group Differences in the Two Cultural Orientations

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Independent Self	Equal variances assumed	.213	.644	5.073	275	.000	.251	.049	.154	.348
	Equal variances not assumed			4.966	195.304	.000	.251	.051	.151	.351
Interdependen Self	Equal variances assumed	8.790	.003	-7.147	275	.000	-.292	.041	-.372	-.211
	Equal variances not assumed			-6.658	167.879	.000	-.292	.044	-.378	-.205

Appendix S: Tables of Hierarchical Regression Analyses for Additional Analyses

Table 21

Hierarchical Regression Analysis for the Interdependent Self as the Suppressor Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.237 ^a	.056	.053	.52312	.056	16.332	1	275	.000
2	.671 ^b	.450	.437	.40312	.394	38.617	5	270	.000
3	.689 ^c	.475	.462	.39435	.026	13.139	1	269	.000

a. Predictors: (Constant), Independent Self

b. Predictors: (Constant), Independent Self, Gender, Psychological Adjustment, Cultural Group, Family Functioning, Self-Esteem

c. Predictors: (Constant), Independent Self, Gender, Psychological Adjustment, Cultural Group, Family Functioning, Self-Esteem, Interdependent Self

Table 22

Regression Coefficients for the Interdependent Self as the Suppressor Variable

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	Correlations		
		B	Std. Error	Beta	t		Zero-order	Partial	Part
1	(Constant)	3.157	.267		11.831	.000			
	Independent Self	-.308	.076	-.237	-4.041	.000	-.237	-.237	-.237
2	(Constant)	2.067	.307		6.736	.000			
	Independent Self	.041	.068	.032	.606	.545	-.237	.037	.027
	Cultural Group	-.065	.057	-.058	-1.131	.259	.225	-.069	-.051
	Gender	-.087	.050	-.081	-1.732	.084	-.145	-.105	-.078
	Family Functioning	.300	.057	.279	5.266	.000	.495	.305	.238
	Self-Esteem	-.266	.064	-.267	-4.178	.000	-.514	-.246	-.189
	Psychological Adjustment	.922	.135	.348	6.829	.000	.526	.384	.308
3	(Constant)	1.163	.390		2.981	.003			
	Independent Self	.003	.068	.003	.049	.961	-.237	.003	.002
	Cultural Group	-.133	.059	-.119	-2.246	.026	.225	-.136	-.099
	Gender	-.094	.049	-.088	-1.913	.057	-.145	-.116	-.084
	Family Functioning	.303	.056	.281	5.431	.000	.495	.314	.240
	Self-Esteem	-.232	.063	-.232	-3.673	.000	-.514	-.219	-.162
	Psychological Adjustment	.875	.133	.331	6.597	.000	.526	.373	.291
	Interdependent Self	.271	.075	.179	3.625	.000	.320	.216	.160

Table 23

Hierarchical Regression Analysis for Family Functioning as the Suppressor Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.388 ^a	.151	.145	.49707	.151	24.332	2	274	.000
2	.646 ^b	.418	.405	.41464	.267	30.942	4	270	.000
3	.689 ^c	.475	.462	.39435	.058	29.496	1	269	.000

a. Predictors: (Constant), Interdependent Self, Independent Self

b. Predictors: (Constant), Interdependent Self, Independent Self, Gender, Psychological Adjustment, Cultural Group, Self-Esteem

c. Predictors: (Constant), Interdependent Self, Independent Self, Gender, Psychological Adjustment, Cultural Group, Self-Esteem, Family Functioning

Table 24

Regression Coefficients for Family Functioning as the Suppressor Variable

		Unstandardize d Coefficients		Standardized Coefficients		Correlations			
		B	Std. Error	Beta	t	Sig.	Zero- order	Partial	Part
1	(Constant)	1.394	.407		3.421	.001			
	Independent Self	-.287	.072	-.221	-3.963	.000	-.237	-.233	-.221
	Interdependent Self	.466	.084	.308	5.530	.000	.320	.317	.308
2	(Constant)	2.063	.371		5.554	.000			
	Independent Self	-.008	.071	-.006	-.116	.908	-.237	-.007	-.005
	Interdependent Self	.266	.079	.176	3.379	.001	.320	.201	.157
	Cultural Group	-.104	.062	-.094	-1.684	.093	.225	-.102	-.078
	Gender	-.156	.050	-.145	-3.096	.002	-.145	-.185	-.144
	Self-Esteem	-.329	.064	-.330	-5.174	.000	-.514	-.300	-.240
	Psychological Adjustment	.958	.139	.362	6.917	.000	.526	.388	.321
3	(Constant)	1.163	.390		2.981	.003			
	Independent Self	.003	.068	.003	.049	.961	-.237	.003	.002
	Interdependent Self	.271	.075	.179	3.625	.000	.320	.216	.160
	Cultural Group	-.133	.059	-.119	-2.246	.026	.225	-.136	-.099
	Gender	-.094	.049	-.088	-1.913	.057	-.145	-.116	-.084
	Self-Esteem	-.232	.063	-.232	-3.673	.000	-.514	-.219	-.162
	Psychological Adjustment	.875	.133	.331	6.597	.000	.526	.373	.291
	Family Functioning	.303	.056	.281	5.431	.000	.495	.314	.240

Table 25

Hierarchical Regression Analysis for Self-Esteem as the Suppressor Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.388 ^a	.151	.145	.49707	.151	24.332	2	274	.000
2	.670 ^b	.449	.437	.40337	.298	36.519	4	270	.000
3	.689 ^c	.475	.462	.39435	.026	13.491	1	269	.000

a. Predictors: (Constant), Interdependent Self, Independent Self

b. Predictors: (Constant), Interdependent Self, Independent Self, Gender, Psychological Adjustment, Family Functioning, Cultural Group

c. Predictors: (Constant), Interdependent Self, Independent Self, Gender, Psychological Adjustment, Family Functioning, Cultural Group, Self-Esteem

Table 26

Regression Coefficients for Self-Esteem as the Suppressor Variable

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	Correlations		
		B		Beta			Zero- order	Partial	Part
1	(Constant)	1.394	.407		3.421	.001			
	Independent Self	-.287	.072	-.221	-3.963	.000	-.237	-.233	-.221
	Interdependent Sel	.466	.084	.308	5.530	.000	.320	.317	.308
2	(Constant)	.497	.353		1.406	.161			
	Independent Self	-.097	.063	-.074	-1.522	.129	-.237	-.092	-.069
	Interdependent Sel	.313	.076	.207	4.135	.000	.320	.244	.187
	Cultural Group	-.082	.059	-.074	-1.392	.165	.225	-.084	-.063
	Gender	-.091	.050	-.084	-1.802	.073	-.145	-.109	-.081
	Family Functioning	.361	.055	.335	6.601	.000	.495	.373	.298
	Psychological Adjustment	1.023	.129	.387	7.915	.000	.526	.434	.358
3	(Constant)	1.163	.390		2.981	.003			
	Independent Self	.003	.068	.003	.049	.961	-.237	.003	.002
	Interdependent Sel	.271	.075	.179	3.625	.000	.320	.216	.160
	Cultural Group	-.133	.059	-.119	-2.246	.026	.225	-.136	-.099
	Gender	-.094	.049	-.088	-1.913	.057	-.145	-.116	-.084
	Family Functioning	.303	.056	.281	5.431	.000	.495	.314	.240
	Psychological Adjustment	.875	.133	.331	6.597	.000	.526	.373	.291
	Self-Esteem	-.232	.063	-.232	-3.673	.000	-.514	-.219	-.162