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# Interpersonal risk factors, shame, and depression among Asian Americans: A longitudinal study of perfectionistic family discrepancy and self-compassion as moderators

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**Interpersonal risk factors, shame, and depression among Asian Americans:  
A longitudinal study of perfectionistic family discrepancy  
and self-compassion as moderators**

by

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A dissertation submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of

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## ABSTRACT

This longitudinal study (Time 1 = beginning of the spring semester [February-March]; Time 2 = end of the spring semester [April-June]; Time 3 = middle of the fall semester [September-October]) applied Joiner's (2005) Interpersonal-Psychological Theory of Suicide to Asian Americans' experiences with depression. A moderated mediation model was tested. Perfectionistic family discrepancy and self-compassion were hypothesized to moderate the mediation effect of interpersonal shame on the interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression relationships while controlling for initial level of depression.

A total of 605 Asian Americans attending predominantly White, Midwestern universities completed three online surveys. Conditional process modeling via Hayes's (2013) PROCESS was used to analyze the data. Neither perfectionistic family discrepancy nor self-compassion moderated the hypothesized mediation effects. However, post hoc analyses supported the mediation hypothesis, and perfectionistic family discrepancy moderated the direct effects of thwarted belongingness on depression while controlling for initial level of depression. Specifically, results from conditional direct effects indicated that the significantly positive association between thwarted belongingness and depression was stronger for those with higher than lower perfectionistic family discrepancy. Perfectionistic family discrepancy also moderated the direct effect of perceived burdensomeness on depression while controlling for initial level of depression. While the conditional direct effects were not significant, the significant interaction demonstrated that the slopes at different levels of the moderator were significantly different from each other. When perfectionistic family discrepancy was experienced at a high level, the slope was positive; at a low level, the slope was negative. Therefore, Asian Americans with higher

discrepancy in meeting their families' standards for performance are more vulnerable to depression when they believe they burden others compared to those with lower discrepancy. Self-compassion did not significantly moderate the thwarted belongingness-depression or perceived burdensomeness-depression relations.

In sum, this study extended Joiner's (2005) theory to Asian Americans' risk for future depression. Our model also identified that Asian American college students with high family expectations for perfectionism may be at higher risk for depression that stems from experiences of interpersonal shame, thwarted belongingness, and perceived burdensomeness. Limitations, future research directions, and counseling implications were discussed.



## CHAPTER 1. INTRODUCTION

Asian Americans have been viewed as members of the “model minority” group who may adjust well to college life upon leaving their families. That is, they may be held to high regard for their ability and desire to excel academically (Kim, Atkinson, & Yang, 1999; Kwan, 2000). Yet, literature on Asian American mental health has demonstrated that they may report concerns such as anxiety (Sangalang & Gee, 2012), depression (Wang, 2010), shame (Wong, Kim, Nguyen, Chen, & Saw, 2014), or thoughts of suicide (Cheng et al., 2010) resulting from interpersonal concerns (e.g., lacking a sense of belongingness and fearing that one is burdening others). While the effect of interpersonal stressors on Asian American mental health has been studied, few studies have assessed mediating or moderating factors that protect or harm them while in college. The purpose of this study was to apply Joiner’s (2005) Interpersonal-Psychological Theory of Suicide to Asian American college students and to psychological outcomes other than suicide (i.e., depression). Given that they are at risk for exhibiting higher depression (National Alliance on Mental Illness, 2003), a better understanding of risk and protective factors related to depression is imperative. For example, focusing on how moderators (e.g., perfectionistic family discrepancy and self-compassion) alter the strength of the mediating role interpersonal shame may play in the interpersonal risk factors-depression links over time could provide clinicians knowledge on how to treat depression among their Asian American college students.

#### Applying Joiner’s (2005) Interpersonal-Psychological Theory to Depression

Joiner (2005) originally proposed an interpersonal theory in which the desire to die by suicide results from the simultaneous presence of two negative interpersonal states: thwarted belongingness and perceived burdensomeness. Both interpersonal states can be applied to depression (T. Joiner, personal communication, September 23, 2014). *Thwarted belongingness*

describes individuals' perception that they are isolated from others and do not form a vital part of their valued social group. *Perceived burdensomeness* refers to individuals' perception that they are a burden to their friends, family, and society in general. According to Joiner, when individuals experience both states as stable and unchanging, they are proximal and sufficient causes of passive suicidal ideation (Joiner et al., 2009; Van Orden, Witte, Gordon, Bender, & Joiner, 2008) and possibly depression (T. Joiner, personal communication, September 23, 2014). More than 20 empirical tests have been conducted with Joiner's Interpersonal-Psychological Theory using Caucasian college samples (Ribeiro & Joiner, 2009) and non-college samples (e.g., Van Orden, Lynam, Hollar, & Joiner, 2006). Recently, some studies have applied Joiner's theory to Asian Americans due to its relevant emphasis on two negative interpersonal states that are congruent with Asian cultural norms (i.e., the importance of maintaining relationships and group cohesion; Wong, Brownson, & Schwing, 2011a; Wong, Koo, Tran, Chiu, & Mok, 2011b; Wong & Poon, 2010). Cross-cultural validity of Joiner's theory has also been demonstrated among Chinese university students (Zhang, Lester, Zhao, & Zhou, 2013).

It is reasonable to apply Joiner's interpersonal states to depression (T. Joiner, personal communication, September 23, 2014). For instance, a sense of belonging is a basic human motivation that, when absent, can affect the onset and course of depression (Baumeister & Leary, 1995; Hagerty & Williams, 1999; Maslow, 1954). Hagerty, Williams, Coyne, and Early (1996) found that personal involvement in a system or environment and feeling valued by others are closely related to social and psychological functioning among college students. Previous research has also alluded to constructs related to perceived burdensomeness (e.g., mattering) that may influence the onset of depression (Fisher-Beckfield & McFall, 1982). Specifically, mattering describes the extent to which individuals believe they make a difference in the world around

them; individuals feel as though they matter if they perceive others attend to, invest in, or look to them for resources. If individuals do not matter to others, they may feel irrelevant, without purpose, or even harmful to those around them, which can contribute to low self-esteem, high academic stress, and depression (Dixon & Robinson Kurpius, 2008; Taylor & Turner, 2001).

With specific reference to Asian Americans, both thwarted belongingness and perceived burdensomeness may relate to the value they place on upholding their membership status in their in-group(s) by attending to others and maintaining a sense of harmonious interdependence (Markus & Kitayama, 1991; Triandis, Bontempo, & Villareal, 1988). First, experiencing a sense of social integration within their community may contribute to a sense of belongingness which, according to Joiner, is relevant in the development of depression; thwarted belongingness has been operationally defined as low levels of support from others (Hill & Pettit, 2014). A lack of connection with one's friends, family, and community members may ultimately bring about feelings of discomfort and insecurity, as well as increase Asian Americans' susceptibility to depression. Second, Asian Americans may be wary of when they burden others due to collectivist culture advocating for interpersonal harmony, avoiding conflict, and avoiding unnecessary use of community resources. If they do not believe they are serving an important role in their group or deserve the attention of others, Asian Americans may believe they are burdening others, which can contribute to their feeling depressed, embarrassed, and ashamed (Taylor et al., 2004). Based on Joiner's theory as applied to depression, the present study examined a moderated mediation model for the associations between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression among Asian American college students across three time points.

## Interpersonal Shame

While the literature on shame, its many operational and conceptual definitions, and its distinctive characteristics as compared with guilt is extensive, literature exploring racial/ethnic minority experiences with shame to future psychological outcomes is relevantly new. Several scholars have begun to highlight the salience of shame among Asian Americans due to its presence in several Asian languages, parenting techniques (e.g., discussing children's transgressions in front of others to induce shame and socialize children to behave properly; Louie, 2014), and higher levels of shame experiences compared to Caucasians (as cited in Wong et al., 2014). Conceptually, Markus and Kitayama (1991) argue that aspects of the self among Asians rest upon a sense of interdependence on others, which influences their concern with gaining approval from others. Those who believe they fail to fulfill socially prescribed duties may experience shame (Lutwak, Razzino, & Ferrari, 1998).

Recently, Wong et al. (2014) reviewed the literature of shame experiences among Asian Americans and conceptualized their experiences as predominantly interpersonal in nature. They proposed the construct of interpersonal shame, or the experience of shame arising from interpersonal concerns consisting of two dimensions: *external shame* (i.e., shame resulting from concerns about others' negative evaluations of the self) and *family shame* (i.e., shame resulting from the perception that one has brought shame to one's family). While the former reflects the consequences individuals feel when they believe others see flaws within them, the latter reflects perceived consequences of bringing shame upon multiple people (i.e., family members). Among Asian American college students, external and family shame positively correlate with depression and suicidal ideation and negatively correlate with self-esteem (Wong et al., 2014).

### Proposed Moderated Mediation Model

This study proposed two moderating variables that may impact the mediation effect of interpersonal shame on the interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression links (see Figure 1). First, one culturally salient variable that may serve as risk factor for the interpersonal stressors-interpersonal shame and interpersonal shame-depression links is perfectionistic family discrepancy (see below). Due to these students' exposure to U.S. mainstream and Asian cultures, it is possible that their parents may demonstrate high expectations for academic excellence and greater criticism when these expectations are not fulfilled (Yoon & Lau, 2008). On the other hand, incorporating high expectations for perfection may reflect a culturally appropriate form of parenting (DiBartolo & Rendón, 2012). This study responds to a call from previous studies to assess the nature of perfectionistic family discrepancy, given the importance Asian American families place on expectations for achievement (Castro & Rice, 2003).

Similarly, another culturally salient variable that may influence the hypothesized mediation relationships is self-compassion (see below). Neff (2003) argued that the relationship between self-criticism and depression may be distinct for those who identify with East Asian culture, or a culture that may advocate awareness of personal shortcomings to aid self-improvement. In fact, Asian American students may demonstrate self-compassion and self-criticism tendencies to a greater degree compared to American students, even though their overall self-compassion scores do not differ significantly (Birkett, 2014). To effectively unravel the role self-compassion may serve for Asian Americans, I included it as a possible moderating variable for the proposed mediation hypotheses.

### Perfectionistic family discrepancy

First, it was expected that positive associations between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and interpersonal shame would be stronger for those with higher perfectionistic family discrepancy than for those with lower perfectionistic family discrepancy (see Figures 3-4). Wang (2010) developed the construct of perfectionistic family discrepancy to describe the degree to which individuals perceive themselves as unable to meet their families' standards. Asian culture advocates a strong connection and obligation to the family, particularly with respect to meeting their expectations (Kwan, 2000). Asian Americans with high perfectionistic family discrepancy may perceive that they are not meeting their family's standards for performance. They are more likely to believe they have lost face, disgraced their family, or not honored their family via their achievements. The interpersonal shame they perceive may increase if they do not believe they can meet their families' expectations; this perceived discrepancy may thus strengthen the negative effect of these risk factors on their interpersonal shame.

Empirically, Wang, Wong, and Fu (2013) conducted a study with Asian international students examining the moderating effects of perfectionistic personal discrepancy, perfectionistic family discrepancy, and discrimination on the relation between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and suicidal ideation. Results demonstrated that perfectionistic family discrepancy and discrimination intensified the interpersonal risk factors-suicidal ideation links. Therefore, based on the above rationale and relevant empirical support, it was hypothesized that perfectionistic family discrepancy would strengthen the positive associations between interpersonal risk factors and interpersonal shame.

Second, it was expected that the positive association between interpersonal shame and depression would be stronger for those with higher perfectionistic family discrepancy than for those with lower perfectionistic family discrepancy (see Figure 5). As mentioned above, Asian Americans with higher perfectionistic family discrepancy may perceive a gap between their families' standards for performance and their actual performance. They may be more likely to believe that they are unable to fulfill their families' expectations, which can make them vulnerable to depression in the face of high interpersonal shame.

Although this specific hypothesis has not been tested empirically, two studies evidence the possible moderating role of perfectionistic family discrepancy. Hewitt and Flett (1993) tested their hypothesis that socially prescribed perfectionism might moderate the relations between daily stress (i.e., achievement [e.g., workload] and interpersonal [e.g., social commitments] hassles) and depression among adult inpatients. Those who were high in socially prescribed perfectionism showed an increase in depression as the amount of daily stress increased. More recently, Wei, Mallinckrodt, Russell, and Abraham (2004) explored the moderating role of maladaptive perfectionism on the relation between adult attachment and depression. Their findings suggested that depression was significantly positively associated with attachment anxiety for undergraduate students with higher maladaptive perfectionism. Thus, conceptual and related empirical findings support the hypothesis that perfectionistic family discrepancy may also strengthen the positive association between interpersonal shame and depression.

#### Self-compassion

With respect to self-compassion, it was expected that positive associations between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and interpersonal shame would be weaker for those with higher self-compassion than for those with

lower self-compassion (see Figures 6-7). Neff's (2003) construct of self-compassion entails treating oneself with kindness, recognizing one's shared humanity with others, and holding one's emotional pain (e.g., shame) in mindful awareness. Asian Americans who display high self-compassion may be better able to show themselves kindness and understand that they are not alone for feeling a lack of belongingness. In the face of thwarted belongingness, they might recognize that it may take time to feel connected with others and hold their loneliness in mindful awareness. Moreover, greater self-kindness may help them to feel less perceived burdensomeness; high self-compassion may make it less likely that individuals criticize themselves and judge their self-worth as low (i.e., as a burden or harm to others). In this way, self-compassion as a resource might decrease the interpersonal shame they experience because they have difficulty connecting with others and believing in their worth and competence. Empirically, I was not able to locate any studies that have specifically tested the moderating role of self-compassion on the interpersonal risk factors-interpersonal shame links. One reason for this may be that Joiner's interpersonal states are relatively new to the literature; however, the moderating role of self-compassion with respect to other psychological outcomes has been shown elsewhere (see below). Nonetheless, it was hypothesized that self-compassion would moderate the links of interpersonal risk factors and interpersonal shame.

Additionally, it was expected that the positive relation between interpersonal shame and depression would be weaker for those with a higher level of self-compassion than for those with a lower level of self-compassion (see Figure 8). The rationale for this hypothesis is the following. Asian Americans who exhibit high self-compassion may be less critical of themselves when feeling inadequate, negatively evaluated by others, and believing they are bringing shame upon their family. They may also realize that there are others like themselves who struggle with



shame resulting from interpersonal stressors they encounter while at college. Highly self-compassionate Asian Americans may be more aware of their shamed feeling and better able to avoid over-identifying with their shame to the point of feeling depressed. Empirical studies have showed evidence for the associations among self-compassion, shame-related concepts, and negative outcomes (Hall, Row, Wuensch, & Godley, 2013; Van Dam, Sheppard, Forsyth, & Earleywine, 2010; Woods & Proeve, 2014) as well as its moderator role. Wong and Mak (2012) found that the associations between cognitive-personality vulnerability styles and depression among Chinese adults in Hong Kong were weaker among those with high self-compassion. Kyeong (2013) also showed that the effect of academic burden on Korean students' depression was weaker for those who exhibited high self-compassion. According to the above reasoning and relevant empirical studies, it was hypothesized that self-compassion would lessen the positive association between interpersonal shame and depression.

#### The Present Study

In sum, limited studies have applied Joiner's (2005) Interpersonal-Psychological theory to Asian American college student populations. To my knowledge, this was also the first study to test this theory with the outcome variable of depression over time. Data were collected over three academic semesters (Time 1 [T1] = beginning of spring semester; Time 2 [T2] = end of spring semester; and Time 3 [T3] = middle of fall semester) to test the hypothesized moderated mediation model shown in Figure 2. Perfectionistic family discrepancy and self-compassion were hypothesized to moderate the mediation effects from interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) through interpersonal shame to depression. First, it was expected that the associations between interpersonal risk factors and interpersonal shame would be stronger for those with higher than with lower perfectionistic

family discrepancy (see Figures 3-4). It was also hypothesized that the associations between interpersonal shame and depression would be stronger for those with higher than with lower perfectionistic family discrepancy (see Figure 5). Next, it was expected that the associations between interpersonal risk factors and interpersonal shame would be weaker for those with higher than with lower self-compassion (see Figures 6-7). It was also hypothesized that the association between interpersonal shame and depression would be weaker for those who have higher than lower self-compassion (see Figure 8). Finally, initial level of depression was used as a covariate to account for its possible impact on future depression (see Figure 1). It is possible that Asian Americans who exhibit high depression at T3 may also experience high depression at T1. Therefore, to fully understand the hypothesized moderated mediation effects, it was important to control for the confounding variable of depression level at T1.

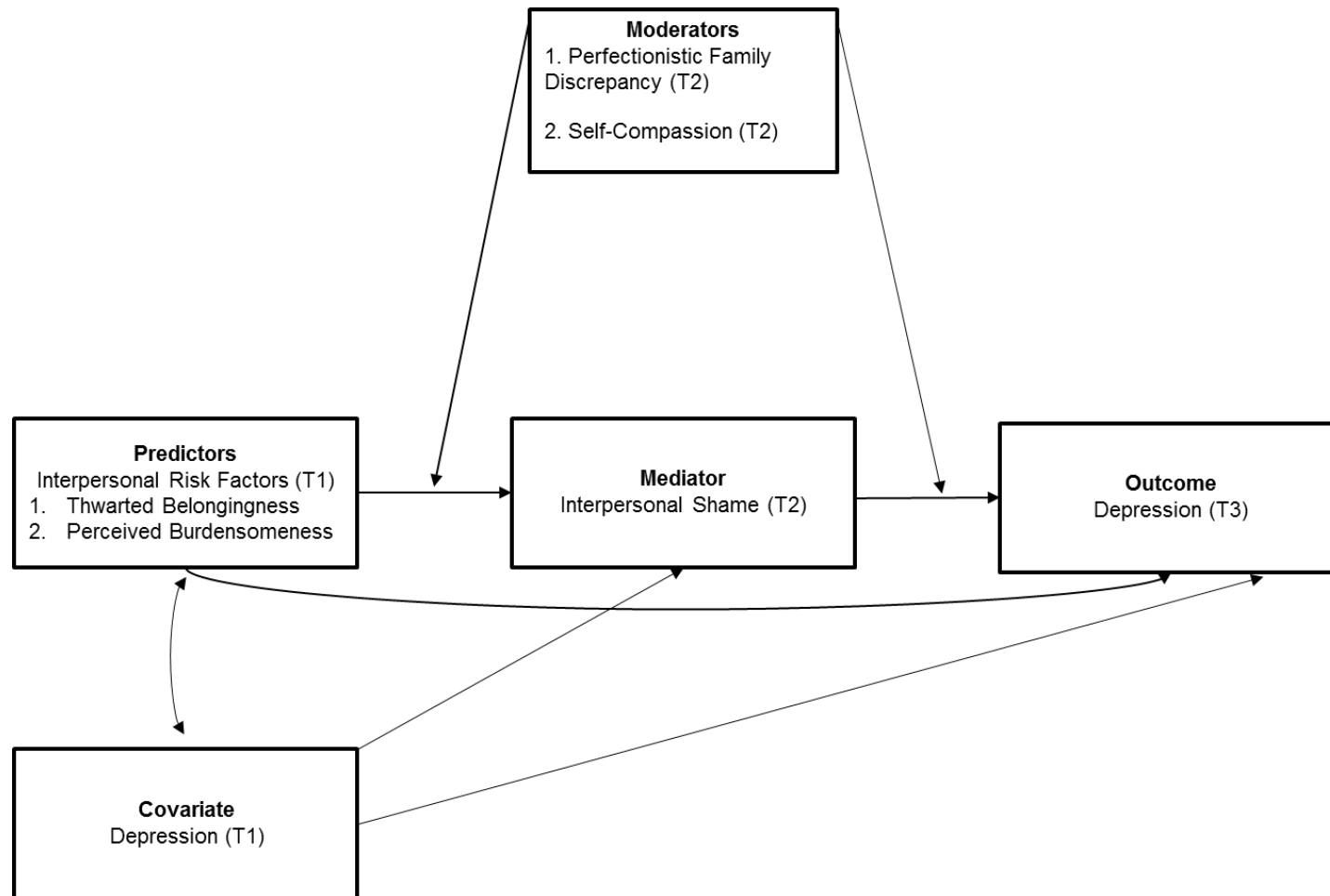


Figure 1. The Hypothesized Conceptual Model. T = Time.

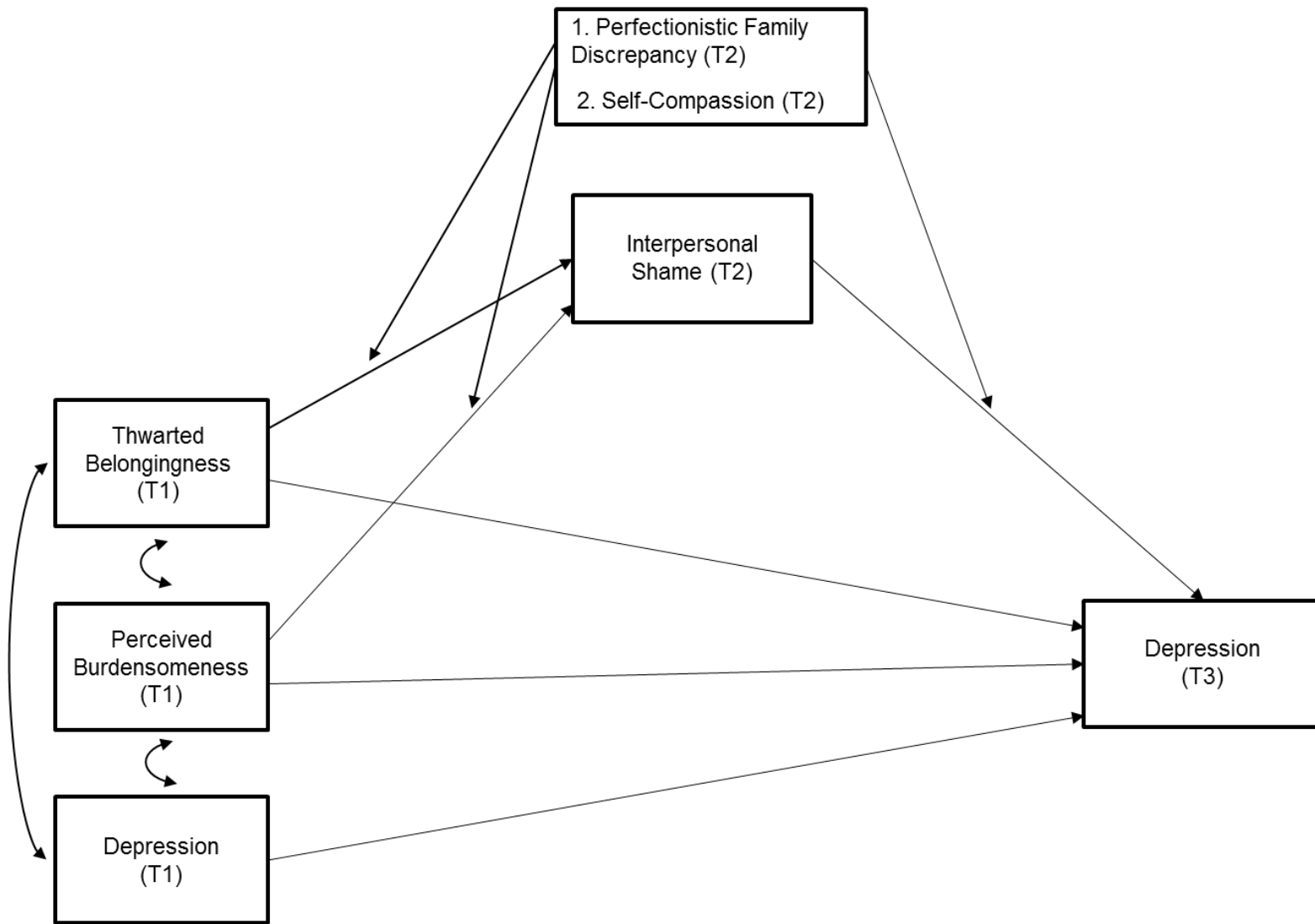
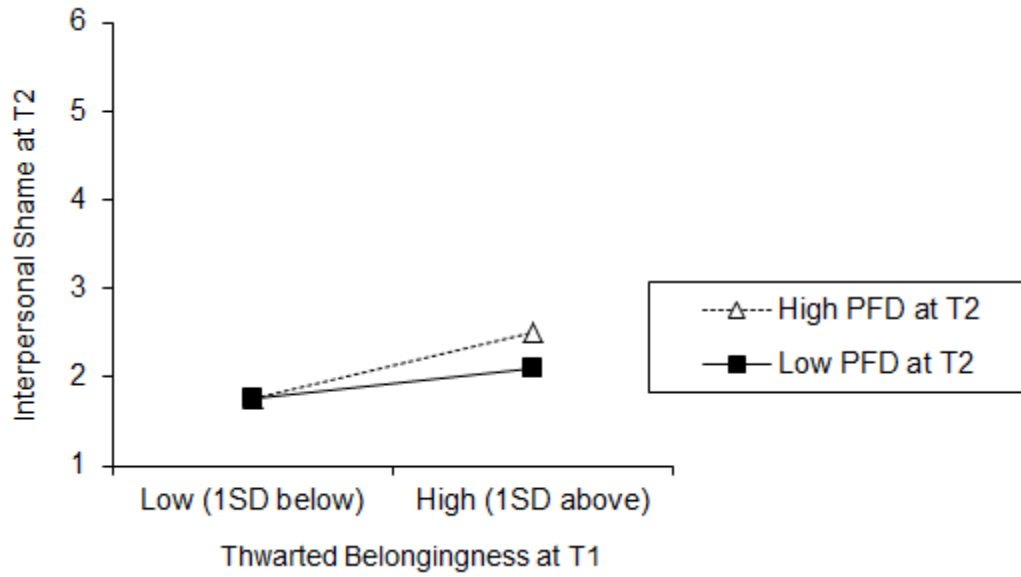
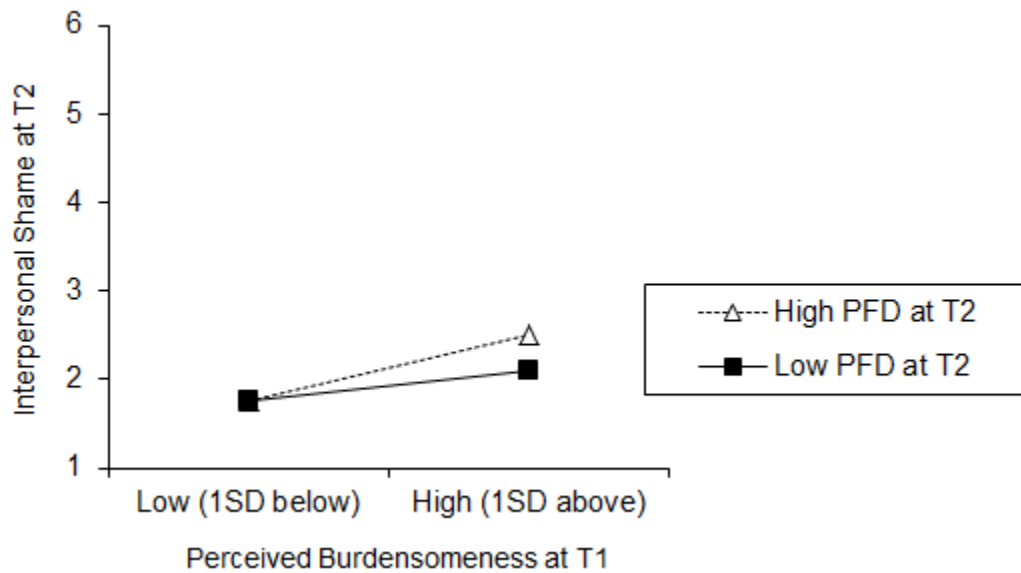


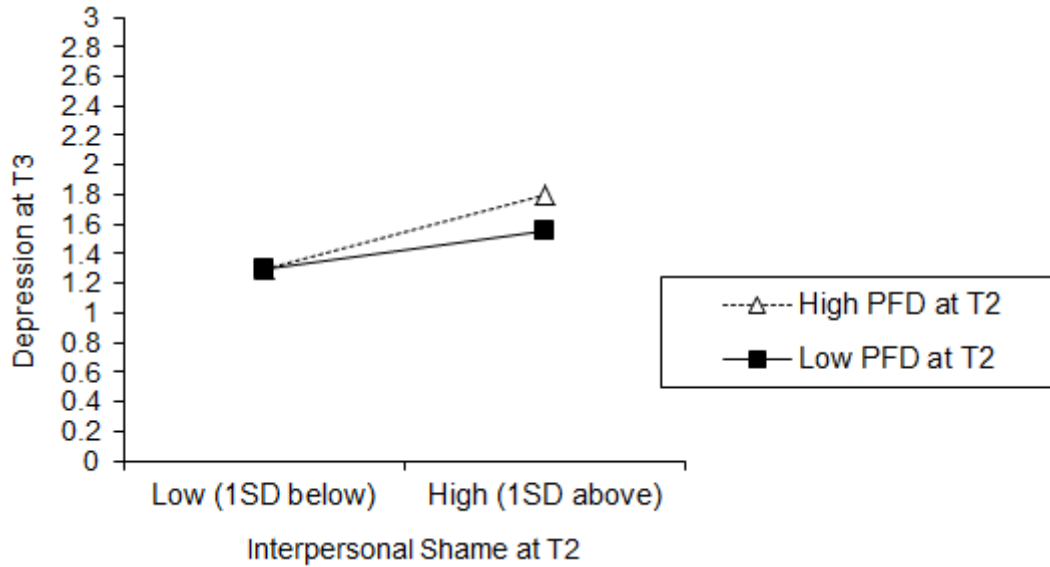
Figure 2. The Hypothesized Moderated Mediation Model. T = Time.



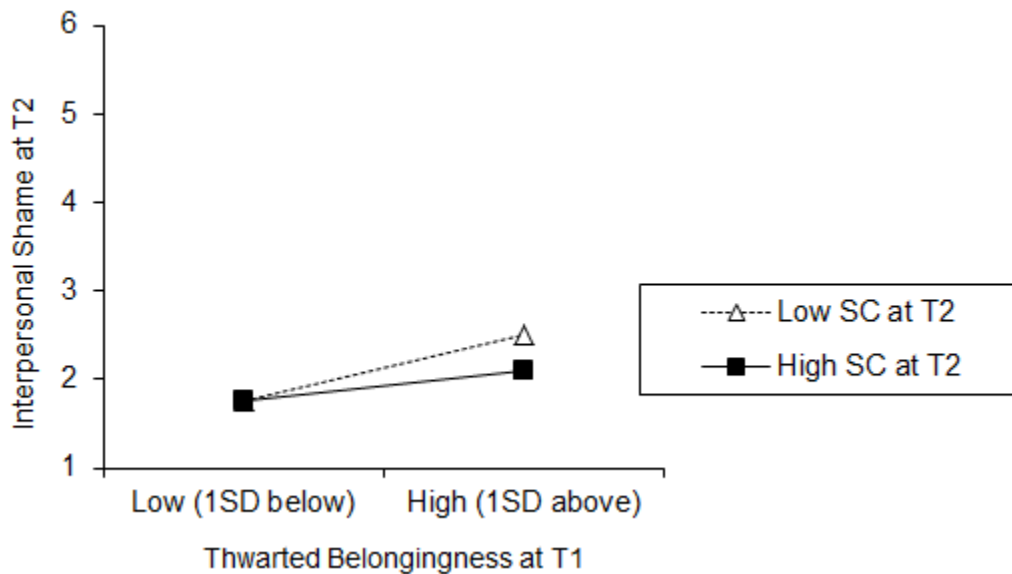
*Figure 3.* Hypothesized Interaction Effects of Thwarted Belongingness at T1 on Interpersonal Shame at T2 for Those with Higher and Lower Levels of Perfectionistic Family Discrepancy at T2. PFD = Perfectionistic Family Discrepancy. T = Time.



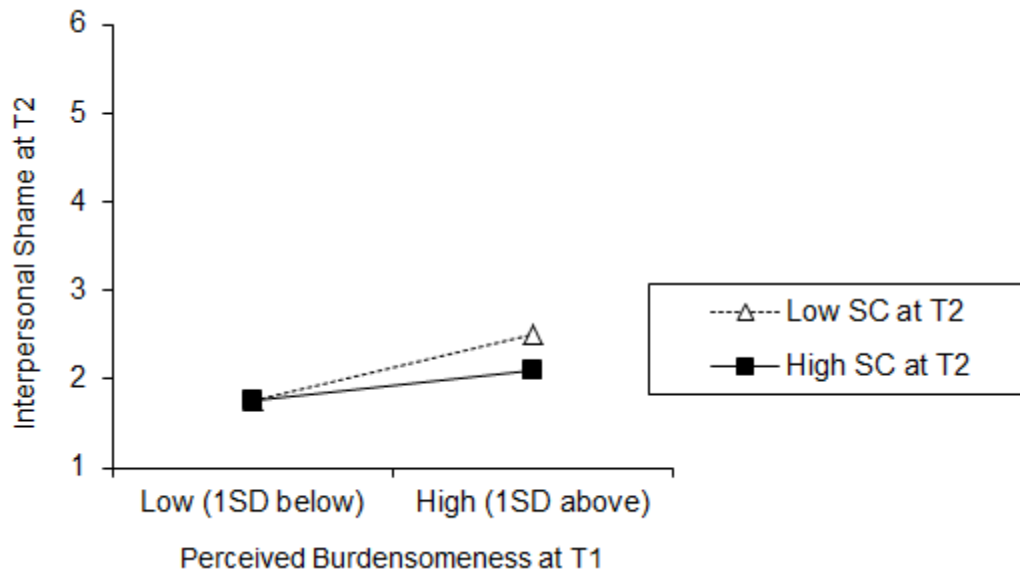
*Figure 4.* Hypothesized Interaction Effects of Perceived Burdensomeness at T1 on Interpersonal Shame at T2 for Those with Higher and Lower Levels of Perfectionistic Family Discrepancy at T2. PFD = Perfectionistic Family Discrepancy. T = Time.



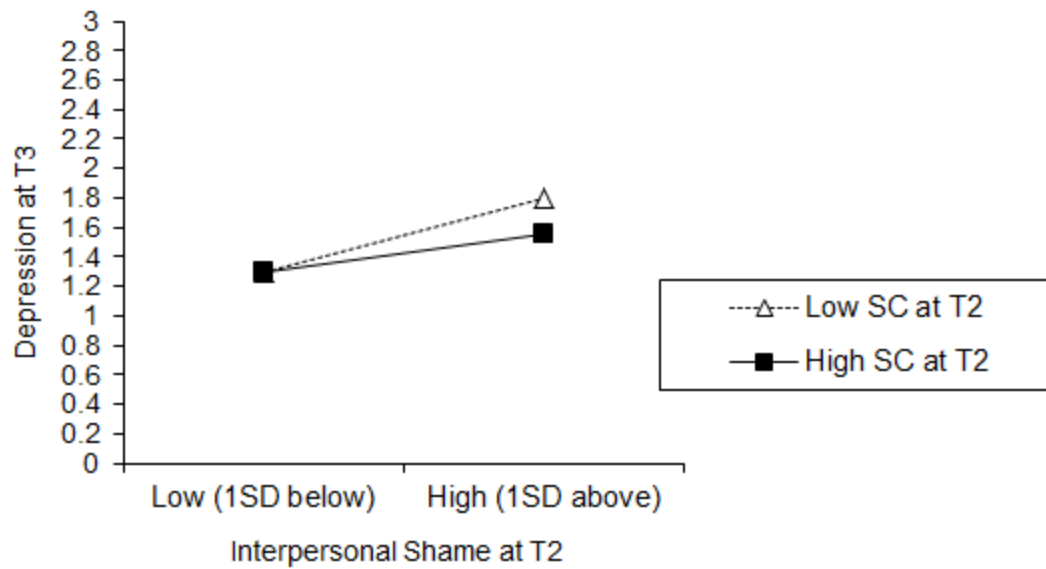
*Figure 5.* Hypothesized Interaction Effects of Interpersonal Shame at T2 on Depression at T3 for Those with Higher and Lower Levels of Perfectionistic Family Discrepancy at T2. PFD = Perfectionistic Family Discrepancy. T = Time.



*Figure 6.* Hypothesized Interaction Effects of Thwarted Belongingness at T1 on Interpersonal Shame at T2 for Those with Lower and Higher Levels of Self-Compassion at T2. SC = Self-Compassion. T = Time.



*Figure 7.* Hypothesized Interaction Effects of Perceived Burdensomeness at T1 on Interpersonal Shame at T2 for Those with Lower and Higher Levels of Self-Compassion at T2. SC = Self-Compassion. T = Time.



*Figure 8.* Hypothesized Interaction Effects of Interpersonal Shame at T2 on Depression at T3 for Those with Lower and Higher Levels of Self-Compassion at T2. SC = Self-Compassion. T = Time.

## CHAPTER 2. LITERATURE REVIEW

I will use this literature review to first explore Joiner's (2005) Interpersonal-Psychological Theory of Suicide, its background, concepts associated with this theoretical framework, and the Interpersonal Needs Questionnaire Joiner and his colleagues created in accordance with this framework. I will also review its applicability to the outcome variable of depression. Second, I will provide background on the literature on shame and Wong et al.'s (2014) development of the interpersonal shame construct. Third, I will include an all-encompassing discussion of how interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness), interpersonal shame, and psychological outcomes have been linked in previous literature and how they are linked theoretically in the present study. Fourth, I will briefly review the literatures that pertain to the two moderating variables hypothesized to affect the proposed mediation model (i.e., perfectionistic family discrepancy and self-compassion). I will also explore the conceptual arguments behind the two moderating variables. Lastly, the chapter will conclude with an explanation for why initial level of depression was accounted for as a control variable in this short-term longitudinal study.

### Joiner's (2005) Interpersonal-Psychological Theory of Suicide

#### Foundations

Several studies have examined the numerous risk factors contributing to suicidal ideation, attempts, and suicide in a variety of populations (see Van Orden et al., 2010). Factors ranging from family conflict, genetic predispositions, psychological disorders, and previous history of suicidal attempts contribute to why individuals may exhibit suicidal thoughts, desire, and behavior. Researchers have also suggested that interpersonal difficulties are especially relevant risk factors, particularly among non-clinical and clinical adult samples. Joiner with his



Interpersonal-Psychological Theory of Suicide proposed a proximal, problem-based framework to explain individuals' desire to die by suicide and later their capability to engage in suicidal behavior. Joiner argued that the simultaneous presence of three factors highly contributes to suicidal behavior: a thwarted sense of belongingness, a perceived sense of burdensomeness, and an acquired capacity to attempt suicide. Individuals' sense of belonging has been conceptualized as a fundamentally human motive that, when unmet, can activate similar parts of the brain when individuals undergo physical pain. Joiner (2005) argued that suicidal individuals may experience interactions that do not satisfy their need to belong (e.g., relationships that are unpleasant, unstable, infrequent, or without proximity) or may not feel connected to or cared about by others (Van Orden et al., 2010). Thus, the need to belong is a need central to the development of suicidal desire, particularly when a perceived lack of connection is prolonged for a significant period of time.

When individuals perceive they are a burden to others, Joiner argues that they may view themselves as ineffective and incompetent to the point where they believe others would benefit more from their death. Individuals with high perceived burdensomeness tend to exhibit a negative self-image, low internal locus of control, and negative emotions such as anger, sadness, shame, and disappointment (Van Orden et al., 2010). Experiences with family conflict, unemployment, mental illness, and physical illness can contribute to perceptions of burdensomeness. Joiner (2005) explains that both cognitive affect states can fluctuate, but individuals perceiving both states simultaneously over time without any prospect of change can bring about suicidal ideation. Ideation may transform into lethal or non-lethal suicidal attempts when individuals acquire the capability for suicide. That is, individuals may have had previous suicidal attempts, no longer fear death, and/or can tolerate physical pain. Ultimately, Joiner's

hypotheses for his Interpersonal-Psychological Theory can be summarized as the following: (a) thwarted belongingness and perceived burdensomeness are proximal and sufficient causes of passive suicidal ideation; (b) when thwarted belongingness and perceived burdensomeness are simultaneously present and perceived as stable and unchanging, they are proximal and sufficient causes for active suicidal desire; (c) suicidal intent forms when suicidal desire and lowered fear of death are simultaneously present; and (d) serious suicidal behavior most likely occurs in the context of thwarted belongingness, perceived burdensomeness, and acquired capability for suicide (i.e., reduced fear of suicide and elevated tolerance for physical pain).

#### Measuring interpersonal risk factors

In accordance with Joiner's model, the original 25-item Interpersonal Needs Questionnaire (INQ) was compiled to assess thwarted belongingness and perceived burdensomeness. While the number of items in the INQ has varied in the past eight years, Van Orden, Cukrowicz, Witte, and Joiner (2012) recently revised the number of items via latent variable modeling with five different samples. A series of exploratory and confirmatory factor analyses yielded a 2-factor latent structure with 15 items: nine items loaded on the thwarted belongingness factor and six on the perceived burdensomeness factor in young adult, clinical outpatient adult, and elderly adult samples. The thwarted belongingness subscale assesses individuals' levels of perceived disconnection from others (e.g., whether or not they feel close to other people or feel like an outsider in social gatherings). The perceived burdensomeness subscale examines the degree to which individuals feel they are burdens to others. Items on this subscale include individuals' perception that others would like to be rid of them or would be better off without them. High scores on both subscales indicate greater thwarted belongingness and perceived burdensomeness.

Evidence for criterion validity demonstrates that higher levels of thwarted belongingness and perceived burdensomeness are related to greater odds of reporting suicidal ideation at the present time and one month later (Van Orden et al., 2012). With respect to convergent validity, statistically significant negative relations were found between thwarted belongingness and loneliness, social support, self-liking, and relatedness using undergraduate samples; negative relations between perceived burdensomeness and autonomy, responsibility to family, and self-competence were also statistically significant. In reference to the present study, no studies to my knowledge have used the INQ-15 with Asian Americans. However, other forms of the INQ have demonstrated adequate reliability. Wong et al. (2011b) found internal consistencies for the thwarted belongingness and perceived burdensomeness subscales in the INQ-12 of .88 and .74, respectively, among Asian American college students. Both subscales were significantly (a) positively correlated with suicidal ideation and depression; and (b) negatively correlated with interdependent and independent self-construal. Zhang et al. (2013) tested Joiner's theory in a sample of Chinese university students. Results demonstrated strong internal consistency ( $\alpha = .87$ ), and thwarted belongingness and perceived burdensomeness were (a) positively associated with suicidal ideation, depression, and capability for self-harm; and (b) negatively associated with social support and self-esteem (Zhang et al., 2013). Given that the earlier versions of the INQ used a subset of items from the latest version of the INQ (T. Joiner, personal communication, October 17, 2014), I used Van Orden et al.'s (2012) INQ-15, which is the most rigorously tested version with respect to its psychometric properties.

Empirical testing of the theory is evident primarily in the work of Joiner, Van Orden, and their colleagues. Van Orden et al. (2008) found that the combined presence of high thwarted belongingness and perceived burdensomeness are dangerous for the development of suicidal

desire. An interaction effect of thwarted belongingness  $\times$  perceived burdensomeness on current suicidal ideation was also found, such that the relationship between thwarted belongingness and suicidal desire was significant at high levels of perceived burdensomeness. Furthermore, the more past attempts and exposure participants had to pain and provocation experiences, the higher individuals' acquired capability for suicide. Lastly, the perceived burdensomeness  $\times$  acquired capability interaction significantly predicted change in suicidal risk, even when the effects of other risk factors (i.e., depression, gender, and age) were statistically controlled. These findings are consistent with the theory's hypothesis that suicidal desire and an acquired capability for suicide are necessary for suicidal behavior to occur.

Based on Van Orden et al.'s (2008) results, the theory was tested further by Joiner and his colleagues in 2009. In particular, a main effect of family social support was found, such that those with low family social support tended to exhibit greater suicidal ideation. While no main effect of mattering was found, the mattering  $\times$  family social support interaction predicted the highest levels of suicidal ideation controlling for depression. In other words, participants who were low in mattering and social support from their families were more likely to exhibit suicidal thoughts. These finds are consistent with the theory's hypotheses that suicidal ideation emerges from high thwarted belongingness and perceived burdensomeness. Support for a 3-way interaction of high thwarted belongingness, perceived burdensomeness, and acquired capability to predict current suicide attempt was also found. Thus, in the presence of high acquired capability, the combination of Joiner's interpersonal states that predict suicidal desire can transform into suicide attempts (Joiner et al., 2009).

While Joiner's (2005) theory has been empirically tested, only recently have researchers begun to test its applicability to Asian Americans. Wong et al. (2011a) used Joiner's theory to

examine risk and protective factors associated with Asian American college students' suicidal ideation. Their results demonstrated that variables such as mental health medication, identifying as female, low GPA, and undergraduate status were significant risk factors for suicidal thoughts in the past year. Among those who had seriously considered suicide in the past year, recent family, academic, and financial concerns were the most frequent significant events occurring before developing suicidal ideation (Wong et al., 2011a). Wong et al. (2011b) also conducted a mixed-methods study guided by Joiner's theory with Asian American college students. Results suggested that perceived burdensomeness significantly positively predicted suicidal ideation among participants with high thwarted belongingness. A more recent test of Joiner's theory was conducted by Zhang et al. (2013) with a sample of Chinese university students. Thwarted belongingness, perceived burdensomeness, and acquired capability for self-harm were associated with suicidal ideation above and beyond the effects of gender, social support, self-esteem, depression, and age. These three studies may provide evidence that suicidal ideation and desire results from the joint presence of thwarted belongingness and perceived burdensomeness in Asian American populations. It is imperative that future research continue extending Joiner's theory with Asian Americans and via longitudinal studies.

#### Applying Joiner's (2005) Interpersonal-Psychological Theory to Depression

To my knowledge, research using Joiner's (2005) theory has examined factors related to suicidal ideation or suicidal behavior as outcome variables. However, it is reasonable to apply Joiner's interpersonal states to depression (T. Joiner, personal communication, September 23, 2014) and was one of the objectives for this study. Joiner's conceptualization of thwarted belongingness stems from the notion that experiencing a sense of belonging is a basic human need (Baumeister & Leary, 1995; Maslow, 1954). Without a sense of feeling valued, needed, and

similar to others, a host of negative psychological outcomes may ensue, including depression (Hagerty & Williams, 1999), loneliness, anxiety, and suicidality (Hagerty et al., 1996). In particular, college students who are not able to connect with others or cannot perceive that they are part of a larger group may feel isolated, which can lead them to question their ability to adequately relate with others. Doubting and ruminating over the effectiveness of their interpersonal skills can lower their mood enough to feel depressed (Nolen-Hoeksema, 1991). Empirical studies with college students support the finding that belonging is a robust precursor or vulnerability factor for depression (Hagerty & Patusky, 1995; Hagerty & Williams, 1999; Hagerty et al., 1996).

With respect to perceived burdensomeness, Joiner referenced the construct of mattering in his original conceptualization of this interpersonal state. According to Rosenberg and McCullough (1981), mattering is defined as individuals' sense that, as far as others are concerned, they are objects of attention, important to others (i.e., individuals' actions are relevant to others), wanted by others, dependable (i.e., competent enough to be reliable), and worthy of emotional investment (i.e., others would miss them if they were gone). Individuals who feel that they matter little or do not matter to others tend to have higher depression and lower self-esteem (Rosenberg & McCullough, 1981). Among college students, feeling irrelevant, insignificant, and inconsequential to their peers can contribute to depression (Taylor & Turner, 2001). Dixon and Robinson Kurpius (2008) found that self-esteem and mattering accounted for nearly 40% of the variance in depression. It seems as though mattering, a similar construct to perceived burdensomeness, can be an important factor in college students' psychological well-being. While mattering was not the specific construct of interest, a lack of mattering (i.e., perception that

individuals harm or are a hindrance to others) corresponds with Joiner's definition of perceived burdensomeness (see above).

Specifically for Asian Americans, both thwarted belongingness and perceived burdensomeness may relate to the value they place on upholding their membership status in their in-group(s). Markus and Kitayama (1991) explained that Asian cultures may emphasize individuals relating to each other, rather than standing out as unique. From a young age, Asian American children are socialized to attend to others, concern themselves with fitting in, and promote interpersonal harmony as a way of expressing and enhancing their "selves." Experiencing a sense of social integration within their community may contribute to a sense of belongingness which, according to Joiner, is relevant in the development of depression. Asian Americans who fail to engage and cooperate with others may risk a sense of belongingness with their in-group. Thwarted belongingness has been operationally defined as low levels of support from others (Hill & Pettit, 2014). Therefore, a lack of connection with one's friends, family, and community members may ultimately bring about feelings of discomfort and insecurity, as well as increase Asian Americans' susceptibility to depression.

Similarly, Asian Americans may be wary of when they burden others due to collectivist culture advocating for interpersonal harmony, avoiding conflict, and avoiding unnecessary use of community resources. Disrupting harmony or placing too much attention on themselves (e.g., via asking for help, attempting to pursue individual goals) may come at the cost of burdening others, creating conflict, and failing to preserve relationships. Thus, experiencing a sense of community and being wary of when they overwhelm others may be especially important to avoid feeling depressed and ashamed (Taylor et al., 2004). Based on Joiner's theory as applied to depression, the present short-term longitudinal study examined a hypothesized model for the associations

between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression among Asian American college students.

### Interpersonal Shame

The literature on shame, its many operational and conceptual definitions, and its distinctive characteristics is extensive (see Blum, 2008 and Tangney, 1996 for a review); therefore, I only provide a brief overview of the literature as it pertains to Asian Americans' experience with shame. Several scholars have highlighted the salience of shame among Asian Americans due to its presence in several Asian languages, parenting techniques (e.g., discussing children's transgressions in front of others to induce shame and socialize children to behave properly; Louie, 2014), and higher levels of shame experiences compared to Caucasians (see Wong et al., 2014). In particular, the internalization of shame among Asian Americans can be deeply rooted in and influenced by interpersonal relationships with family, peers, colleagues, and other in-group members. In fact, researchers argue that Asian Americans' experience with shame includes themselves, a "shamed other" (e.g., family members who feel shame as a result of other individuals' actions), and an audience who witnesses the shaming act. Asian Americans' shame can therefore be embedded in their social relationships, particularly with family members (Liem, 1997). Shame experienced as others' negative evaluation of oneself and possible shame brought upon others may result in a wish to hide, avoid, or escape from a defective, inadequate self.

In the past twenty years, there have been a few quantitative and qualitative studies exploring Asian and Asian American experiences with shame. Lutwak et al. (1998) measured subcultural differences in shame, guilt, fear of intimacy, self-deprecation, and perceptions of inauthenticity among Asian American, Latina/o American, African American, and Caucasian college students. With respect to Asian Americans, the study found that (a) Asian Americans



may be the most susceptible to shame as compared to other sampled groups; (b) there were positive associations among shame-proneness, tendency to engage in self-deprecation, and perceiving oneself as inauthentic; and (c) tendency to engage in self-deprecation was the best predictor of shame-proneness. Results demonstrated that Asian Americans may be more likely to disparage themselves, which may increase their probability of experiencing shame. More recently, Bedford (2004) interviewed middle-aged women in Taiwan to better understand how shame as an emotion can be described. Participants' sharing of their experiences yielded four emotions related to shame that involve a loss of one's own face (i.e., *diu lian*, or to lose the respect of others, to be humiliated or publicly disgraced), harming others via loss of one's own face (i.e., *xiu kui*), or both. It is clear that Asian Americans' experiences with shame may involve a heightened focus on the self and may be diffuse in its effects (i.e., one's shameful act or experience may also involve others close to them). Shame has been shown to be associated with negative mental health outcomes such as depression ( $r = .43$ ; Kim, Thibodeau, & Jorgensen, 2011) and suicide (Blum, 2008).

Recently, Wong and his colleagues (2014) proposed the construct of interpersonal shame to better depict Asian Americans' experiences of shame. Interpersonal shame is shame that arises from individuals' interpersonal difficulties. The construct can be conceptualized as having two dimensions. First, shame resulting from individuals' concerns that others negatively evaluate them is known as *external shame*. This form of shame has a strong intrapersonal focus with respect to the consequences individuals feel when they believe others view them as defective. The second dimension is known as *family shame*, or the shame resulting from individuals believing that they have brought shame to their families. Compared to external shame, family shame has an interpersonal focus in which multiple people may be negatively affected by shame.

Asian Americans may vicariously experience shame due to their sense of self being deeply embedded in their group memberships, especially their family group (Wong et al., 2014).

#### Measuring interpersonal shame

For their Interpersonal Shame Inventory (ISI), Wong et al. (2014) developed 34 preliminary items reflecting the construct of interpersonal shame based on their review of the literature on Asian and Asian Americans' shame experiences. The second author and two doctoral students provided initial feedback on the wording of the items, the scale instructions, and the Likert-type range of options; modifications were made, and 18 items (i.e., nine items representing external shame and family shame, respectively) were sent to eight other research psychologists for a second round of feedback. Further modifications were made to verify that the items described the experience of shame and to develop a state-based measure of shame by adding "These days" to the beginning of each item. In this way, participants focus on their recent experiences of shame. Exploratory factor analyses conducted to test the scale's factor structure yielded a two-factor solution. Further revision of the scale based on the above analysis yielded a 10-item scale with item loadings above .70 on each subscale (i.e., five items each on the external and family shame subscales). Confirmatory factor analyses demonstrated that a two-factor oblique model fit the data well.

Therefore, the ISI is a 10-item self-report measure that assesses two dimensions of interpersonal shame: external shame (i.e., ISI-E) and family shame (i.e., ISI-F). The ISI-E assesses the degree to which individuals are concerned about others' negative evaluations of them. Items describe individuals' experiences of wanting to hide from, escape, or shrink away from others so they do not see their flaws. The ISI-F examines the degree to which participants perceive that they have brought shame to their families. Items describe individuals' experiences

of wanting to disappear or escape because their deficits may negatively impact their families. Higher scores on the two subscales reflect higher external shame and family shame. Both dimensions demonstrated strong internal consistency reliability ( $\alpha = .94$  for the ISI-E and  $\alpha = .97$  for the ISI-F) and high correlations between ISI-E and ISI-F scores at T1 and Time 2 (T2; two weeks later; .72 and .69, respectively; Wong et al., 2014). Concurrent validity in a study with Asian American college students revealed evidence of a positive link between the ISI-E and ISI-F, generic state shame, thwarted belongingness, perceived burdensomeness, self-face concerns, depression, and suicidal ideation. Both the ISI-E and ISI-F were also significantly negatively related to self-esteem (Wong et al., 2014). Based on Wong et al.'s (2014) conceptualization of shame, I used this scale to measure interpersonal shame as a possible mediator for the relation between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression (see below).

Given that the ISI was published within the last year, no studies have been conducted to test interpersonal shame and its two dimensions, other than what was tested in Wong et al.'s (2014) studies. Wong and his colleagues tested mediation hypotheses in which (a) external and family shame mediate the effects of thwarted belongingness and perceived burdensomeness on suicidal ideation, and (b) thwarted belongingness and perceived burdensomeness mediate the effects of external shame and family shame on suicidal ideation. Results supported hypothesis (a); among Asian American college students, thwarted belongingness (but not perceived burdensomeness) was significantly and positively related to external and family shame. More specifically, the mediation effect from thwarted belongingness to family shame to suicidal ideation was significant, while the effect from thwarted belongingness to external shame to suicidal ideation was not (Wong et al., 2014). Conceptually, this finding may signify that Asian

Americans who lack a sense of belonging with their family, friends, or community may be more likely to believe that they have brought shame upon their family; this experience of family shame, in turn, may anticipate suicidal thoughts. Nevertheless, more studies are needed to confirm the mediating role interpersonal shame may play with predictors and outcomes other than suicidal ideation (e.g., depression).

#### Proposed Moderated Mediation Model

This study proposed two moderating variables that may impact the mediation effect of interpersonal shame on the interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression links. First, one culturally salient variable that may serve as a risk factor for the interpersonal stressors-interpersonal shame and interpersonal shame-depression links is perfectionistic family discrepancy (see below). Due to these students' exposure to U.S. mainstream and Asian cultures, it is possible that their parents may demonstrate high expectations for academic excellence and greater criticism when these expectations are not fulfilled (Yoon & Lau, 2008). On the other hand, incorporating high expectations for perfection may reflect a culturally appropriate form of parenting (DiBartolo & Rendón, 2012). This study responds to a call from previous studies to assess the nature of perfectionistic family discrepancy, given the importance Asian American families place on expectations for achievement (Castro & Rice, 2003).

Similarly, another culturally salient variable that may influence the hypothesized mediation relationships is self-compassion (see below). Neff (2003) argued that the relationship between self-criticism and depression may be distinct for those who identify with East Asian culture, or a culture that may advocate awareness of personal shortcomings to aid self-improvement. In fact, Asian American students may demonstrate self-compassion and self-

criticism tendencies to a greater degree compared to American students, even though their overall self-compassion scores did not differ significantly (Birkett, 2014). To unravel the role self-compassion may serve for Asian Americans, I included it as a moderating variable for the proposed mediation hypotheses.

#### Perfectionistic family discrepancy

According to Adler (1956), striving to meet high personal standards, or perfectionism, can be seen as a normal part of human growth and development (Alder, 1956; Flett & Hewitt, 2002). However, he argued that the pursuit of perfection becomes maladaptive when individuals set unrealistic goals for themselves or perceive that others set unrealistic goals for them. Unachievable goals and aspirations can set the stage for unrealistic or harmful standards, which can contribute to negative psychological outcomes. Hamachek (1978) later defined “neurotic” perfectionism, now commonly referred to as maladaptive perfectionism, as a type of perfectionism in which individuals set inflexibly high standards, fear failure, and base their self-worth on their performance. This form of perfection may arise either from environments of conditional approval (i.e., children earn their parents’ approval when they have completed their tasks perfectly), conditions of non-approval, or conditions of inconsistent approval (i.e., children do not learn how to please their parents). Ultimately, children may try to adopt standards high enough that meeting them is more likely to please their parents, themselves, or others they hold in high regard.

Since Hamachek (1978) presented his rationale for the origins of perfectionism, several researchers have focused their attention on the nature of parent-child relationships and interactions. This area of research on the development of perfectionism has continued to increase in the past thirty years (Flett & Hewitt, 2002; see Shafran & Mansell, 2001 for a review).

Shafran and Mansell (2001) summarized primary findings of this research by explaining that early family experiences influencing the development of perfectionistic thinking include (a) overly critical and demanding parents; (b) excessively high parental expectations and standards of performance; (c) parental approval that is absent, inconsistent, or conditional; and (d) parents modeling perfectionistic attitudes and behaviors. Rice, Ashby, and Preusser (1996) found that neurotic perfectionists' perception of their parents as harsh and demanding (e.g., overprotective mothers) significantly contributed to their self-esteem. Indeed, critical parents who expect perfection from their children may not promote a sense of cohesion, emotional warmth, or support among family members; rather, family relations may be wrought with conflict, extreme family enmeshment, authoritarian parenting styles, and high psychological control (Craddock, Church, & Sands, 2009; Flett & Hewitt, 2002). As a result, children may doubt their own abilities and believe they are being held to higher parental expectations and criticism. Such conditions may make these children susceptible to a host of negative psychological outcomes, including poor adjustment, anxiety, depression, and suicidal ideation (see Castro & Rice, 2003).

Recently, researchers have begun to describe and operationally define family influences on perfectionism with respect to racial/ethnic minority individuals' experiences (e.g., DiBartolo & Rendón, 2012; Ortega, Wang, Slaney, Hayes, & Morales, 2014; Wang, 2010). Preliminary studies conducted with Asian Americans addressed the influence of parenting styles and parental expectations on perfectionism and negative psychological outcomes. Kawamura, Frost, and Harmatz (2002) sought to examine cultural differences in whether or not perfectionism develops in families with overly critical parents. When they compared the relationship between perceived parental characteristics and perfectionism among Asian Americans and Caucasians, they found that Asian Americans rated both parents as more harsh and authoritarian than Caucasians. In fact,

Asian Americans seemed to show more concern over mistakes and doubt their actions, both of which are components of maladaptive perfectionism. Castro and Rice (2003) later replicated and extended these results when they assessed ethnic differences in perfectionism among Asian American, African American, and Caucasian college students. Asian Americans scored significantly higher on concerns over making mistakes, parental criticism, and doubts about actions as compared to the other groups. With respect to psychological and academic outcomes, higher scores on the aforementioned scales explained significant variance in depression and cumulative GPA. This early research with Asian Americans already began to demonstrate that they may be more susceptible to self-criticism, self-doubt, and concerns over not meeting expectations. Such susceptibility may also place them at risk for depression.

In the past few years, researchers have attempted to specifically account for cultural differences in their studies of Asian Americans' perfectionistic tendencies. For example, Yoon and Lau (2008) and Chang (2013) added in the construct of independent (i.e., emphasis on the uniqueness of the self) and interdependent (i.e., emphasis on seeing oneself in relation to others) self-construal in their study of maladaptive perfectionism among Asian American college students. The former tested whether a sense of interdependence and parental support buffered the association between perfectionism and depression. Analyses revealed that participants high on interdependence were more vulnerable to depression in the face of perfectionistic tendencies. Positively, perfectionism and depression were unrelated among those with parental support. Based on their results, the authors speculated that Asian Americans are at greatest risk for depression in the face of expectations from parents to perform well and when parents' support is contingent upon those expectations. The latter study compared Asian Americans and European Americans on whether or not perfectionism, loneliness, and self-construal schemas (i.e.,

independent and interdependent self-construal) were unique predictors of depression and anxiety. In line with previous studies, Asian Americans displayed greater concern over mistakes, parental expectations, parental criticism, doubts about actions, loneliness, and interdependence compared to European Americans. Furthermore, hierarchical regression analyses indicated perfectionism and loneliness were additive predictors of depression and anxiety across both groups. Self-construal (i.e., lack of independent self-construal) was also found to significantly predict depression, above and beyond perfectionism and loneliness. Interdependent self-construal did not emerge as a significant predictor. In light of these few studies, future studies should continue to develop a better understanding of perfectionism across ethnicities (e.g., Asian Americans).

Given the influence the family can have on how Asian Americans relate to others, it is reasonable to focus on how it contributes to the development of perfectionistic tendencies. The notion of filial piety, or one's primary duty of respect, obedience, and care for one's parents and elders, may relate to the importance youth place on meeting their family's expectations. Children are disciplined and socialized at a young age to reciprocate what their parents and elders have provided them (e.g., food, shelter, education); oftentimes they are expected to reciprocate via scholastic achievement or perfectionism (Fulgini, Tseng, & Lam, 1999). In this way, they fulfill their duty as children to honor their parents' affection and devotion to them. Such strong connections with family members should be considered in the operational definition of perfectionism for Asian Americans. To my knowledge, Wang's (2010) Family Almost Perfect Scale (FAPS) captures Asian Americans' experiences with perfectionism as it relates to their connection with and obligation to the family.



### Perfectionistic family discrepancy and its measurement

Wang's (2010) review of the literature noted that family environment and parenting styles are logical areas of study to better understand the effect of family environment on perfectionistic tendencies. Currently, two commonly used perfectionism scales that peripherally address the concept of family perfectionism are Frost's Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990) and Hewitt and Flett's Multidimensional Perfectionism scale (HFMPs; Hewitt & Flett, 1991). The FMPS includes subscales measuring parental expectations and parental criticism, and the HFMPs includes a subscale measuring socially prescribed perfectionism, or perceived expectations for perfectionism from others (e.g., family members). Nevertheless, a major critique of both scales is their broad assessment of the features of perfectionism (Shafran & Mansell, 2001). Wang argued that creating a scale to measure the distinct adaptive and maladaptive aspects of perfectionism from a family perspective is essential when studying individuals from collectivistic backgrounds or who stress the importance of the family. The FAPS was developed in accordance with the items from the original Almost Perfect Scale-Revised (Slaney, Rice, Mobley, Trippi, & Ashby, 2001) to reflect perceived perfectionistic expectations and evaluations from family.

In line with the three APS-R subscales (i.e., Discrepancy, Standards, and Order), three subscales make up the FAPS: *perfectionistic family discrepancy* (i.e., seven items), *perfectionistic family standards* (i.e., six items), and *perfectionistic family order* (i.e., four items). For the purpose of this study and its hypotheses, only the perfectionistic family discrepancy subscale was used. The perfectionistic family discrepancy scale measures the extent to which participants perceive that they fail to meet their families' standards for performance. Subscale items describe individuals' experiences with their efforts not being good enough for their

families, rarely living up to family standards, and imperfection being unacceptable for their families. Higher scores indicate higher levels of perfectionistic family discrepancy. Results from confirmatory factor analyses demonstrated an adequate fit and structural invariance for Asian American and European American college student samples (Wang, 2010). With respect to validity, Wang found (a) positive correlations between perfectionistic family discrepancy and measures of parental expectations, parental criticism, anxiety and depression; and (b) negative correlations with self-esteem among Asian American college students. Cronbach's alpha values ranged from .91 to .94 with Asian and European American college students (Wang, 2010). In concordance with Wang's conceptualization of family perfectionism and its sub-constructs, I used this subscale to measure perfectionistic family discrepancy as a possible moderator of the interpersonal risk factors-shame and interpersonal shame-depression links.

The FAPS has been used with Asian American, Asian international, and, more recently, Latina/o college students (Ortega et al., 2014). With respect to the population of interest for the current study, two studies are described here. First, Wang (2012) examined whether Taiwanese college students with perfectionistic tendencies have high perfectionistic family discrepancy and family standards scores as compared to non-perfectionists. Results suggested that they tended to exhibit higher perfectionistic family discrepancy but not higher family standards; these participants also reported lower academic grades and low self-esteem. Second, Wang et al. (2013) assessed possible moderating effects of perfectionistic personal discrepancy, perfectionistic family discrepancy, and discrimination on the associations between thwarted belongingness and perceived burdensomeness on suicidal ideation. Within a sample of Asian international students studying in the United States (U.S.), perfectionistic family discrepancy intensified the positive associations between interpersonal risk factors and suicide ideation.

Specifically, both thwarted belongingness and perceived burdensomeness more strongly positively related to suicidal ideation when participants exhibited high perfectionistic family discrepancy. Thus, previous studies have begun to explore the relations among the variables of interest in this study (i.e., perfectionistic family discrepancy, thwarted belongingness, and perceived burdensomeness). This study contributed to the growing number of studies by using the FAPS to explore perfectionistic family discrepancy among Asian American college students.

#### Rationale for moderation hypotheses

First, it was expected that positive associations between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and interpersonal shame would be stronger for those with higher perfectionistic family discrepancy than for those with lower perfectionistic family discrepancy. Asian culture advocates for a strong connection and obligation to the family, particularly with respect to meeting their expectations (Kwan, 2000). Asian Americans with high perfectionistic family discrepancy may perceive that they are not meeting their family's standards for performance. They are more likely to believe they have lost face, disgraced their family, or not honored their family via their achievements. The interpersonal shame they perceive may increase if they do not believe they can meet their families' expectations; this perceived discrepancy may thus strengthen the negative effect of these risk factors on their interpersonal shame. Empirically, Wang et al. (2013) found that perfectionistic family discrepancy intensified the interpersonal risk factors-suicidal ideation links among Asian international students. Therefore, based on the above rationale and relevant empirical support, it was hypothesized that perfectionistic family discrepancy would strengthen the positive association between interpersonal risk factors and interpersonal shame.

Second, it was expected that the positive association between interpersonal shame and depression would be stronger for those with higher perfectionistic family discrepancy than for those with lower perfectionistic family discrepancy. As mentioned above, Asian Americans with higher perfectionistic family discrepancy may perceive a gap between their families' standards for performance and their actual performance. Those who perceive a sense of perfectionistic family discrepancy may be more vulnerable to depression in the face of high interpersonal shame due to their tendency to engage in frequent and intense self-evaluation. That is, they are strict self-evaluators with a "broad" definition for failure (i.e., anything that is not done perfectly is a failure; Tangney and Dearing, 2002) that makes it difficult to succeed. In the case of Asian Americans, if they perceive that they are not meeting or have failed to meet their family's standards for performance, they may interpret this as their personal failure and feel depressed and disappointed in themselves. They may believe they have lost face, disgraced their family, or not honored their family via their achievements. Individuals may also be more prone to depression as their shame increases because they hold themselves to standards their family places on them; they may not have a say in their choice of tasks. Therefore, they could feel increased depression when they cannot meet family expectations (Flett & Hewitt, 2002).

Although this specific hypothesis has not been tested empirically, two studies evidence the possible moderating role of constructs related to perfectionistic family discrepancy. Hewitt and Flett (1993) tested their hypothesis that perfectionism interacts with specific stressors (i.e., achievement [e.g., workload] and interpersonal [e.g., social commitments] hassles) to predict depression in depressed patient and general psychiatric samples. Specifically, they examined socially prescribed perfectionism, or individuals' perception that others have unrealistically high standards for them (Shafran & Mansell, 2001). Results suggested that depressed patients who

were high in socially prescribed perfectionism showed an increase in depression as the amount of interpersonal hassles they experienced increased. Among participants in the general psychiatric sample, those who were high in socially prescribed perfectionism showed an increase in depression as the amount of achievement hassles increased. Moreover, Wei et al. (2004) explored the moderating role of maladaptive perfectionism on the relation between adult attachment (i.e., attachment anxiety and attachment avoidance) and depression. While no evidence of a moderation effect was found with attachment avoidance, their findings suggested that depression was significantly positively associated with attachment anxiety for undergraduate students with higher maladaptive perfectionism. Maladaptive perfectionism aligns with Wang's definition of perfectionistic family discrepancy because they both capture the consequences of perfectionistic tendencies (e.g., high or unrealistic expectations, greater probability for perceived failure due to high standards for success). Thus, conceptual and related empirical findings support the hypothesis that perfectionistic family discrepancy may also strengthen the positive association between interpersonal shame and depression.

#### Self-compassion

One's self-esteem, or the evaluation of one's self-worth in comparison to others, has been a common indicator of one's mental health (as cited in Neff, 2003). Also embedded within this definition are the perceived conditions individuals set on their self-esteem (i.e., "if others like me, I can like myself too"). While enhancing one's self esteem may be related to positive psychological outcomes, there are also negative outcomes (e.g., depression, suicidal ideation, narcissism; see Harter, 1999, for a review). Kristen Neff's review of the self-esteem literature led her to question how beneficial it is to raise individuals' self-esteem when working through mental disorders. Self-esteem can be difficult to change, may prevent true personal change or

growth, and may distort one's awareness of one's strengths and growth areas. Therefore, Neff drew on the idea of self-compassion as an alternative means by which researchers and clinicians could expand their understanding of healthy attitudes toward oneself.

Self-compassion is a concept common in Eastern philosophical thought but not as familiar in Western philosophy or psychology. Neff (2003) argued that conducting research on self-compassion would allow the field of psychology to better understand how mental well-being can be promoted and maintained. Neff took on a positive psychological perspective to mental disorders and psychopathology when she explained that those who exhibit *self-compassion* are "touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness" (p. 87). They may understand their failures, inadequacies, and pain without judgment and as part of the larger human experience. According to Neff's (2003) Theory of Self-Compassion, individuals who demonstrate self-compassion do so by (a) demonstrating *self-kindness*, (b) perceiving one's experiences as common among humans (i.e., *common humanity*), and (c) exhibiting *mindfulness* of one's painful thoughts and feelings. A brief description of each is given below.

First, individuals who demonstrate *kindness to oneself* extend kindness and understanding to, rather than judging or criticizing, themselves. Next, perceiving one's experiences as common among humans (i.e., *common humanity*) allows individuals to feel connected to others who may be undergoing experiences of pain or failure similar to theirs. In this way, individuals do not feel isolated or alone in their suffering. Lastly, self-compassionate individuals may experience painful feelings and thoughts associated with their suffering but, rather than over-identifying with them, they are aware of them and hold them in "balanced awareness" (Neff, 2003, p. 89). The act of holding their thoughts and feelings in such a manner is known as *mindfulness*. Neff

argued that these three aspects are distinct factors of self-compassion, but they can influence each other. For instance, those who demonstrate self-kindness may be more mindful of negative thoughts and feelings that could lead them to judge themselves. To prevent self-criticism, individuals then practice mindfulness to avoid completely immersing themselves in their anger, shame, or sadness. Those who are highly mindful of their negative emotions or thoughts may also be aware of times when they focus solely on their plight; greater awareness of their tendency to separate themselves may then encourage them to reconnect with others in spite of their difficulties. Thus, rather than building up or solidifying the uniqueness of one's identity as one might do when enhancing self-esteem, self-compassion entails de-emphasizing how one's sense of self is different or "separate" from others (Neff, 2008).

#### Measuring self-compassion

Neff's (2003) Self-Compassion Scale (SCS) measures the three components of self-compassion on three separate subscales. Pilot testing was conducted among undergraduate students in two separate phases. First, students met in small focus groups and answered open-ended questions about processes relevant to self-compassion and their reactions to experiences of pain or failure. They then filled out a brief questionnaire containing a number of potential items previously generated by the researchers. Items were modified based on students' feedback, and a larger pool was generated. Second, the modified items were administered to another group of students in order to determine the revised items' comprehensibility. Further modifications were made to eliminate confusing or unclear items. Upon pilot testing the items, the scale was administered to a larger group of undergraduate students to verify adequate psychometric properties. Findings supported a six-factor oblique model to fit the data well, with each factor representing one of the six hypothesized sub-constructs of self-compassion.

Thus, self-compassion can be seen as an overarching factor as a result of the moderate to high inter-correlations among the sub-constructs. Items on the Self-Kindness subscale (i.e., five items) include experiences with understanding, tolerating, and showing love towards oneself, while items on the Self-Judgment subscale (i.e., five items) describe times when individuals are tough on or disapproving of themselves. Experiences such as seeing one's experiences as part of the human condition make up the Common Humanity subscale (i.e., four items), and items describing feeling alone or cut off from others in one's suffering characterize the Isolation subscale (i.e., four items). Finally, items on the Mindfulness subscale (i.e., four items) depict individuals' ability to view their emotions in a curious, open, and balanced way, as compared to items on the Over-Identification subscale (i.e., four items) that describe obsession or fixation with one's feelings. Higher scores on the six dimensions reflect higher self-compassion.

In terms of reliability and validity, internal consistency for the 26-item SCS was .92 in a sample of predominantly Caucasian college students (Neff, 2003). Construct validity was evidenced by significant negative correlations with another measure of self-criticism and significant positive correlations with a measure of social connectedness. Furthermore, the SCS was found to significantly negatively predict mental health outcomes such as depression, anxiety, and neurotic perfectionism. SCS scores also significantly positively predicted life satisfaction. With respect to racial/ethnic minority samples, to my knowledge, the scale has not been used specifically with Asian American samples. Related research, however, has been conducted with Asian samples. For example, Neff, Pisitsungkagarn, and Hsieh (2008) found internal reliability for the total score used among a sample of Taiwanese students was .86, and the reliabilities for the individual subscales ranged from .65 to .74. Concurrent validity in a study with Taiwanese college students revealed evidence of a positive link between self-compassion and self-esteem.



Moreover, with respect to its subscales, interdependent and independent self-construal were associated with increased self-kindness, mindfulness, and a sense of common humanity.

Interdependent self-construal was associated with increased self-judgment and over-identification, whereas independent self-construal was negatively associated with isolation (Neff et al., 2008). In concordance with Neff's (2003) Theory of Self-Compassion, I used this scale to measure self-compassion as a possible moderator for the relations between (a) interpersonal risk factors and shame and (b) interpersonal shame and depression (see below).

With respect to the college-aged population, numerous studies have been conducted examining the effect of self-compassion on positive (e.g., positive relations with life satisfaction, emotional intelligence, social connectedness, well-being; Neely, Schallert, Mohammed, Roberts, & Chen, 2009) and negative psychological outcomes (e.g., negative relations with self-criticism, depression, anxiety, rumination, shame, and perfectionism; see Neff, 2008 for a review; Woods & Proeve, 2014). Self-compassion has also been shown to significantly positively associate with personality traits such as extraversion, conscientiousness, and agreeableness and negatively associate with neuroticism (Neff, Kirkpatrick, & Rude, 2007). Currently, research has expanded from testing direct associations or correlations to examining self-compassion in relation to future psychological outcomes and as a moderating variable (see below). For example, Neff, Rude, & Kirkpatrick (2007) had undergraduate students fill out the SCS on two separate occasions that were one month apart; students' levels of self-compassion were then rated by therapists before and after they led them through a therapeutic exercise. Results demonstrated that self-compassion was associated with increased psychological well-being. Raes (2011) had university students complete the SCS and the Beck Depression Inventory to assess whether self-compassion prospectively predicts depression five months later. Similarly, results demonstrated that self-

compassion significantly predicted change in depression symptoms; high levels of self-compassion at T1 were associated with greater reductions in depression from T1 to T2.

Unfortunately, I could not locate any studies that examine self-compassion specifically among Asian American college students. The study of self-compassion among Asians, however, has also suggested its relation to psychological outcomes across cultures. Neff et al. (2008) sought to answer the questions of whether or not (a) Asian individuals tended to have higher self-compassion compared to Western individuals; (b) self-compassion would be associated with psychological well-being; and (c) self-compassion would be linked to independent and interdependent self-construal. Data was collected from participants in Thailand, Taiwan, and the U.S. The authors found that level of self-compassion and its six dimensions was highest in Thailand and lowest in Taiwan, with the U.S. falling in between (Neff et al., 2008); cross-cultural differences in self-compassion remained even when controlling for type of self-construal. They hypothesized that low self-compassion in Taiwanese participants may be due to high levels of negative self-relevant emotions (e.g., shame). Nevertheless, self-compassion was related to well-being (i.e., less depression and greater life satisfaction) in all participants from all three cultures. Finally, interdependent self-construal was only related to self-compassion among Thai participants, while independent self-construal was linked to self-compassion in Taiwan and the U.S. While results of this cross-cultural study provide some insight into cultural differences in self-compassion, future research should disentangle how cultural values and practices within collectivistic and individualistic cultures promote or discourage self-compassion.

Rationale for moderation hypothesis

With respect to self-compassion, it was expected that positive associations between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and

interpersonal shame would be weaker for those with higher self-compassion than for those with lower self-compassion. Asian Americans who display high self-compassion may be better able to show themselves kindness and understand that they are not alone for feeling a lack of belongingness. In the face of thwarted belongingness, they might recognize that it may take time to feel connected with others and hold their loneliness in mindful awareness. Moreover, greater self-kindness may help them to feel less perceived burdensomeness; high self-compassion may make it less likely that individuals criticize themselves and judge their self-worth as low (i.e., as a burden or harm to others). In this way, self-compassion as a resource might decrease the interpersonal shame they experience because they have difficulty connecting with others and believing in their worth and competence. Empirically, I was not able to locate any studies that have specifically tested the moderating role of self-compassion on the interpersonal risk factors-interpersonal shame links. One reason for this may be that Joiner's interpersonal states are relatively new to the literature; however, the moderating role of self-compassion with respect to other psychological outcomes has been shown elsewhere (see below). Nonetheless, it was hypothesized that self-compassion would moderate the links of interpersonal risk factors and interpersonal shame.

Additionally, it was expected that the positive relation between interpersonal shame and depression would be weaker for those with a higher level of self-compassion than for those with a lower level of self-compassion. The rationales for these hypotheses are the following. First, Asian Americans who exhibit high self-compassion may be less critical of themselves when feeling inadequate, negatively evaluated by others, and believing they are bringing shame upon their family. Instead, they may wish to promote their well-being and heal their pain. Next, they may also realize that there are others like themselves who struggle with shame resulting from a

failure to meet their family's expectations for perfection. Rather than feeling isolated or separate from other Asian Americans who face interpersonal shame, they may realize that others struggle the way they do. It may be easier for Asian Americans high on self-compassion to see that their experience is part of a greater human condition (Neff, 2004). Lastly, highly self-compassionate Asian Americans may be more aware of their shamed feeling. They do not ignore or repress their pain, and they also do not over-identify with their shame to the point of feeling depressed. Awareness of the extent of their shame in the present moment may help prevent them from drawing harsh conclusions about their value and worth to others (e.g., if I am inadequate and bringing shame to my family). Ultimately, when Asian Americans experience interpersonal shame, kindness and understanding towards themselves and acceptance of their limitations or imperfections may protect them from depression. High self-compassion may buffer the shame-depression link because it is a personal resource to regulate their interpersonal shame feelings in order to prevent future depression.

While no studies have specifically tested for self-compassion as a moderator in the interpersonal shame-depression link, recent empirical studies have showed some evidence for the moderating role of self-compassion among college students. Terry, Leary, and Mehta (2012) analyzed how self-compassion may buffer the effect of social and academic difficulties first-year students experience in their transition to college on their depression, homesickness, and dissatisfaction with their decision to attend university. The relations between (a) social difficulties and homesickness; (b) social difficulties and dissatisfaction with decision to attend university; and (c) academic difficulties and homesickness were weaker for students who scored higher on self-compassion. Terry et al.'s (2012) results suggest that highly self-compassionate students may be better able to overcome difficulties characteristic of the college transition by

quieting their urge to self-blame; separate themselves from others while they endure their difficulties; or over-identifying with their negative emotions.

Furthermore, two cross-cultural studies suggested that self-compassion may serve as a moderator for psychological outcomes. For example, Wong and Mak (2012) examined the three specific components of self-compassion (i.e., self-kindness, common humanity, and mindfulness) and their possible buffering effect on the relation between cognitive-personality vulnerability styles and depression. The authors defined three cognitive-personality vulnerability styles as (a) sociotropy (i.e., the fear of abandonment and possessing excessive dependency needs); (b) autonomy (i.e., the tendency to reject help from others); and (c) self-criticism. In a sample of Chinese adults in Hong Kong, results suggested that the association between autonomy and depression was weaker among individuals with high self-kindness and high mindfulness; the association between self-criticism and depression was also weaker among individuals with high self-kindness, high common humanity, and high mindfulness. Additionally, Kyeong (2013) sampled undergraduate students from Korea to assess the possible moderating effect of self-compassion on psychological well-being in the face of academic burden. Multiple regression analyses showed that the effect of academic burden on students' depression was stronger for those who did not exhibit self-compassion. Given the above research, there is evidence to show that self-compassion and its three components may play moderating roles between various predictor variables and negative psychological outcomes such as depression.

#### Control Variable: Initial Level of Depression

Controlling for initial levels of depression was warranted to rule out this possible confounding variable. Since I collected data at three time points, it was possible that participants who exhibit higher depression at T3 may already exhibit high depression at T1. Likewise, if

participants do not exhibit high depression at T3, then perhaps they do not show symptoms of depression at T1.

The depression subscale of the Depression, Anxiety, and Stress Scales-Short form (DASS; S.H. Lovibond & P.F. Lovibond, 1995) was administered to measure the index of depression at T1 and T3 of the study. The DASS is a self-report survey that covers a full range of core symptoms of anxiety and depression. In comparison to the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI), the DASS better discriminates between depression and other affective states (P.F. Lovibond & S.H. Lovibond, 1995) and possesses high reliability (i.e., .88 for Depression; Henry & Crawford, 2005; S.H. Lovibond & P.F. Lovibond, 1995). With respect to racial/ethnic minority samples, Wei et al. (2004) found that internal consistency for the depression subscale was .88 among Asian American college students. Depression was found to be positively correlated with attachment anxiety, attachment avoidance, and anxiety (Wei et al., 2004). More recently, Norton (2007) demonstrated structural invariance of the DASS-21 for each of the three subscales across Caucasian, African American, Hispanic, and Asian college students. Cronbach's alpha for the depression subscale among Asian college students was .84.

### Conclusion

The brief literature review suggests that perfectionistic family discrepancy and self-compassion might moderate the mediating relationships (i.e., the relations between interpersonal risk factors and depression through interpersonal shame). Therefore, the goals of the present study were to demonstrate the following: (1) whether or not interpersonal shame mediates the relationships between interpersonal risk factors and depression, and (2) whether or not the above

two variables moderate both paths of the mediating relationships across three time points. In both sets of hypotheses, initial level of depression was accounted for in the analyses.

## CHAPTER 3. MATERIALS AND METHODS

## Power Analysis

## Mediation

Researchers have suggested at least 200 to 300 participants for conducting a model (Comrey & Lee, 1992). Given that I collected data across three time points, I also accounted for a 30% to 50% attrition rate that may result from collecting data at multiple time points. Considering Comrey and Lee's (1992) suggestion of 200 participants, I expected to have approximately 800, 400, and 200 participants at Times 1, 2, and 3, respectively. With reference to their suggestion of 300 participants, I expected to have approximately 1,200, 600, and 300 participants at Times 1, 2, and 3, respectively. Therefore, I sought to obtain a range between 800 and 1,200 participants at T1, 400 to 600 participants at T2, and 200 to 300 participants at T3.

## Moderation

Power in a quantitative study is a function of effect size, sample size, and alpha level. Effect size can be expressed by  $R^2$ , or a standardized regression coefficient used to convey the correlation among or between variables. A power analysis was conducted using G\*Power 3.1.9.2 (Erdfelder, Faul, & Buchner, 1996) to estimate the number of participants needed. To determine sample size requirements, Cohen (1992) recommended that each predictor variable (i.e., interpersonal risk factors [i.e., thwarted belongingness or perceived burdensomeness] and the moderating variable [i.e., perfectionistic family discrepancy or self-compassion]) be assigned an effect size of  $f^2 = .02$ ,  $.15$ , or  $.35$  for small, medium, or large effect sizes for the two-way interaction, respectively, in relation to the criterion variable (i.e., depression). Subsequent calculations indicated that sample sizes of 602, 85, or 40, respectively, were needed for a power



of .80 or higher at  $p < .05$ . Based on these calculations, a sample size between 602 and 40 participants was chosen for a small to medium effect size for the two-way interaction.

### Participants

The sample of this 3-time point study included 605 Asian American undergraduate students (T1 [beginning of spring semester;  $N = 605$ ]; T2 [end of spring semester;  $N = 280$ ]; and T3 [middle of fall semester;  $N = 172$ ]) from large, public or private, predominantly White universities in the Midwest. In addition to Iowa State University, universities that were sampled included the University of Illinois at Chicago, Northern Illinois University, Northwestern University, the University of Michigan at Ann-Arbor, Michigan State University, Wayne State University, Wichita State University, the University of Wisconsin-Milwaukee, Purdue University, Indiana University at Bloomington, Garden Valley State University, and the University of Minnesota-Twin Cities.

Approximately 54 percent of the participants identified as female (i.e., 328; 54.2%), 150 participants identified as male (24.8%), three participants identified as transgender (0.5%), and six participants preferred not to answer this question (1.0%).<sup>1</sup> Participants' ages ranged from 18 to 64 ( $M = 21.65$ ,  $SD = 2.74$ ). Of the 605 participants, 110 (18.2%) were first-year students, 104 (17.2%) were second-year students, 119 (19.7%) were third-year students, and 153 (25.3%) were fourth-year students and above. With respect to sexual orientation, about 70% percent identified as heterosexual/straight (i.e., 425; 70.2%), 5 participants identified as gay (0.8%), 3 participants identified as lesbian (0.5%), 23 participants identified as bisexual (3.8%), 9 participants identified as questioning (1.5%), and 21 participants preferred not to answer (3.5%).

Approximately 46 percent of the participants identified as 2<sup>nd</sup> generation Asian American (i.e.,

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<sup>1</sup> One reason for the high number of missing demographic data may be because the demographic questionnaire was placed at the end of the survey.

277; 45.8%), while 122 (20.2%) identified as 1.5 generation, 37 (6.1%) as 1<sup>st</sup> generation, 18 (3.0%) as 4<sup>th</sup> generation, 13 (2.1%) as 5<sup>th</sup> generation, and 2 (0.3%) as 3<sup>rd</sup> generation. Lastly, with respect to ethnic sub-group identification, participants identified as Chinese-American (92; 15.2%), Vietnamese-American (83; 13.7%), Asian Indian American (74; 12.2%), Korean-American (41; 6.8%), Hmong-American (41; 6.8%), Filipino/a-American (34; 5.6%), Japanese-American (21; 3.5%), Laotian-American (15; 2.5%), Taiwanese-American (13; 2.1%), Malaysian-American (6; 1.0%), Cambodian-American (5; 0.8%), Thai-American (4; 0.7%), Indonesian-American (4; 0.7%), Pan-Asian American (2; 0.3%), and Other (43; 7.1%; e.g., Bengali, Nepali-American).

## Materials

### Interpersonal risk factors

Interpersonal Needs Questionnaire (INQ-15; Van Orden et al., 2012). The INQ scale is a 15-item self-report measure that assesses individuals' levels of perceived disconnection from others (i.e., thwarted belongingness; nine items) and the degree to which they feel they are burdens to others (i.e., perceived burdensomeness; six items). Sample items for the thwarted belongingness construct include, "These days, I feel disconnected from other people" and "These days, I have at least one satisfying interaction every day." Sample items for the perceived burdensomeness construct include, "These days, I think I make things worse for people in my life" and "These days, I think I am a burden on society." Participants rate items on a 7-point scale from 1 (*Not at all true for me*) to 7 (*Very true of me*). High scores reflect higher levels of thwarted belongingness and perceive burdensomeness. Although no studies to the author's knowledge have used the INQ-15 with Asian Americans, other forms of the INQ have demonstrated adequate reliability for those with Asian heritages. For example, Wong et al.

(2011b) found internal consistencies for the thwarted belongingness and perceived burdensomeness subscales in the INQ-12 of .88 and .74, respectively, among Asian American college students. Both subscales were significantly (a) positively correlated with suicidal ideation and depression and (b) negatively correlated with interdependent and independent self-construal. Zhang et al. (2013) tested Joiner's theory in a sample of Chinese university students. The INQ-18 demonstrated strong internal consistency reliability ( $\alpha = .87$ ), and thwarted belongingness and perceived burdensomeness were (a) positively associated with suicidal ideation, depression, and capability for self-harm; and (b) negatively associated with social support and self-esteem (Zhang et al., 2013). In this study, Cronbach's alpha was .88 for thwarted belongingness at T1 and .93 for perceived burdensomeness at T1.

#### Interpersonal shame

Interpersonal Shame Inventory (ISI; Wong et al., 2014). The ISI is a 10-item self-report measure that assesses two dimensions of interpersonal shame: *external shame* (i.e., ISI-E; five items) and *family shame* (i.e., ISI-F; five items). The ISI-E assesses the degree to which participants are concerned about others' negative evaluations of them. Sample items include, "These days, I feel like hiding because people might view me as flawed" and "These days, I wish I could shrink away because others might perceive me as incompetent." The ISI-F examines the degree to which participants perceive that they have brought shame to their families. Sample items include, "These days, I wish I could disappear because my deficits might cause my family to lose face" and "These days, I feel like escaping because my defects might disgrace my family." Participants rate items on a 6-point Likert scale from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). Higher scores on the two subscales reflect higher interpersonal shame. Both dimensions demonstrated strong internal consistency reliability ( $\alpha = .94$  for the ISI-E and  $\alpha = .97$

for the ISI-F) among Asian and Asian American college students (Wong et al., 2014). In the present study, Cronbach's alpha was .96 for the total score at T2. Concurrent validity in a study with Asian American college students revealed evidence of a positive link between the ISI-E and ISI-F, generic state shame, thwarted belongingness, perceived burdensomeness, self-face concerns, depression, and suicidal ideation. Furthermore, both the ISI-E and ISI-F were significantly negatively related to self-esteem among Asian and Asian American college students (Wong et al., 2014).

#### Perfectionistic family discrepancy

Family Almost Perfect Scale-Perfectionistic Family Discrepancy subscale (FAPS-D; Wang, 2010). The perfectionistic family discrepancy subscale is a 7-item self-report measure, which assesses the extent to which participants perceive that they fail to meet their families' standards for performance. Sample items include, "Doing my best never seems to be enough for my family" and "Nothing short of perfect is acceptable in my family." Participants rate items on a 7-point Likert scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Higher scores indicate higher levels of perfectionistic family discrepancy. Wang (2010) found (a) positive correlations of perfectionistic family discrepancy with parental expectations, parental criticism, anxiety and depression; and (b) negative correlations with self-esteem. Cronbach's alpha values ranged from .91 to .94 among Asian and European American college students (Wang, 2010). Cronbach's alpha in this study was .95 at T2.

#### Self-compassion

Self-Compassion Scale (SCS; Neff, 2003). The SCS is a 26-item self-report measure that assesses six dimensions of self-compassion: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Participants rate items on a 5-point scale from 1

(*Almost Never*) to 5 (*Almost Always*). Higher scores on the six dimensions reflect higher self-compassion. To the author's knowledge, the scale has not been used specifically with Asian American samples. Related research, however, has been conducted with Asian samples. Internal reliability for the total score used among a sample of Taiwanese students was .86, and the reliabilities for the individual subscales ranged from .65 to .74 (Neff et al., 2008). In this study, Cronbach's alpha for the total score was .74 at T2. Concurrent validity in a study with Taiwanese college students revealed evidence of a positive link between self-compassion and self-esteem. Moreover, with respect to its subscales, interdependent and independent self-construal were associated with increased self-kindness, mindfulness, and a sense of common humanity. Interdependent self-construal was associated with increased self-judgment and over-identification, whereas independent self-construal was negatively associated with isolation (Neff et al., 2008).

#### Depression

Depression and Anxiety Stress Scales-Short Form, Depression subscale (DASS; S.H. Lovibond & P.F. Lovibond, 1995). The depression subscale of the DASS-21 is a 7-item subscale that measures depressive symptoms (e.g., "I felt downhearted and blue"). Individuals rate each symptom on a 4-point scale ranging from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much or most of the time*) using "Over the past week, including today" as a reference point. Higher scores indicate more depression. With respect to racial/ethnic minority samples, Wei et al. (2004) found that internal consistency for the depression subscale was .88 among Asian American college students. Depression was found to be positively correlated with attachment anxiety, attachment avoidance, and anxiety (Wei et al., 2004). More recently, Norton (2007) demonstrated structural invariance of the DASS-21 depression subscale across Caucasian,

African American, Hispanic, and Asian college students. Cronbach's alpha for the depression subscale among Asian college students was .84 (Norton, 2007). Cronbach's alphas in this study were .89 at T1 (i.e., control variable) and .92 at T3 (i.e., outcome variable).

#### Demographic information

Participants completed a 6-item questionnaire for information on their age, gender, sexual orientation, education level, generation status, and ethnicity.

#### Procedure

Prior to administering questionnaires via an online survey site, I obtained approval from the Institutional Review Board (IRB) at Iowa State University (IRB ID: 14-568, approved 12/10/14; see Appendix A) to conduct my study with Asian American college students. I obtained a list of names and email addresses from the Office of the Registrar to invite self-identified Asian American students to participate in the study (see Appendix B). Participants signed up via an email. The study description invited them to participate in a study examining factors related to interpersonal stressors and psychological outcomes. In addition, I contacted the Institutional Review Board (IRB) at the other universities to find out whether or not IRB approval was needed. I then contacted the Office of the Registrar, Student Records, or Multicultural offices at each university for a list of names and emails for students that self-identified as Asian American or emails for Asian American student organizations (see Appendix C). I emailed students on the list given by each office using the same email template I used to recruit participants at Iowa State University.

When participants signed up for the study at the beginning of the spring semester, they were guided to the survey via a website hosted through qualtrics.com. After participants clicked on the link to the survey, they first read through an informed consent page that explained the

nature of the study, the risks and benefits, and their rights as participants (see Appendix D). Once participants confirmed that they were over the age of 18 and consented to continue with the study, they were forwarded to the actual survey. Participants completed the INQ-15, ISI, FAPS-D, SCS, and the DASS-Depression scales (see above). At the end of the survey at T1, the participants were thanked for their participation, read through a debriefing form (see Appendix E), and were given my contact information for their reference. Participants had the opportunity to submit their contact information (i.e., name, phone number, and email address) to be entered into a random drawing for a \$25 VISA gift card.

I kept a record of participants' contact information to contact participants again at the end of the spring semester (T2) and in the middle of the fall semester (T3). At T2, participants were contacted via email to complete the survey on the same website. All students were able to enter into a random drawing for a \$25 VISA gift card. At T3, participants were contacted via email to complete the same survey they completed at T1 and T2. At the end of the T3 survey, all participants had a third opportunity to enter into a random drawing for a \$25 VISA gift card. Once participants finished the surveys at T2 and T3, they were thanked for their participation, debriefed on the nature of the study, and given the researcher's contact information. The surveys at each time point included three validity check items (e.g., "A week has 7 days") to help filter responses that may be submitted randomly. I maintained participant confidentiality by storing participants' contact information separate from the survey data after they completed the surveys at all time points. Contact information was only reviewed at the end of the project for those who entered the drawing for a \$25 VISA gift card.

## CHAPTER 4. RESULTS

## Preliminary Analyses

## Independent samples t-test

Preliminary analyses were conducted before analyzing the main hypotheses. First, an independent samples t-test was conducted to examine whether my variables of interest (i.e., thwarted belongingness, perceived burdensomeness, and depression at T1) varied between Asian American students who dropped out (i.e., those who only participated at T1) and those who did not drop out (i.e., those who participated at all three time points or at least two time points). Results indicated that there were no significant differences among participants who dropped out and those who did not,  $t(488) = 1.28, p = .20$ , Cohen's  $d = .12$ , for depression at T1 to  $t(603) = -.54, p = .59$ , Cohen's  $d = .04$  for perceived burdensomeness at T1. There did not seem to be a systematic reason for why students dropped out after the first wave of data collection.

## Missing data analysis

Second, I examined the missing data. Data from 677, 280, and 172 Asian American college students were collected at T1, T2, and T3, respectively. Eight participants were removed because they answered all nine of the validity questions (e.g., "One week has seven days") incorrectly (i.e.,  $N = 669$ ). Furthermore, 45 participants were removed due to not having completed any of the survey (i.e.,  $N = 645$ ), and 19 participants were removed because they had completed only T2 or only T3 (i.e.,  $N = 605$ ). The result from Little's Missing Completely at Random (MCAR) test was not found to be significant,  $\chi^2(34, N = 605) = 38.94, p = .26$ . Therefore, this finding suggests that the missing data were missing completely at random. Based on Schlomer, Bauman, and Card's (2010) recommendation, the expectation maximization



estimation method, a maximum likelihood method superior to other methods such as listwise deletion or mean substitution (Schafer & Graham, 2002), was used to impute the missing data. Means, standard deviations, and zero-order correlations (see Table 1)

With respect to the predictor variables, significantly moderate or large positive correlations existed among thwarted belongingness at T1 and (a) perceived burdensomeness at T1; (b) depression at T1; (c) interpersonal shame at T2; (d) perfectionistic family discrepancy at T2; and (e) depression at T3. Thwarted belongingness at T1 was moderately negatively correlated with self-compassion at T2. Significantly large positive correlations also existed among perceived burdensomeness at T1 and (a) depression at T1; (b) interpersonal shame at T2; (c) perfectionistic family discrepancy at T2; and (d) depression at T3. Perceived burdensomeness at T1 was moderately negatively correlated with self-compassion at T2.

Correlations among all other variables

Depression at T1 was positively correlated with (a) interpersonal shame at T2; (b) perfectionistic family discrepancy at T2; and (c) depression at T3. Depression at T1 was moderately negatively correlated with self-compassion at T2. With respect to interpersonal shame at T2, results demonstrated large positive correlations with perfectionistic family discrepancy at T2 and depression at T3 and a moderate negative correlation with self-compassion at T2. Finally, perfectionistic family discrepancy at T2 was negatively correlated with self-compassion at T2 and positively correlated with depression at T3. Self-compassion at T2 was moderately negatively correlated with depression at T3.

Table 1  
Means, Standard Deviations, and Zero-Order Correlations

	1	2	3	4	5	6	7
1. Thwarted Belongingness at T1	-----						
2. Perceived Burdensomeness at T1	.54**	-----					
3. Depression at T1	.62**	.64**	-----				
4. Interpersonal Shame at T2	.48**	.67**	.57**	-----			
5. Perfectionistic Family Discrepancy at T2	.35**	.42**	.35**	.51**	-----		
6. Self-compassion at T2	-.36**	-.47**	-.47**	-.52**	-.35**	-----	
7. Depression at T3	.44**	.52**	.55**	.56**	.35**	-.45**	-----
Possible Range	1-7	1-7	0-3	1-6	1-7	1-5	0-3
Mean	2.82	1.73	.74	2.06	3.28	3.00	.60
SD	1.26	1.12	.69	1.23	1.71	.71	.66

Note.  $N = 605$ . T = Time. \*\*  $p < .01$ .

### Plan for Data Analysis

Conditional process modeling via Hayes's (2013) PROCESS in SPSS was used to examine the hypothesized moderated mediation effects using bias-corrected bootstrapping (e.g., MacKinnon, Lockwood, & Williams, 2004; Mallinckrodt, Abraham, Wei, & Russell, 2006; Shrout & Bolger, 2002). A total of 1,000 bootstrap samples were requested to compute the means of 1,000 estimated indirect effects. MacKinnon et al. (2004) indicated that the bootstrap confidence interval (CI) adjusted for bias showed the highest levels of statistical power. Thus, 95 % bias-corrected bootstrap CIs for the indirect effects were reported. I identified significant mediation effects at the .05 level if the 95% CI did not include zero.

In the command guide for PROCESS, the hypothesized moderated mediation model for this study (see Figure 9) was first graphically depicted in conceptual and statistical terms as "Model 58," where "X" (i.e., predictors) represented thwarted belongingness at T1 or perceived burdensomeness at T1, "Y" (i.e., outcome) represented depression at T3, " $M_i$ " (i.e., mediator) represented interpersonal shame at T2, and "W" (i.e., moderator) represented perfectionistic family discrepancy at T2 or self-compassion at T2. This moderated mediation model allowed us to test multiple moderator effects simultaneously (i.e.,  $X \times W$ ,  $M_i \times W$ ). Second, the *index of moderated mediation* was used to test for the presence of moderated mediation (Hayes, 2013; 2015). Moderation of the indirect effect exists if the index of moderated mediation is statistically different from zero. Third, PROCESS generated conditional indirect (mediation) effects at one standard deviation above and below the mean of the moderating variables to represent the nature of the moderated mediation effects at high and low levels. The predictors (i.e., thwarted belongingness at T1 and perceived burdensomeness at T1) and moderators (i.e., perfectionistic

family discrepancy at T2 and self-compassion at T2) were mean-centered to better interpret the moderation effects.

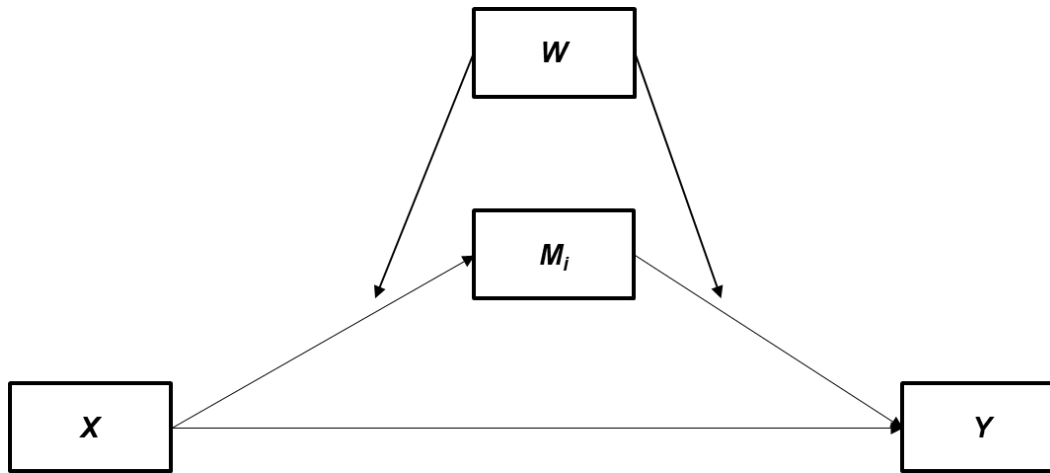


Figure 9. Conceptual Diagram for Model “58” from Hayes’s (2013) Command Guide in PROCESS.

#### Test for Moderated Mediation: Conditional Process Modeling

The original hypotheses were that the mediation effects from interpersonal risk factors (i.e., thwarted belongingness at T1 and perceived burdensomeness at T1;  $X_1$  and  $X_2$  as two predictors) on depression at T3 ( $Y$  as the dependent variable) through interpersonal shame at T2 ( $M_i$  as the mediator) would be moderated by perfectionistic family discrepancy at T2 or self-compassion at T2 ( $W_1$  and  $W_2$  as two moderators; see Figure 2). I ran two moderated mediation models (i.e., one including each moderator of interest). Therefore, an adjusted  $p$  value of .025 (i.e., .05/2 for each of the two moderators of interest) was used for the significant level. In addition, it is important to note that PROCESS only allows one predictor to be entered into the model for analysis. When one predictor (e.g., thwarted belongingness at T1) was entered in the model, the other predictor (e.g., perceived burdensomeness at T1) served as a covariate. Therefore, for each moderator, there were two sets of results (i.e., one for each predictor).

### Perfectionistic family discrepancy at T2 as moderator

Results for thwarted belongingness at T1 as a predictor indicated that the index of moderated mediation ( $B = -.003$ , 95% CI [-.011, .002]) was not significant. This implies that perfectionistic family discrepancy at T2 did not significantly moderate the indirect (mediation) effect from thwarted belongingness at T1 to depression at T3 through interpersonal shame at T2. As shown in Table 2, results consistently indicated that perfectionistic family discrepancy at T2 did not moderate the paths from thwarted belongingness at T1 ( $X_1$ ) to interpersonal shame at T2 ( $M_i$ ; see path  $a_3$  in Table 2), as well as from interpersonal shame at T2 ( $M_i$ ) to depression at T3 ( $Y$ ; see path  $b_3$  in Table 2).

Results for perceived burdensomeness at T1 as a predictor indicated that the index of moderated mediation ( $B = -.003$ , 95% CI [-.013, .001]) was not significant. That is, perfectionistic family discrepancy at T2 did not significantly moderate the indirect (mediation) effect from perceived burdensomeness at T1 to depression at T3 through interpersonal shame at T2. As shown on Table 3, results indicated that perfectionistic family discrepancy at T2 did not moderate the paths from perceived burdensomeness at T1 ( $X_2$ ) to interpersonal shame at T2 ( $M_i$ ; see path  $a_3$  in Table 3), as well as from interpersonal shame at T2 ( $M_i$ ) to depression at T3 ( $Y$ ; see path  $b_3$  in Table 3).

### Self-compassion at T2 as moderator

First, results indicated that the index of moderated mediation ( $B = .007$ , 95% CI [-.012, .030]) was not significant for thwarted belongingness at T1 as a predictor. Therefore, self-compassion at T2 did not significantly moderate the indirect (mediation) effect from thwarted belongingness at T1 to depression at T3 through interpersonal shame at T2. Table 4 demonstrates that self-compassion at T2 did not moderate the paths from thwarted belongingness at T1 ( $X_1$ ) to

interpersonal shame at T2 ( $M_i$ ; see path  $a_3$  in Table 4), as well as from interpersonal shame at T2 ( $M_i$ ) to depression at T3 ( $Y$ ; see path  $b_3$  in Table 4).

Lastly, the index of moderated mediation,  $B = .016$ , 95% CI (-.002, .046), was not significant for perceived burdensomeness at T1 as a predictor. Self-compassion at T2 did not significantly moderate the indirect (mediation) effect from perceived burdensomeness at T1 to depression at T3 through interpersonal shame at T2. Table 5 shows that self-compassion at T2 did moderate the path from perceived burdensomeness at T1 ( $X_2$ ) to interpersonal shame at T2 ( $M_i$ ; see path  $a_3$  in Table 5). However, using my adjusted  $p$  value of .025 (see above), self-compassion at T2 did not significantly moderate the path from perceived burdensomeness at T1 ( $X_2$ ) to interpersonal shame at T2 ( $M_i$ ). Furthermore, self-compassion at T2 did not moderate the path from interpersonal shame at T2 ( $M_i$ ) to depression at T3 ( $Y$ ; see path  $b_3$  in Table 5).

#### Post Hoc Analyses

Unexpectedly, my original hypotheses that the indirect (mediation) effects would be moderated by my moderators of interest (i.e., perfectionistic family discrepancy at T2 and self-compassion at T2) were not supported by this data. Therefore, post hoc analyses were conducted to examine an alternative moderated mediation model. This alternative moderated mediation model refers to Model 5 in PROCESS (see Figure 10 below; Hayes, 2013).

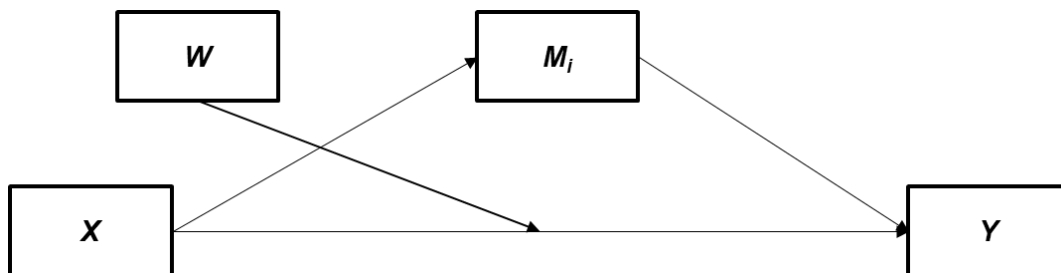


Figure 10. Conceptual Diagram for Model “5” from Hayes’s (2013) Command Guide in PROCESS.

Table 2

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Perfectionistic Family Discrepancy at T2 Moderated the Indirect (Mediation) Effect from Thwarted Belongingness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	$B$	$SE$	95% CI	Path	$B$	$SE$	95% CI
Constant	$a_0$	-1.02***	.05	-1.12, -.916	$b_0$	.407***	.03	.346, .469
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.165***	.02	.125, .204
Thwarted Belongingness at T1 ( $X_1$ )	$a_1$	.052*	.02	.004, .100	$c'$	.056***	.01	.034, .079
Perfectionistic Family Discrepancy at T2 ( $W_1$ )	$a_2$	.176***	.02	.133, .220	$b_2$	.028**	.01	.006, .050
$X_1 \times W_1$	$a_3$	<b>-.022</b>	<b>.01</b>	<b>-.050, .005</b>				
$M_i \times W_1$					$b_3$	<b>.015</b>	<b>.01</b>	<b>-.001, .031</b>
Perceived Burdensomeness at T1 ( <i>covariate</i> )	$a_4$	.458***	.03	.400, .516	$b_4$	.008	.02	-.025, .040
Depression at T1 ( <i>covariate</i> )	$a_5$	.328***	.05	.228, .427	$b_5$	.256***	.02	.208, .305
				$R^2 = .713$				$R^2 = .710$
				$F(5,599) = 297.108, p < .001$				$F(6,598) = 244.052, p < .001$

Note. T = Time. CI = Confidence Interval. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .  $P$  values are based on the Sobel test.

Table 3

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Perfectionistic Family Discrepancy at T2 Moderated the Indirect (Mediation) Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	<i>B</i>	<i>SE</i>	95% CI	Path	<i>B</i>	<i>SE</i>	95% CI
Constant	$a_0$	-.347***	.07	-.484, -.210	$b_0$	.261***	.03	.194, .328
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.165***	.02	.125, .204
Perceived Burdensomeness at T1 ( $X_2$ )	$a_1$	.481***	.04	.410, .551	$c'$	.008	.02	-.025, .040
Perfectionistic Family Discrepancy at T2 ( $W_1$ )	$a_2$	.175***	.02	.131, .218	$b_2$	.028**	.01	.006, .050
$X_2 \times W_1$	$a_3$	<b>-.025</b>	<b>.02</b>	<b>-.055, .006</b>				
$M_i \times W_1$					$b_3$	<b>.015</b>	<b>.01</b>	<b>-.001, .031</b>
Thwarted Belongingness at T1 ( <i>covariate</i> )	$a_4$	.045	.02	-.004, .093	$b_4$	.056***	.01	.034, .079
Depression at T1 ( <i>covariate</i> )	$a_5$	.330***	.05	.231, .429	$b_5$	.256***	.02	.208, .305
				$R^2 = .713$				$R^2 = .710$
				$F(5,599) = 297.083, p < .001$				$F(6,598) = 244.052, p < .001$

Note. T = Time. CI = Confidence Interval. \*\*  $p < .01$ . \*\*\*  $p < .001$ . *P* values are based on the Sobel test.



Table 4

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Self-Compassion at T2 Moderated the Indirect (Mediation) Effect from Thwarted Belongingness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	<i>B</i>	<i>SE</i>	95% CI	Path	<i>B</i>	<i>SE</i>	95% CI
Constant	$a_0$	-.990***	.06	-1.10, -.880	$b_0$	.438***	.03	.376, .501
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.162***	.02	.125, .200
Thwarted Belongingness at T1 ( $X_1$ )	$a_1$	.072**	.02	.025, .120	$c'$	.056***	.01	.034, .078
Self-compassion at T2 ( $W_2$ )	$a_2$	-.385***	.06	-.497, -.274	$b_2$	-.136***	.03	-.189, -.082
$X_1 \times W_2$	$a_3$	<b>.032</b>	<b>.03</b>	<b>-.032, .096</b>				
$M_i \times W_2$					$b_3$	<b>-.016</b>	<b>.02</b>	<b>-.050, .017</b>
Perceived Burdensomeness at T1 ( <i>covariate</i> )	$a_4$	.465***	.03	.407, .523	$b_4$	.007	.02	-.026, .039
Depression at T1 ( <i>covariate</i> )	$a_5$	.263***	.05	.157, .368	$b_5$	.224***	.03	.175, .273
				$R^2 = .705$				$R^2 = .718$
				$F(5,599) = 285.981, p < .001$				$F(6,598) = 253.289, p < .001$

Note. T = Time. CI = Confidence Interval. \*\*  $p < .01$ . \*\*\*  $p < .001$ . *P* values are based on the Sobel test.

Table 5

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Self-Compassion at T2 Moderated the Indirect (Mediation) Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	$B$	$SE$	95% CI	Path	$B$	$SE$	95% CI
Constant	$a_0$	-.343***	.07	-.482, -.205	$b_0$	.291***	.03	.226, .356
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.162***	.02	.125, .200
Perceived Burdensomeness at T1 ( $X_2$ )	$a_1$	.506***	.04	.436, .576	$c'$	.007	.02	-.026, .039
Self-compassion at T2 ( $W_2$ )	$a_2$	-.378***	.06	-.490, -.266	$b_2$	-.136***	.03	-.189, -.082
$X_2 \times W_2$	$a_3$	<b>.074*</b>	<b>.03</b>	<b>.008, .140</b>				
$M_i \times W_2$					$b_3$	<b>-.016</b>	<b>.02</b>	<b>-.050, .017</b>
Thwarted Belongingness at T1 ( <i>covariate</i> )	$a_4$	.063**	.02	.015, .111	$b_4$	.056***	.01	.034, .078
Depression at T1 ( <i>covariate</i> )	$a_5$	.262***	.05	.157, .367	$b_5$	.224***	.03	.175, .273
				$R^2 = .707$				$R^2 = .718$
				$F(5,599) = 288.627, p < .001$				$F(6,598) = 253.289, p < .001$

Note. T = Time. CI = Confidence Interval. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .  $P$  values are based on the Sobel test.

The alternative moderated mediation model for this study was defined by two parts (see Figure 11). The first part hypothesized the indirect (mediation) effects from the two interpersonal risk factors at T1 to depression at T3 through interpersonal shame at T2. The second part hypothesized that (a) perfectionistic family discrepancy at T2 and (b) self-compassion at T2 would moderate the direct effects from the two interpersonal risk factors at T1 to depression at T3. Similar to the main analyses above, when one predictor (e.g., thwarted belongingness at T1) was entered in the model, the other predictor (e.g., perceived burdensomeness at T1) served as a covariate. Thus, for each moderator, there were two sets of results (i.e., one for each predictor).

Perfectionistic family discrepancy as a moderator

The first set of results for thwarted belongingness at T1 as a predictor demonstrated that interpersonal shame at T2 significantly mediated the association between thwarted belongingness at T1 and depression at T3,  $b = .015$ ,  $SE = .01$ , 95% CI (.006, .030). Furthermore, the results also indicated that perfectionistic family discrepancy at T2 significantly moderated the direct path from thwarted belongingness at T1 to depression at T3,  $b = .017$ ,  $SE = .01$ , 95% CI (.004, .030; see path  $c_3$  in Table 6). To better understand the nature of the interaction, results from conditional direct effects reported in PROCESS indicated that the simple slope was significant at low (i.e., 1  $SD$  below the mean;  $b = .031$ ,  $SE = .01$ , 95% CI [.003, .059]) and high levels (i.e., 1  $SD$  above the mean;  $b = .072$ ,  $SE = .01$ , 95% CI [.046, .099]) of perfectionistic family discrepancy at T2. Figures 12 and 13 demonstrate that the slope at high perfectionistic family discrepancy at T2 was significantly deeper than that at low perfectionistic family discrepancy at T2. That is, the direct effect of thwarted belongingness at T1 on depression at T3 was stronger for those with higher than lower perfectionistic family discrepancy at T2.

The second set of results for perceived burdensomeness at T1 also demonstrated that interpersonal shame at T2 significantly mediated the association between perceived burdensomeness at T1 and depression at T3,  $b = .094$ ,  $SE = .02$ , 95% CI (.062, .132). Moreover, the results indicated that perfectionistic family discrepancy at T2 significantly moderated the direct path from perceived burdensomeness at T1 to depression at T3,  $b = .018$ ,  $SE = .01$ , 95% CI (.004, .032; see path  $c_3$  in Table 7). Results from conditional direct effects reported in PROCESS indicated that the simple slopes were not significant at low (i.e., 1  $SD$  below the mean;  $b = -.033$ ,  $SE = .03$ , 95% CI [-.083, .017]) and high levels (i.e., 1  $SD$  above the mean;  $b = .011$ ,  $SE = .02$ , 95% CI [-.020, .042]; see Figures 14 and 15) of perfectionistic family discrepancy at T2. While the simple slopes were not significant, the significant interaction demonstrated that the slopes at different levels of the moderator were significantly different from each other. Figures 14 and 15 reflect an interesting interaction pattern. When perfectionistic family discrepancy at T2 was experienced at a high level, the slope was positive. That is, Asian Americans with higher discrepancy in meeting their families' standards for performance might be more vulnerable to depression when they believe they are burdens to others. Conversely, when perfectionistic family discrepancy at T2 was experienced at a low level, the slope was negative. This implies that Asian Americans with lower discrepancy in meeting their families' standards for performance might not be vulnerable to depression when they believe they are burdens to others.

#### Self-compassion as a moderator

The first set of results for thwarted belongingness at T1 as a predictor demonstrated that interpersonal shame at T2 significantly mediated the association between thwarted belongingness at T1 and depression at T3,  $b = .014$ ,  $SE = .01$ , 95% CI (.005, .026). With respect to moderation, the results did not indicate that self-compassion at T2 significantly moderated the direct path

from thwarted belongingness at T1 to depression at T3,  $b = -.007$ ,  $SE = .01$ , 95% CI  $(-.036, .022$ ; see path  $c_3$  in Table 8). In general, there is no need to plot the simple slopes for non-significant moderation results. Nevertheless, I plotted the simple slopes for this interaction to view the trend of the interaction pattern. As indicated in Figures 18 and 19, the simple slopes for higher ( $b = .051$ ,  $SE = .01$ , 95% CI  $[.024, .078]$ ) and lower self-compassion ( $b = .058$ ,  $SE = .01$ , 95% CI  $[.032, .084]$ ) were significantly positive but the two slopes were relatively parallel. This also illustrated that self-compassion at T2 did not significantly moderate the direct effect from thwarted belongingness at T1 to depression at T3.

For perceived burdensomeness at T1 as a predictor, interpersonal shame at T2 significantly mediated the association between perceived burdensomeness at T1 and depression at T3,  $b = .087$ ,  $SE = .02$ , 95% CI  $(.055, .127)$ . With respect to moderation, the results did not indicate that self-compassion at T2 significantly moderated the direct path from perceived burdensomeness at T1 to depression at T3,  $b = -.008$ ,  $SE = .02$ , 95% CI  $(-.038, .022$ ; see path  $c_3$  in Table 9). Similar to my analysis with thwarted belongingness at T1 (see above), I plotted the simple slopes for this interaction to view the trend of the interaction pattern. Figures 20 and 21 demonstrate that the simple slopes for higher ( $b = .001$ ,  $SE = .02$ , 95% CI  $[-.047, .049]$ ) and lower self-compassion ( $b = .010$ ,  $SE = .02$ , 95% CI  $[-.021, .041]$ ) were not significant and were relatively parallel. Thus, this indicated that self-compassion at T2 did not significantly moderate the direct effect from perceived burdensomeness at T1 to depression at T3.

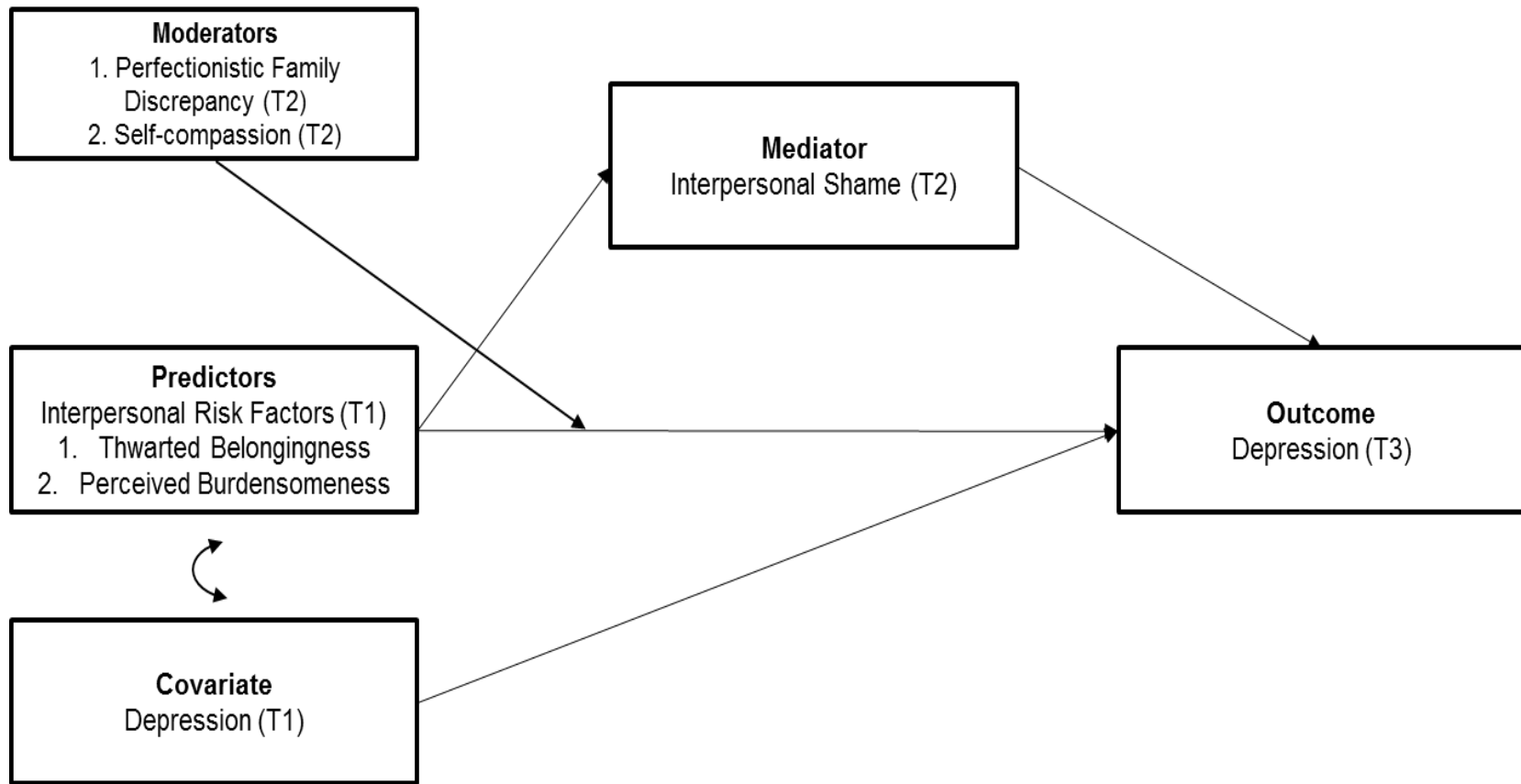


Figure 11. The Conceptual Model for Post Hoc Analyses. T = Time.



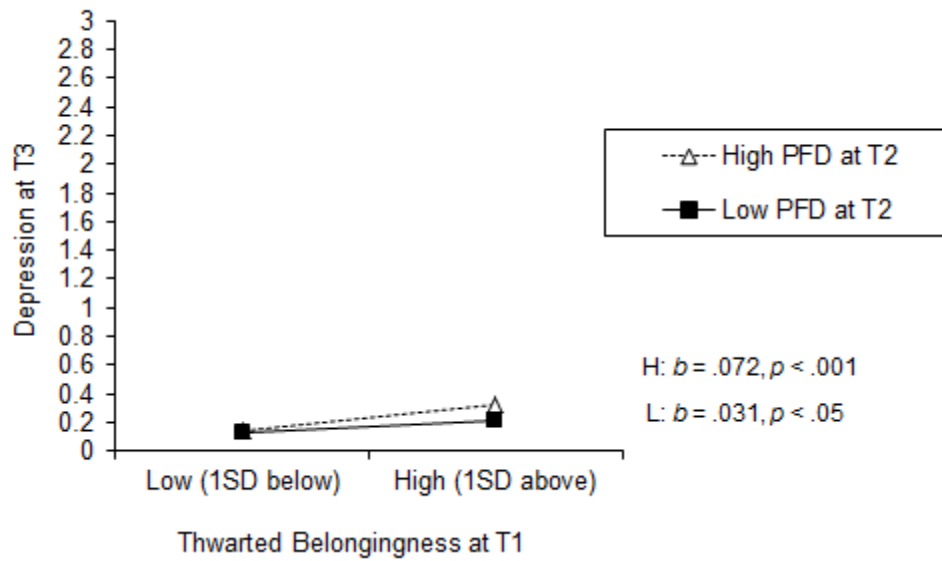


Figure 12. Perfectionistic Family Discrepancy Moderated the Direct Effect from Thwarted Belongingness at T1 to Depression at T3 (scale range from 0-3). Note. PFD = Perfectionistic Family Discrepancy. T = Time.

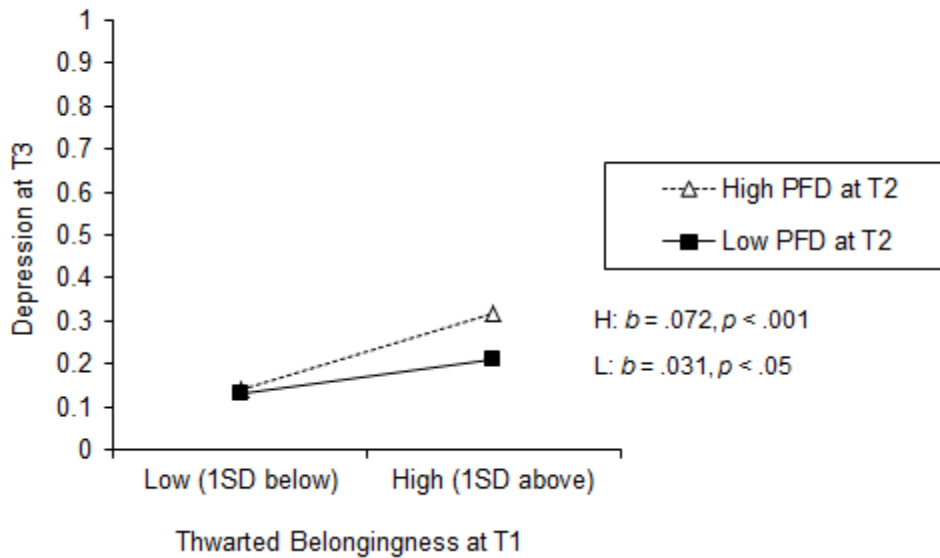


Figure 13. Perfectionistic Family Discrepancy Moderated the Direct Effect from Thwarted Belongingness at T1 to Depression at T3. Note. PFD = Perfectionistic Family Discrepancy. T = Time. The original scale range for Depression at T3 is 0-3. The figure above presents a scale range of 0-1 to view the differences in simple slopes.



Table 7

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Perfectionistic Family Discrepancy at T2 Moderated the Direct Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	<i>B</i>	<i>SE</i>	95% CI	Path	<i>B</i>	<i>SE</i>	95% CI
Constant	$a_0$	1.54***	.07	1.41, 1.68	$b_0$	-.109*	.05	-.200, -.018
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.180***	.02	.142, .217
Perceived Burdensomeness at T1 ( $X_2$ )	$a_1$	.520***	.03	.465, .576	$c'$	-.011	.02	-.049, .027
Thwarted Belongingness at T1 ( <i>covariate</i> )	$a_2$	.085***	.03	.036, .134	$b_2$	.057***	.01	.035, .080
Depression at T1 ( <i>covariate</i> )	$a_3$	.365***	.05	.261, .470	$b_3$	.252***	.02	.204, .301
Perfectionistic Family Discrepancy at T2 ( $W_1$ )					$c_2$	.026*	.01	.005, .048
$X_2 \times W_1$					$c_3$	<b>.018*</b>	<b>.01</b>	<b>.004, .032</b>
			$R^2 = .681$				$R^2 = .711$	
			$F(3,601) = 427.933, p < .001$				$F(6,598) = 245.464, p < .001$	

Note. T = Time. CI = Confidence Interval. \*  $p < .05$ . \*\*\*  $p < .001$ . *P* values based on the Sobel test.

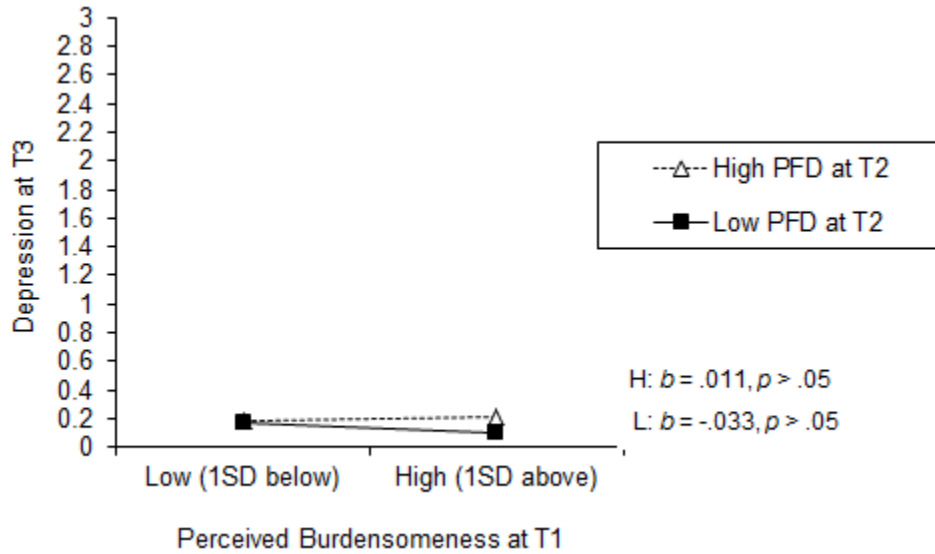


Figure 14. Perfectionistic Family Discrepancy Moderated the Direct Effect from Perceived Burdensomeness at T1 to Depression at T3 (scale range from 0-3). Note. PFD = Perfectionistic Family Discrepancy. T = Time.

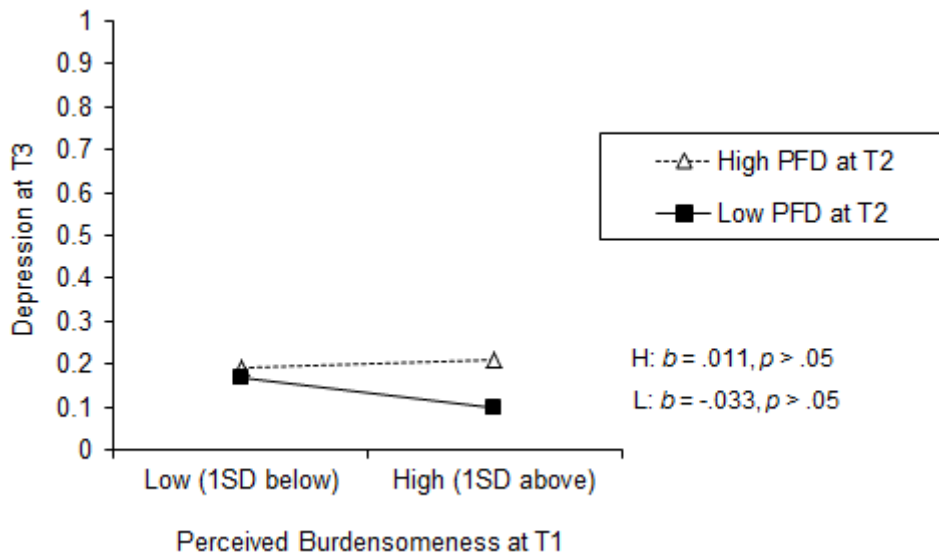


Figure 15. Perfectionistic Family Discrepancy Moderated the Direct Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2. Note. PFD = Perfectionistic Family Discrepancy. T = Time. The original scale range for Depression at T3 is 0-3. The figure above presents a scale range of 0-1 to view the differences in simple slopes.

Table 8

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Self-Compassion at T2 Moderated the Direct Effect from Thwarted Belongingness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	$B$	$SE$	95% CI	Path	$B$	$SE$	95% CI
Constant	$a_0$	.880***	.05	.779, .981	$b_0$	.096**	.03	.032, .160
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.166***	.02	.129, .203
Thwarted Belongingness at T1 ( $X_1$ )	$a_1$	.085***	.03	.036, .134	$c'$	.055***	.01	.033, .077
Perceived Burdensomeness at T1 ( <i>covariate</i> )	$a_2$	.520***	.03	.465, .576	$b_2$	.010	.02	-.022, .041
Depression at T1 ( <i>covariate</i> )	$a_3$	.365***	.05	.261, .470	$b_3$	.225***	.03	.176, .274
Self-compassion at T2 ( $W_2$ )					$c_2$	-.133***	.03	-.186, -.080
$X_1 \times W_2$					$c_3$	<b>-.007</b>	<b>.01</b>	<b>-.036, .022</b>
				$R^2 = .681$				$R^2 = .717$
				$F(3,601) = 427.933, p < .001$				$F(6,598) = 252.866, p < .001$

Note. T = Time. CI = Confidence Interval. \*\*  $p < .01$ . \*\*\*  $p < .001$ .  $P$  values are based on the Sobel test.

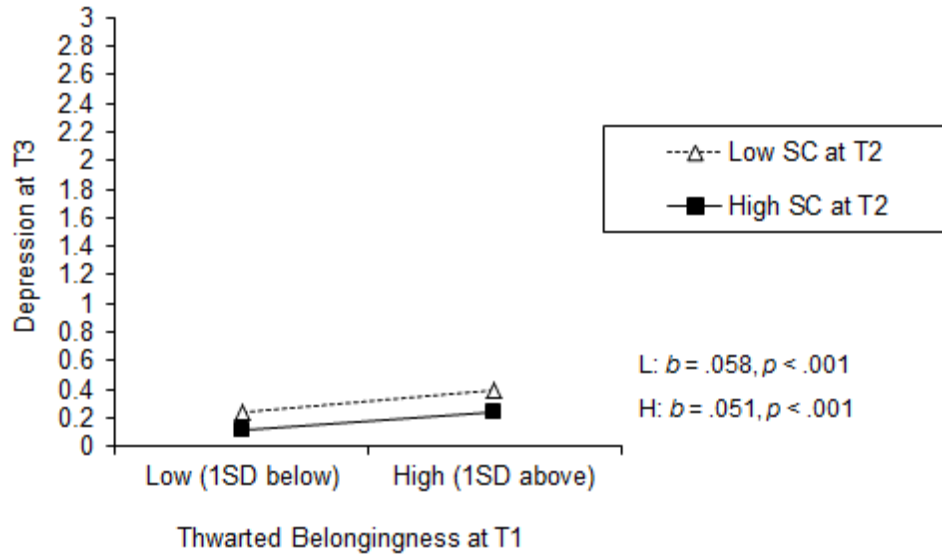


Figure 16. While the Simple Effects were Significant at the .001 Level, Self-Compassion Did Not Moderate the Direct Effect from Thwarted Belongingness at T1 to Depression at T3 (scale range from 0-3). *Note.* SC = Self-Compassion. T = Time.

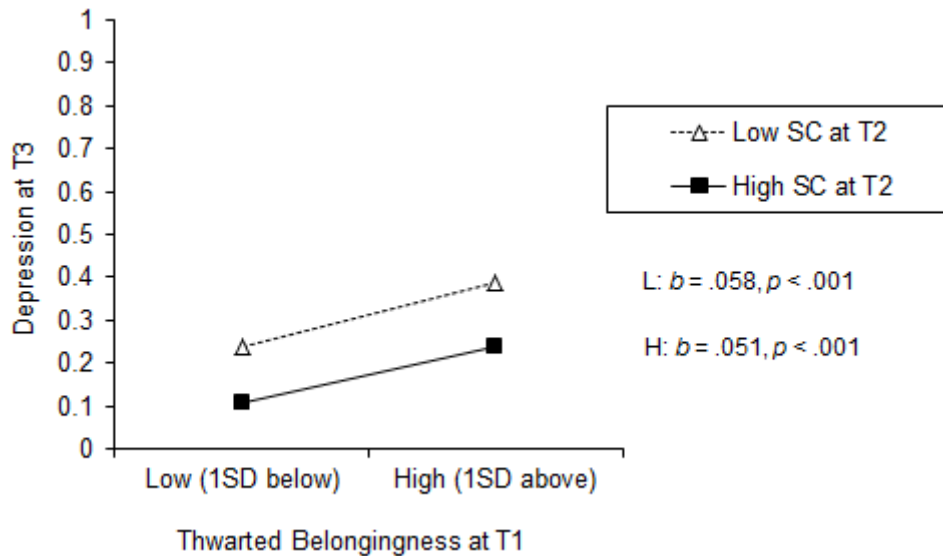


Figure 17. While the Simple Effects were Significant at the .001 Level, Self-Compassion Did Not Moderate the Direct Effect from Thwarted Belongingness at T1 to Depression at T3. *Note.* SC = Self-Compassion. T = Time. The original scale range for Depression at T3 is 0-3. The figure above presents a scale range of 0-1 to view the differences in simple slopes.

Table 9

*Unstandardized Path Coefficients with Confidence Intervals Estimating Whether Self-Compassion at T2 Moderated the Direct Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2*

	Interpersonal Shame at T2 ( $M_i$ )				Depression at T3 ( $Y$ )			
	Path	$B$	(SE)	95% CI	Path	$B$	(SE)	95% CI
Constant	$a_0$	1.54***	.07	1.41, 1.69	$b_0$	-.047	.05	-.136, .043
Interpersonal Shame at T2 ( $M_i$ )					$b_1$	.166***	.02	.130, .203
Perceived Burdensomeness at T1 ( $X_2$ )	$a_1$	.520***	.03	.465, .576	$c'$	.006	.02	-.032, .043
Thwarted Belongingness at T1 ( <i>covariate</i> )	$a_2$	.085***	.03	.036, .134	$b_2$	.056***	.01	.034, .078
Depression at T1 ( <i>covariate</i> )	$a_3$	.365***	.05	.261, .470	$b_3$	.225***	.02	.176, .274
Self-compassion at T2 ( $W_2$ )					$c_2$	-.133***	.03	-.186, -.080
$X_2 \times W_2$					$c_3$	<b>-.008</b>	<b>.02</b>	<b>-.038, .022</b>
				$R^2 = .681$				$R^2 = .717$
				$F(3,601) = 427.933, p < .001$				$F(6,598) = 252.893, p < .001$

Note. T = Time. CI = Confidence Interval. \*\*\*  $p < .001$ .  $P$  values are based on the Sobel test.

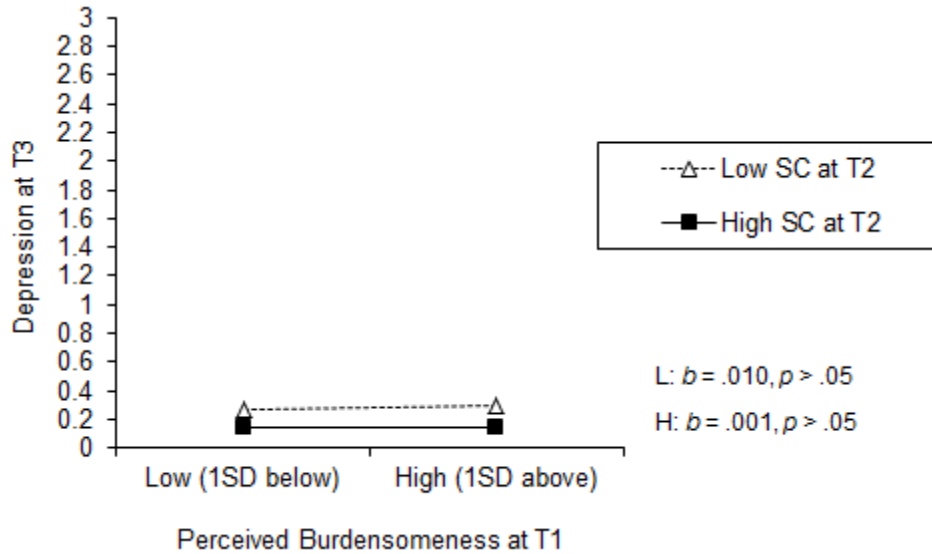


Figure 18. Self-Compassion Did Not Moderate the Direct Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2. Note. SC = Self-Compassion. T = Time.

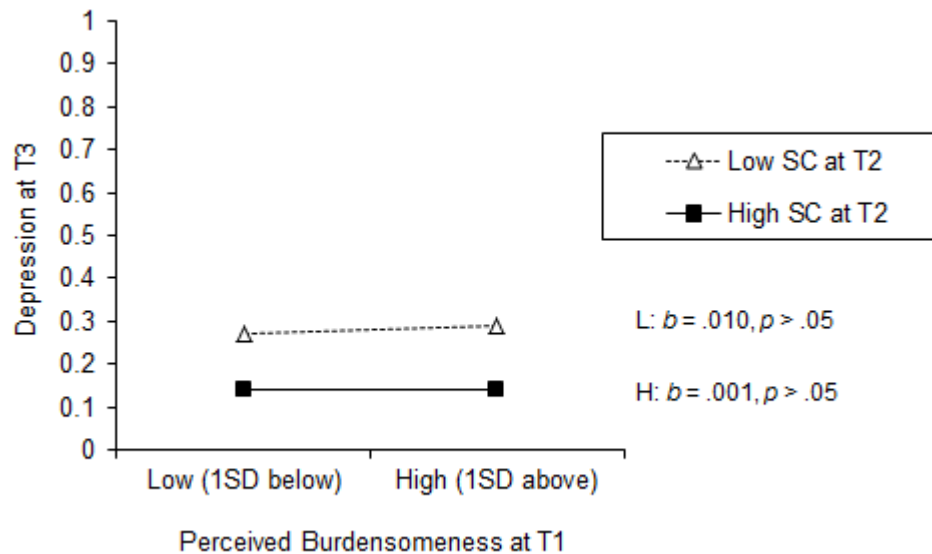


Figure 19. Self-Compassion Did Not Moderate the Direct Effect from Perceived Burdensomeness at T1 to Depression at T3 through Interpersonal Shame at T2. Note. SC = Self-Compassion. T = Time. The original scale range for Depression at T3 is 0-3. The figure above presents a scale range of 0-1 to view the differences in simple slopes.

## CHAPTER 5. DISCUSSION

Asian Americans have been viewed as members of the “model minority” group who may be held to high regard for their ability to excel academically and adjust well to college life (Kim et al., 1999; Kwan, 2000). Yet, the Asian American mental health literature has demonstrated that college students may report anxiety (Sangalang & Gee, 2012), depression (Wang, 2010), shame (Wong et al., 2014), or suicidal ideation (Cheng et al., 2010) resulting from interpersonal concerns (e.g., thwarted belongingness and perceived burdensomeness). The consequences of interpersonal stressors on Asian American mental health have been studied, but few studies have assessed mediating or moderating factors that protect or harm students while at college. The findings of the current empirical study support and expand on past literature (see below) by (a) applying Joiner’s (2005) Interpersonal-Psychological Theory of Suicide to Asian American college students with the psychological outcome of depression; (b) examining interpersonal shame as a potential mediator in the links between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression; and (c) assessing whether moderators (e.g., perfectionistic family discrepancy and self-compassion) alter the strength of the proposed mediated effects in a sample of Asian American college students attending predominantly White, Midwestern universities.

## Original Hypotheses for Moderation of the Indirect (Mediation) Effects

With respect to moderated mediation, this study proposed for whom (i.e., Asian American college students who had high or low perfectionistic family discrepancy at T2 or high or low self-compassion at T2) the associations between interpersonal risk factors at T1 and depression at T3 through interpersonal shame at T2 (i.e., mediation effects) would change.

Contrary to my hypotheses, the current results did not support that perfectionistic family discrepancy at T2 or self-compassion at T2 moderated the associations between interpersonal risk factors (i.e., thwarted belongingness at T1 and perceived burdensomeness at T1) and depression at T3 through interpersonal shame at T2. That is, interpersonal risk factors related to depression at T3 through interpersonal shame at T2, no matter the level of each moderator (i.e., there were no significant differences for those with high or low perfectionistic family discrepancy at T2 or self-compassion at T2). These results were found after statistically controlling for initial levels of depression.

#### Post Hoc Analyses: Mediation Effects and Moderated Mediation of the Direct Effects Mediation effects

While the original moderated mediation hypotheses were not supported, post hoc analyses demonstrated significant mediation effects (i.e., interpersonal shame at T2 mediated the links of interpersonal risk factors at T1 and depression at T3). These results may imply that the data support significant mediation effects and do not support the hypothesis that the mediation effects depend on my moderators of interest (i.e., perfectionistic family discrepancy at T2 and self-compassion at T2). In other words, when Asian American college students experience higher thwarted belongingness and perceived burdensomeness, these students will have a higher sense of interpersonal shame, which in turn can be related to higher levels of depression in the future. This makes sense because relationships are highly valued in Asian American culture. Disconnection from others or the perception that they burden others likely bring about interpersonal shame among Asian American college students (Wong et al., 2014). Therefore, interpersonal shame is likely to make Asian Americans vulnerable to future depression. These results are consistent with a previous study that examined interpersonal shame as a mediator



between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and suicidal ideation (Wong et al., 2014). It is important to highlight that these mediation effects occurred after controlling for initial level of depression as a possible confounding variable.

#### Perfectionistic family discrepancy at T2 as a moderator

With respect to moderated direct effects, I found that perfectionistic family discrepancy at T2 significantly moderated the direct effect of thwarted belongingness at T1 to depression at T3. Closer examination of the conditional direct effects with thwarted belongingness at T1 to depression at T3 revealed that the simple slopes were significant at low and high levels of perfectionistic family discrepancy at T2 (see Figures 12 and 13). Furthermore, the direct effect of thwarted belongingness at T1 on depression at T3 was stronger for those with higher than lower perfectionistic family discrepancy at T2. Those who face high discrepancies between how they believe their families wish them to perform and their actual performance are more at risk for depression while experiencing higher disconnection from others. My results confirm that students' lack of close connections with others and high perfectionistic family discrepancy may strengthen students' susceptibility to depression compared to those who experience low perfectionistic family discrepancy. These results are consistent with the literature regarding the moderating role of perfectionism in relations between interpersonal stressors (e.g., social commitments) and depression (Hewitt & Flett, 1993) and between attachment anxiety and depression (Wei et al., 2004).

Moreover, perfectionistic family discrepancy at T2 also significantly moderated the direct effect of perceived burdensomeness at T1 to depression at T3. That is, the slopes at different levels of perfectionistic family discrepancy at T2 were significantly different from each other. However, results for the conditional direct effects with perceived burdensomeness at T1 to

depression at T3 revealed that the simple slopes were not significant at low and high levels of perfectionistic family discrepancy at T2 (i.e., one standard deviation below and above the mean; see Figures 14 and 15). Specifically, Asian Americans with high discrepancy in meeting their families' standards for performance might be more vulnerable to depression when they perceive that they burden others. Perceiving discrepancy between their performance and families' standards can be an added stressor that strengthens the effect of perceived burdensomeness on future depression (Taylor et al., 2004). Nonetheless, those who perceive that they burden others may not be susceptible to depression when their perfectionistic family discrepancy is low.

#### Self-compassion at T2 as a moderator

Finally, results of post hoc analyses revealed that self-compassion at T2 did not significantly moderate the direct effect from thwarted belongingness at T1 to depression at T3. The simple slopes for higher and lower self-compassion were relatively parallel (see Figures 16 and 17), which indicated that the positive relationship between thwarted belongingness at T1 and depression at T3 seemed to be relatively constant across high and low levels of self-compassion among Asian American students. It is noteworthy, however, that the simple slopes for higher and lower self-compassion were significantly positive across different levels of self-compassion. One reason that self-compassion was not a significant moderator may be related to within-group differences. Neff et al. (2008) found that Thai and Taiwanese students differ in exposure to and attitudes about self-compassion. Future researchers can further explore the moderation role self-compassion plays in the interpersonal risk factors and depression links for specific Asian American groups.

In addition, self-compassion at T2 also did not significantly moderate the direct effect from perceived burdensomeness at T1 to depression at T3. In comparison to thwarted

belongingness at T1 (see above), the simple slopes for higher and lower levels of self-compassion were not significant, and they were relatively parallel (i.e., the perceived burdensomeness-depression link was constant across all levels of self-compassion; see Figures 18 and 19). These results seemingly contradict Wong and Mak's (2012) and Kyeong's (2013) studies demonstrating that self-compassion serves as a buffer in the relationships between (a) cognitive-personality styles (i.e., autonomy and self-criticism) and (b) academic burden with depression. However, it is important to note that (a) cognitive-personality styles and academic burden are conceptually different from Joiner's (2005) interpersonal risk factors and (b) both studies sampled Asian students studying in Hong Kong and Korea, respectively. Self-compassion is a relatively new concept that has been studied with Asian college students but, to my knowledge, has not been studied with Asian American college student samples (e.g., Neff et al., 2008). Believing that one burdens others in a relational context is different from cognitive-personality styles or academic burden. In Asian American culture, individuals are expected to put others' needs before their own needs. When Asian American college students believe that they are others' burden, it might be difficult to show themselves compassion and decrease their depression. Future studies should confirm or disconfirm this hypothesis.

#### Contribution to the Asian American Literature

Current research in the Asian American mental health literature has begun moving beyond assessing the nature of interpersonal stressors to explore possible mediators and moderators that protect or put Asian American students at risk for negative psychological outcomes (e.g., depression). Thus, the present study made at least three important contributions to the Asian American mental health literature.

First, the current study identified specific interpersonal stressors (i.e., thwarted belongingness and perceived burdensomeness) based on Joiner's (2005) Interpersonal-Psychological Theory of Suicide that can affect Asian American students' risk for future depression. It is only recently that multicultural researchers have applied Joiner's theory to Asian and Asian American students' experiences (e.g., Wong et al., 2011a; Wong et al., 2011b; Zhang et al., 2013). These studies have primarily examined risk factors to specifically predict the psychological outcome of suicidal ideation. Nevertheless, this study's findings confirm T. Joiner's personal communication (September 23, 2014) that his interpersonal states of thwarted belongingness and perceived burdensomeness may help researchers and clinicians to better understand Asian American students' risk factors for future depression. By applying Joiner's framework to this population of interest, the current study has introduced specific contextual factors (i.e., thwarted belongingness and perceived burdensomeness) that may help future researchers examine social situations in which Asian American students lack a sense of belonging or perceive themselves as burdens to their peers at predominantly White institutions.

Next, my results advance the literature by highlighting the relevance of combining Joiner's (2005) interpersonal stressors with Wong et al.'s (2014) construct of interpersonal shame. The present study found that, above and beyond initial level of depression, interpersonal shame serves as a mediator between both interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and depression among Asian American college students. The fact that interpersonal shame serves as a mediator between both of Joiner's constructs and depression adds complexity to the Asian American mental health literature. This study's focus on both Joiner's (2005) framework and Wong et al.'s (2014) culturally-applicable construct of interpersonal shame expanded the mediating role of interpersonal shame beyond suicidal

ideation (e.g., Wong et al., 2014) to depression in a growing population (i.e., Asian Americans). Wong et al. (2014) argued that a relevant next step to take in the study of interpersonal shame is to conduct longitudinal studies. The present study answers the authors' call for complex research methods (i.e., longitudinal studies) by providing short-term longitudinal data to support the notion that interpersonal shame is an apparent causal mechanism in the interpersonal risk factors-depression links.

Finally, the current study adds further depth to the literature on Asian Americans' heightened risk for depression by demonstrating that perfectionistic family discrepancy moderated the direct effects of (a) thwarted belongingness and (b) perceived burdensomeness on depression. Specifically, the positive relationship between lacking a sense of belonging and increased depression was stronger for Asian American students who strongly believe they do not live up to their families' standards. Thus, these results show for whom (i.e., Asian American students with high perfectionistic family discrepancy [i.e., a culturally salient variable for students navigating family expectations for excellence]) depression occurs in the face of thwarted belongingness and perceived burdensomeness.

#### Limitations

The contributions of this study to the Asian American mental health literature should be viewed in light of its limitations. First, the majority of participants in the sample identified as East Asian American and second generation Asian American. Furthermore, participants attended predominantly White Midwestern universities, which limits the extent of the study's generalizability to other Asian American subgroups. Future studies may benefit from sampling specific ethnic groups (e.g., Chinese-Americans, South Asian Americans) in other areas of the

U.S., as well as those who identify as Asian American of various generational statuses (e.g., 1<sup>st</sup> and 3<sup>rd</sup> generation) to confirm or disconfirm the findings of the present study.

Second, the study may be subject to a self-selection bias. Participants who were (a) interested in the topic of interpersonal risk factors and psychological outcomes and (b) who were comfortable disclosing their experiences with thwarted belongingness, perceived burdensomeness, interpersonal shame, and depression via an online survey may have been more likely to participate. Future researchers may advertise their studies in such a way that increases interest among a larger population of Asian American college students (e.g., providing psycho-education on the study's topic before sampling and providing multiple means of participation [e.g., paper format, online format, in-person interview, etc.]). To ensure credible and accurate responses from participants at all three time points, researchers may also consider administering a measure of social desirability.

Finally, the use of an online, self-report questionnaire to gather short-term, longitudinal data poses as a limitation. This means of data collection may assume that participants will accurately report their amount of thwarted belongingness, perceived burdensomeness, perfectionistic family discrepancy, and self-compassion. Moreover, the study's results rely on the truthfulness and the ability of participants to reflect on their level of interpersonal shame and current psychological state (i.e., depression) at three time points. Future studies may benefit from obtaining (a) peers and/or parents' reports of the degree to which participants are subjected to interpersonal risk factors and interpersonal shame; and (b) live observation data collected by researchers or third-party collaborators on each of the study's variables. Data obtained in either manner may be analyzed in combination with or separate from self-report data.

### Future Research Directions

Despite the aforementioned limitations, the current study presents at least three directions for future studies. First, given that self-compassion was not a significant moderator in this study, future researchers could explore the possible moderating role of self-compassion with positive psychological outcomes. For instance, recent literature supporting the moderating role of self-compassion has operationally defined positive psychological outcomes as life satisfaction (Allen, Goldwasser, & Leary, 2012), subjective well-being (Allen et al., 2012), and self-esteem (Pisitsungkagarn, Taephant, & Attasaranya, 2014). It is imperative that future researchers expand their study of self-compassion among Asian Americans.

Second, while this study found that perfectionistic family discrepancy moderated the direct effects of thwarted belongingness and perceived burdensomeness on depression, the results found were gathered two academic semesters apart from each other. Future studies may benefit from collecting longitudinal data across a longer time period or at multiple time points to draw causal inferences about the relationship among interpersonal risk factors, interpersonal shame, perfectionistic family discrepancy, and depression. For instance, data may be collected when participants are first-year students and when participants are in their last year of college to capture the possible long-term increase or decrease in interpersonal shame and perfectionistic family discrepancy that may influence their depression. Longitudinal designs can also be combined with experimental designs or intervention studies that test for causal effects (i.e., decreasing participants' level of interpersonal shame and perfectionistic family discrepancy).

Lastly, my primary variables of interest were interpersonal shame, perfectionistic family discrepancy, and self-compassion and their possible influences on the relationships between interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and

depression in Asian American college students. However, Perera and Chang's (2015) recent study comparing Asian and European Americans' experiences with socially prescribed perfectionism (i.e., perceived expectations to meet high standards prescribed by others) demonstrated that Asian American students may also perceive that their peers (above and beyond their parents) set unrealistic expectations for their performance. Thus, it is important that future researchers explore the possible influence of this construct as a moderating variable for the interpersonal risk factors-depression links. Specifically, the relationship between interpersonal risk factors and depression may be stronger for those with high socially prescribed perfectionism from their peers. Furthermore, since self-compassion was not a significant moderator in this study for a negative psychological outcome (i.e., depression), a protective factor relevant to Asian Americans' enhanced well-being such as family support (e.g., Wyatt, Ung, Park, Kwon, & Trinh-Shevrin, 2015) may moderate the above associations. That is, the relationships between interpersonal risk factors and depression may be weaker for those with high family support.

#### Implications for Counseling

Given that the Asian American population is at risk for exhibiting higher depression (National Alliance on Mental Illness, 2003), the results obtained suggest at least three implications applicable to mental health professionals working with Asian American college students studying at predominantly White, Midwestern universities. First, counselors can increase their awareness that Asian American college students may experience a lack of belonging and perceive that they burden others, which can contribute to a sense of interpersonal shame and contribute to depressive symptoms. Furthermore, these concerns may worsen in severity due to family of origin concerns (i.e., high perfectionistic family discrepancy).



Counselors should obtain more information to understand the concerns related to students' disconnection and burdensomeness to others in their social networks.

Next, once counselors have learned about their clients' experiences with interpersonal stressors, counselors can find ways to decrease their clients' interpersonal shame to decrease their risk for future depression. Clinical interventions based in an emotion-focused perspective (e.g., Dearing & Tangney, 2011) may be specifically tailored for Asian American students who experience concerns about negative evaluations of their "selves" and perceiving that they bring shame to their families. For instance, students may greatly benefit from counselors psychoeducating them about the construct of interpersonal shame and building rapport in their therapeutic alliance. Once safety, empathy, and cultural understanding have been established, they may increase their awareness of shame they experience from interpersonal struggles (e.g., feeling alone or disconnected; Wong et al., 2014). Increasing awareness may mean providing Asian American clients corrective emotional experiences in therapy to expose them to unconditional positive regard from another person. Guiding students to work through their shame, increase their shame resilience, and seek out support from their social support networks may ultimately decrease their depression (Brown, 2007).

Finally, culturally-sensitive interventions to decrease high levels of perfectionistic family discrepancy may be used in conjunction with psycho-educational workshops or orientations that includes both Asian American college students and their parents. Counselors may use the knowledge of this study to inform and psycho-educate parents and their children on possible sources of their children's depression (i.e., interpersonal risk factors, interpersonal shame, and perfectionistic family discrepancy). For example, parents and children may realize that frequently perceiving that one cannot meet families' standards for performance may heighten the

depression they experience due to lacking a sense of belonging and believing they are burdens to others. Counselors and educators can help to facilitate discussion on the effects interpersonal risk factors and expectations for perfectionism may have on parents and youth while the latter are at college. Granting the opportunity for students to decrease their sense of perfectionistic family discrepancy may be critical to keep current depression low and prevent future depression.

In conclusion, the current empirical study tested a moderated mediation model, in which perfectionistic family discrepancy and self-compassion were hypothesized to moderate the mediation effect of interpersonal shame on the interpersonal risk factors (i.e., thwarted belongingness and perceived burdensomeness) and future depression relationships while controlling for initial level of depression. Although perfectionistic family discrepancy and self-compassion did not moderate the hypothesized indirect (mediation) effects, post hoc analyses supported my mediation hypothesis and found that perfectionistic family discrepancy moderated the direct effects of thwarted belongingness to future depression while controlling for initial level of depression. The direct effect of thwarted belongingness on future depression was stronger for those with higher than lower perfectionistic family discrepancy. Perfectionistic family discrepancy also moderated the direct effect of perceived burdensomeness on future depression while controlling for initial level of depression. This study contributes to the growing yet limited literature on interpersonal stressors and its connections with shame, depression, and family expectations for perfectionism specifically among Asian American college students. Implications of this study suggest that students who lack a sense of belonging and perceive that they burden others may keep depression low by learning how to decrease their interpersonal shame and work through family expectations for perfectionism.

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## APPENDIX A. IRB APPROVAL

**IOWA STATE UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

Institutional Review Board  
Office for Responsible Research  
Vice President for Research  
1138 Pearson Hall  
Ames, Iowa 50011-2207  
515 294-4500  
FAX 515 294-4267

**Date:** 12/11/2014

**To:** Stephanie Carrera  
W112 Lagomarcino Hall

**CC:** Dr. Meifen Wei  
W112 Lagomarcino Hall

**From:** Office for Responsible Research

**Title:** Family Influences on Self

**IRB ID:** 14-568

**Approval Date:** 12/10/2014      **Date for Continuing Review:** 12/9/2016

**Submission Type:** New      **Review Type:** Expedited

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, including the recruitment materials and informed consent documents that have the IRB approval stamp.
- **Retain signed informed consent documents for 3 years after the close of the study**, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study by submitting a Modification Form for Non-Exempt Research or Amendment for Personnel Changes form, as necessary.
- **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.
- **Stop all research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- **Complete a new continuing review form** at least three to four weeks prior to the date for continuing review as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Please be aware that IRB approval means that you have met the requirements of federal regulations and ISU policies governing human subjects research. Approval from other entities may also be needed. For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. IRB approval in no way implies or guarantees that permission from these other entities will be granted.

Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 1138 Pearson Hall, to officially close the project.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or [IRB@iastate.edu](mailto:IRB@iastate.edu).



## APPENDIX B. INVITATION EMAIL

Dear Student,

My name is Stephanie Carrera, and I am a doctoral student at Iowa State University. I am conducting my dissertation study related to interpersonal connections and well-being. I am emailing you now because I need your help to complete this important task. The survey will take between 20-30 minutes to complete.

You must be at least 18 years old, self-identify as Asian American, and attend [name of university] to participate in this study.

I will contact you again at two other points (i.e., at the end of the spring semester and middle of the fall semester) to complete a shorter version of this survey. Each survey at each time point will take between 20-30 minutes or less to complete. For your time and effort, each time you participate, you will have a chance to enter a random drawing for a \$25 VISA gift card.

If you are interested in this research, please click the link below.

[https://iastatepsychhci.az1.qualtrics.com/SE/?SID=SV\\_80KqEJ2KoTueZUN](https://iastatepsychhci.az1.qualtrics.com/SE/?SID=SV_80KqEJ2KoTueZUN)

I truly appreciate your help with my dissertation study. Thank you.

Best,

Stephanie Carrera

## APPENDIX C. UNIVERSITY RECRUITMENT EMAILS

To whom it may concern,

My name is Stephanie Carrera, and I am currently a researcher at Iowa State University. I hope this email finds you well.

This semester, I will be conducting my dissertation study related to interpersonal connections and well-being among currently enrolled undergraduate students who identify as Asian American. The purpose of this study is to better understand how relations with others, family, and personal strengths affect well-being in Asian American college students. We would like to collect data from universities in the Midwest, including the [name of university].

We have already received IRB approval from Iowa State University (attached) to conduct this study. Per the advice of the [name of university] IRB office, I have emailed you to ask if it is possible to gain access to a list of first names and email addresses for currently enrolled undergraduate students who identify as Asian American. We hope to contact these students via email invitation about this opportunity to participate.

I appreciate your help. If should you need more information about this study, I would be happy to give it to you. I look forward to hearing from you.

Cordially,

Stephanie Carrera  
Graduate Assistant  
scarrera@iastate.edu



Dear XX,

My name is Stephanie Carrera, and I am a doctoral student at Iowa State University. I hope this email finds you well.

I am contacting you for help with recruitment of Asian American students (undergraduate students) for my dissertation study. I am especially interested in better understanding how relations with others, family, and personal strengths affect well-being among Asian American students studying at Midwestern universities like [name of university]. This is an online study that would take approximately 20-30 minutes to complete.

Would it be possible for you to forward an email invitation for this study to your members in [name of organization]? I have included it below for your convenience.

I truly appreciate your help with this! Please let me know if you have any questions.

Stephanie Carrera

## APPENDIX D. INFORMED CONSENT FORMS

### Informed Consent Form (ISU Students)

Title of Study: Interpersonal Connections and Well-being

Investigators: Stephanie Carrera (Principal Investigator) and Meifen Wei (Faculty Supervisor)

This is a research study. Please take your time in deciding if you would like to participate. You must be at least 18 years old and self-identify as Asian American to participate in this study.

### **INTRODUCTION**

The purpose of this study is to better understand how relations with others, family, and personal strengths affect well-being in Asian American college students. You are invited to participate in this study because you attend Iowa State University and self-identify as Asian American.

### **DESCRIPTION OF PROCEDURES**

Participation in this research is completely voluntary. If you agree to participate in this study, your participation will take approximately 20-30 minutes for each session (i.e., three sessions total). During the study you may expect to complete three surveys related to interpersonal connections and well-being. The first survey will be administered to you at the beginning of the spring semester (Year 1), the end of the spring semester (Year 1), and the third survey in the middle of the fall semester (Year 1).

### **RISKS**

While participating in this study, you may experience very mild personal discomfort when you respond to questions related to interpersonal connections and well-being. If you experience personal discomfort and do not wish to continue completing the survey, you may exit the survey at any time. Should you wish to talk about your discomfort, we will provide you with contact information for Student Counseling Services at the end of our survey.

### **BENEFITS**

If you decide to participate in this study, there will be no direct benefit to you. It is hoped that the results of this study will help us to understand how relations with others, family, and personal strengths affect well-being in Asian American college students.

### **COSTS AND COMPENSATION**

You will not have any costs from participating in this study. For your time and effort, we will offer you a chance at each time point to enter a random drawing to win a \$25 VISA gift card (the odds of winning are 1 in 25). The drawing will be held after all the data has been collected. The winner will be notified via email and will need to fill out the research participation receipt. Information regarding documentation required for participant compensation may be obtained from the Controller's Department at (515) 294-2555 or [www.controller.iastate.edu](http://www.controller.iastate.edu). You will not be monetarily compensated for participating in this study.

## **PARTICIPANT RIGHTS**

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide not to participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You may skip any question you do not wish to answer or that makes you feel uncomfortable without receiving any penalty. For the information to be useful to us, we encourage you to complete all the items.

## **CONFIDENTIALITY**

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: No personal identifying information (e.g., ID number) will be asked on the questionnaire responses. Your questionnaire responses will be assigned an arbitrary number (i.e., 001, 002, 003, etc.) for the purpose of creating a data file. In addition, because this is a 3-time point study, the principal investigator (PI) and supervisor will use the last four digits of your phone numbers, the first three letters of your street address (i.e., permanent address), and the day of your birth (e.g., 01, 17) that you directly enter into the survey to pair your responses at Times 1-3. While your name and email address will be accessed after Time 1 of data collection to contact you again at Time 2 and Time 3, your data will remain confidential. Only the PI and her supervisor will have access to the data. The data will be encrypted and stored on the PI's computer with a specific password in order to access the computer. Once the data from Times 1-3 have been merged, all names and email addresses will be removed. If the results are published, your identity will remain confidential.

## **QUESTIONS OR PROBLEMS**

You are encouraged to ask questions at any time during this study. For further information about the study contact Stephanie Carrera at (630) 536-9604 and scarrera@iastate.edu, or Dr. Meifen Wei at (515) 294-7534 and wei@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator at (515) 294-4566, irb@iastate.edu, or the Director, at (515) 294-3115, Office for Responsible Research, 1138 Pearson Hall, Ames, IA 50011.

If you would like to retain a copy of the consent form for your records, please print this page.

By clicking the “>>” button below, you indicate that you have read the informed consent form and agree to participate in this study.

## Informed Consent Form (All other students)

Title of Study: Interpersonal Connections and Well-being

Investigators: Stephanie Carrera (Principal Investigator) and Meifen Wei (Faculty Supervisor)

This is a research study. Please take your time in deciding if you would like to participate. You must be at least 18 years old and self-identify as Asian American to participate in this study.

### **INTRODUCTION**

The purpose of this study is to better understand how relations with others, family, and personal strengths affect well-being in Asian American college students. You are invited to participate in this study because you are an undergraduate college student who self-identifies as Asian American.

### **DESCRIPTION OF PROCEDURES**

Participation in this research is completely voluntary. If you agree to participate in this study, your participation will take approximately 20-30 minutes for each session (i.e., three sessions total). During the study you may expect to complete three surveys related to interpersonal connections and well-being. The first survey will be administered to you at the beginning of the spring semester (Year 1), the second survey at the end of the spring semester (Year 1), and the third survey in the middle of the fall semester (Year 1).

### **RISKS**

While participating in this study, you may experience mild personal discomfort when you respond to questions related to interpersonal connections and well-being. If you experience personal discomfort and do not wish to continue completing the survey, you may exit the survey at any time. Should you wish to talk about or consult with someone about your discomfort, we will provide you with contact information for counseling services at the end of our survey.

### **BENEFITS**

If you decide to participate in this study, there will be no direct benefit to you. It is hoped that the results of this study will help us to understand how relations with others, family, and personal strengths affect well-being in Asian American college students.

### **COSTS AND COMPENSATION**

You will not have any costs from participating in this study. For your time and effort, we will offer you a chance at each time point to enter a random drawing to win a \$25 VISA gift card (the odds of winning are 1 in 25). The drawing will be held after all the data has been collected. The winner will be notified via email and will need to fill out the research participation receipt. Information regarding documentation required for participant compensation may be obtained from the Controller's Department at (515) 294-2555 or [www.controller.iastate.edu](http://www.controller.iastate.edu). You will not be monetarily compensated for participating in this study.

## **PARTICIPANT RIGHTS**

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide not to participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You may skip any question you do not wish to answer or that makes you feel uncomfortable without receiving any penalty. For the information to be useful to us, we encourage you to complete all the items.

## **CONFIDENTIALITY**

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: No personal identifying information (e.g., ID number) will be asked on the questionnaire responses. Your questionnaire responses will be assigned an arbitrary number (i.e., 001, 002, 003, etc.) for the purpose of creating a data file. In addition, because this is a 3-time point study, the principal investigator (PI) and supervisor will use the last four digits of your phone numbers, the first three letters of your street address (i.e., permanent address), and the day of your birth (e.g., 01, 17) that you directly enter into the survey to pair your responses at Times 1-3. While your name and email address will be accessed after Time 1 of data collection to contact you again at Time 2 and Time 3, your data will remain confidential. Only the PI and her supervisor will have access to the data. The data will be encrypted and stored on the PI's computer with a specific password in order to access the computer. Once the data from Times 1-3 have been merged, all names and email addresses will be removed. If the results are published, your identity will remain confidential.

## **QUESTIONS OR PROBLEMS**

You are encouraged to ask questions at any time during this study. For further information about the study contact Stephanie Carrera at (630) 536-9604 and scarrera@iastate.edu, or Dr. Meifen Wei at (515) 294-7534 and wei@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator at (515) 294-4566, irb@iastate.edu, or the Director at (515) 294-3115, Office for Responsible Research, 1138 Pearson Hall, Ames, IA 50011.

If you would like to retain a copy of the consent form for your records, please print this page.

By clicking the “>>” button below, you indicate that you have read the informed consent form and agree to participate in this study.

## APPENDIX E. DEBRIEFING FORMS

## Debriefing Form (All ISU students)

Thank you very much for participating in this study. This project seeks to understand the associations among interpersonal relations, family influences, personal strengths, and well-being in Asian American college students. The information gained from this study will provide with information regarding these processes.

If you have any questions or would like to learn about the study, please contact Stephanie Carrera, W183 Lagomarcino Hall (office), via phone at (630) 536-9604, or via email at scarrera@iastate.edu or Dr. Meifen Wei, W214 Lagomarcino Hall (office), via phone at (515) 294-7534, or via email at wei@iastate.edu. Furthermore, if you experienced any discomfort while completing this survey and would like to talk about your reactions, you may contact Mental Health America (800-969-6642), the National Alliance on Mental Illness (800-950-6264) for support, information, or referrals to a local mental health agency, or Student Counseling Services, Student Services Building, 3<sup>rd</sup> floor, at (515) 294-5056. Free counseling is available to ISU students. If you have any questions about the rights of research subjects or research related injury, please contact the IRB Administrator at (515) 294-4566 and irb@iastate.edu, or the Director at (515) 294-3115, Office for Responsible Research, 1138 Pearson Hall, Ames, IA, 50011.

Please click on ">>" below to finish the survey and enter a drawing for a \$25 VISA gift card.

## Debriefing Form (All other students)

Thank you very much for participating in this study. This project seeks to understand the associations among interpersonal relations, family influences, personal strengths, and well-being in Asian American college students. The information gained from this study will provide with information regarding these processes.

If you have any questions or would like to learn about the study, please contact Stephanie Carrera, W183 Lagomarcino Hall (office), via phone at (630) 536-9604, or via email at scarrera@iastate.edu or Dr. Meifen Wei, W214 Lagomarcino Hall (office), via phone at (515) 294-7534, or via email at wei@iastate.edu. Furthermore, if you experienced any discomfort while completing this survey and would like to talk about your reactions, you may contact Mental Health America (800-969-6642), the National Alliance on Mental Illness (800-950-6264) for support, information, or referrals to a local mental health agency, or counseling services on your campus. If you have any questions about the rights of research subjects or research related injury, please contact the IRB Administrator at (515) 294-4566 and irb@iastate.edu, or the Director at (515) 294-3115, Office for Responsible Research, 1138 Pearson Hall, Ames, IA, 50011.

Please click on ">>" below to finish the survey and enter a drawing for a \$25 VISA gift card.

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