ABSTRACT

Title of Dissertation:	SECONDARY TRAUMATIC STRESS, FINANCIAL STRESS, AND THE ROLE OF COPING IN UNDERSTANDING SOUTHEAST ASIAN AMERICAN MENTAL HEALTH
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This study advances the literature by jointly examining two stressors (secondary traumatic stress and financial stress) hypothesized to impact the mental health of the Southeast Asian American (SEAA) community and focused on the experiences of generational stress with SEAAs. This study also examined how coping moderated the relationship between stress and mental health. Hierarchical multiple regression analysis was used to test whether secondary traumatic stress, financial stress, direct and indirect coping (entered in Step 1), and the interactions between stress and coping (entered in Step 2) predicted mental health. Participants included 134 self-identified 1.5-generation and second-generation SEAA adults who completed an online survey. Consistent with emerging research, increased financial stress and secondary traumatic stress significantly predicted poorer mental health. Further, indirect coping

significantly predicted poorer mental health. Contrary to expectations, none of the moderation effects were significant. Post-hoc analyses were also conducted. Limitations and implications for future research and practice are addressed.

SECONDARY TRAUMATIC STRESS, FINANCIAL STRESS, AND THE ROLE OF COPING IN UNDERSTANDING SOUTHEAST ASIAN AMERICAN MENTAL HEALTH

by

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Table of Contents

Chapter 1: Introduction to the Problem

Southeast Asian American Mental Health

With 25 Asian American ethnic groups and 24 Pacific Islander ethnic categories, the Asian American and Pacific Islander (AAPI) community is diverse in terms of their social-historical contexts and experiences. In fact, AAPI were the fastest growing racial group in the United States (U.S.) from 2000 to 2010 and continue to be the nation's fastest growing racial group as of 2012 (U.S. Census Bureau, 2012; 2013). Despite the growing AAPI population in the U.S., research on the mental health challenges of the AAPI community have traditionally been understudied due to myths about the AAPI community regarding mental health (Hall & Yee, 2012). However, recent reports have underscored the importance of disaggregating data in the AAPI community to further understand the unique challenges and mental health needs of specific subgroups (Museus, Maramba, & Teranishi, 2013; Sue, Cheng, Saad, & Chu, 2012).

For instance, despite the overall lower prevalence rates of mental illness in the AAPI community, Southeast Asian Americans (SEAAs) may experience higher rates of post-traumatic stress disorder (PTSD), depression, and anxiety, with many of these individuals continuing to experience PTSD and depression symptoms decades after fleeing their native country (Chung & Bemak, 2006; Dao, Poritz, Moody, & Szeto, 2012; Field, Muong, & Sochanivimean, 2013; Mollica et al., 1992; Ying, 2001). In the U.S., the SEAA community typically consists of refugees and children of refugees from the countries of Cambodia, Laos, and Vietnam, who have immigrated to the

U.S. in different waves and share similarities in pre- and post-immigration experiences (Chung & Kagawa-Singer, 1993). Specifically, SEAAs have experienced psychological and physical trauma stemming from the civil war in Southeast Asia before resettling in the U.S. (Chung & Kagawa-Singer, 1993). To date, many studies have recognized how pre-immigration trauma experiences such as witnessing the death of loved ones and spending time in reeducation camps have had long-lasting effects on this community's mental and physical health (Chung & Bemak, 2002; Mollica, Wyshak, & Lavell, 1989; Wong et al., 2011; Ying, 2001). For example, one study found that for SEAA refugee adults living in the U.S., pre-immigration traumatic events (e.g., death of loved ones, years spent in refugee camps) were significant predictors of psychological distress in the form of depression, anxiety, and psychosocial functioning (Chung & Bemak, 2002). Another study found that Cambodian American survivors of the Khmer Rouge who have resettled in California continue to report higher levels of trauma symptoms and are at a high risk of developing PTSD, suggesting that the negative effects of unresolved trauma may continue to affect the mental health of SEAAs post-resettlement (Field et al., 2013). Ying (2001) found that due to these pre-immigration trauma experiences, many SEAA refugees experience more psychological distress than the general U.S. population and this is continued over time due to additional stressors and challenges.

Unlike immigrants who choose to move, refugees are involuntary migrants who are forced to flee their respective native countries due to war, persecution, and safety concerns and may have to rebuild their communities post-migration, facing additional challenges of adjustment (Krippner & McIntyre, 2003). In addition to pre-

displacement stressors such as experiences of trauma before resettling to the U.S., several post-migration stressors such as experiences of acculturative stress (e.g. limited resources and isolation, financial stress, discrimination) have been found to impact the mental health of this community. Specifically, due to inadequate resettlement support, SEAAs are more likely to live in poverty and in under-resourced neighborhoods post-migration. Thus the compounding experiences of pre-immigration trauma and post-migration challenges of displacement and economic hardship may place SEAA refugees with greater mental health difficulties. However, as much of the literature on SEAAs have primarily focused on the adult refugee experience, not much is known about the experiences of children of refugees, particularly as it relates to mental health outcomes. Refugee trauma and stress may have numerous impacts on children. For instance, children of trauma survivors may be indirectly affected by parental trauma in addition to parental chronic post-migration stressors such as financial stress. Additionally, parental mental health challenges resulting from pre-immigration trauma and stress may place children at risk for emotional disturbances that may also persist over time (Field et al., 2013).

As pre-immigration trauma experiences have often been cited as an important factor to consider in understanding SEAA mental health, post-migration challenges such as financial stress have also been recommended as an important stressor to explore with this community, although few empirical studies have actually examined these stressors in relation to mental health outcomes (Hsu, Davies, & Hansen, 2004). This study builds on prior studies of pre-immigration trauma by examining the generational effects of secondary traumatic stress with SEAAs. This study also

examined the generational effects of financial stress on mental health outcomes with SEAAs. As mental health difficulties with SEAAs have been found to persist decades after resettlement, it is important to understand how chronic stressors such as pre-immigration trauma and financial stress may impact SEAA mental health over generations. As research has also recognized the importance of coping strategies in buffering the negative impacts of stress on mental health, this study also examined how direct and indirect coping moderated the relationship between secondary traumatic stress and mental health and the relationship between financial stress and mental health.

Secondary Traumatic Stress and Mental Health

Although pre-immigration trauma experiences have been established as an important stress factor to consider in understanding the mental health of SEAAs, not much is known about the underlying effects of parental pre-immigration trauma on children of trauma survivors. Although limited, emerging studies have begun to establish the intergenerational effects of trauma with this population, placing children of SEAA refugees at higher risk for mental health diagnoses such as anxiety and depression (Field et al., 2013). Specifically, parental pre-immigration trauma has been suggested to directly affect parental communication styles, child-rearing practices, and parent-child attachment due to parents' unresolved trauma (Field et al., 2013). For instance, one study found that parental pre-immigration trauma experiences were predictive of their children's mental health difficulties through the parent-child relationship in the form of role-reversal parenting due to parental unresolved trauma (Field et al., 2013). Another study, which also focused on the parent-child

relationship, found that students' perceptions of parental pre-immigration trauma predicted SEAA college students' well-being and sense of coherence (Han, 2005). Other studies have also found that SEAA children of refugees experience greater depressive symptoms and poorer self-esteem than children of immigrants from most other ethnic groups (Portes & Rumbaut, 2001).

As these studies have primarily focused on the parent-child attachment relationship in examining the intergenerational effects of trauma, not much is known about how children of trauma survivors may directly perceive and experience their parent's actual pre-immigration trauma experiences, also referred to as secondary traumatic stress. Secondary traumatic stress is a term used to describe PTSD symptoms caused by indirect exposure to traumatic events through relationships with a person who has directly experienced trauma (Bride, Robinson, Yegidis, & Figley, 2004; Figley, 1999; Vrklevski & Franklin, 2008). Studies have demonstrated that secondary stress resulting from helping or wanting to help a traumatized or suffering person may result in PTSD symptoms parallel to those observed in individuals directly exposed to trauma (Bride et al., 2004; Figley, 1999). PTSD symptoms may include intrusions, avoidant responses, physiological arousal and reactivity, distressing emotions, and functional impairment (Bride et al., 2004). This study provides a novel contribution to the literature by focusing on the indirect effects of trauma with SEAAs and may therefore provide further insight into alternative mechanisms on how trauma may be experienced in offspring as it relates to mental health outcomes.

Financial Stress and Mental Health

Due to the socio-political history of SEA refugee immigration, financial stress and economic hardships have also been frequently cited as a significant post-migration stressor impacting the SEAA community (Southeast Asian Resource Action Center, 2011). These financial disparities are even more pronounced within SEAA subgroups. For instance, while all SEAA groups have annual earnings below the national average of $28,452, Hmong Americans and Cambodian Americans report average annual earnings less than $21,000 (Museus et al., 2013; U.S. Census Bureau, 2012). In addition to experiencing some of the highest poverty rates in the U.S. (Cambodian: 21.6%, Hmong: 27.3%, Laotian: 16.4%, Vietnamese: 15.2%), SEAAs are also more likely to live in under-resourced neighborhoods, further limiting access to financial resources, networks, and supports (Southeast Asia Resource Action Center, 2011).

Studies with other populations have found that financial hardships have been linked to poorer mental health such as higher rates of depression (Butterworth, Rodgers, & Windsor, 2009). Similarly, other studies have found that financial stress was related to higher levels of parental distress and may also affect the parent-child relationship (Gutman, McLoyd, & Tokoyawa, 2005; Krause, 2012). For instance, it has been suggested that parents who experience financial stress may have poorer mental health and less cognitive resources to deal with other responsibilities such as work and parenting which may result in poorer parenting and in some cases, child physical abuse or neglect. Under the family stress model, family financial stress may influence parents' mental health, which in turn may contribute to family conflict and inadequate child-rearing practices, and further affect the academic and mental health

of children (Conger et al., 2002). However, as these relationships have been found for western families, it is unclear how parental financial stress may affect children in Asian families. For instance, one study found that although financial stress was related to poorer parental mental health outcomes (e.g., depression and somatic complaints) and poorer child-rearing practices in Taiwanese families, poorer parental mental health did not mediate the relationship between financial stress and child-rearing practices (Wei & Chen, 2014).

Furthermore, although financial stress has been consistently cited as a stressor impacting the SEAA community, few studies have actually examined the impact of financial stress with SEAAs. One study did find that in addition to memories of war, financial concerns were also related to somatic health complaints with Cambodian families (D'Avanzo, Frye, & Froman, 1994). As SEAAs have been found to experience higher poverty rates and chronic financial stress in the U.S., it is also unclear how financial stress may impact SEAAs over time and in subsequent generations. As it has been established that the experiences of chronic stress may have enduring physical and mental health consequences, further examining specific stressors relevant to this population (e.g., secondary traumatic stress and financial stress) and its influence over generations may enhance the way we understand the generational effects of stress and health with this population. Although SEAA families experience high poverty rates, to date, no study has directly looked at the generational effects of perceived financial stress with SEAAs in relation to mental health outcomes. Therefore, this study extends the literature by testing the degree to which financial stress relates to mental health outcomes.

Stress Model and Direct and Indirect Coping

Coping may be an important factor to consider in understanding SEAAs' mental health challenges. As stress may have negative effects on mental health outcomes, it is important to consider what coping methods individuals may use to manage stress. Most research on stress and coping draws upon Lazarus and Folkman's (1984) model of stress, appraisal, and coping. Lazarus and Folkman's (1984) model of stress, appraisal, and coping theorizes that people appraise both the stressful demand and the available coping resources in dealing with stressful situations. Psychological distress, also referred to as the stress reaction, may occur when a person perceives a situation or event in his/her environment as taxing or exceeding his or her resources (Lazarus & Folkman, 1984). With this appraisal, people may engage in distinct coping strategies to decrease the distress connected with the stressful demand.

Although research has suggested that there are various distinctions among various coping strategies and there are many ways to categorize coping responses due to the multiple dimensions of coping, researchers have also suggested that coping may be theorized using a simpler two-factor model of coping: approach and avoidant coping (Contrada & Baum, 2011). For instance, a number of researchers have suggested that people tend to employ two broad but distinct coping strategies to reduce the psychological distress associated with the stressful demand and have described these coping strategies as problem-solving or emotion-focused, approach or avoidance, engagement or disengagement, active or passive, and direct or indirect (Carver & Scheier, 1994; Contrada & Baum, 2011; Cross, 1995; Lazarus & Folkman,

1984; Lee & Liu, 2001). As the study of cultural differences in coping has led to questions about coping terminology favoring western contexts, this study used the more neutral terminology of direct and indirect coping to describe the two-factor model of coping, terminology that has been used in other Asian American studies (Lee & Liu, 2001; Liu & Iwamoto, 2007). Direct coping was defined as the use of strategies aimed to actively manage, resolve, or influence stressful demands through one's own efforts (e.g., problem-solving, support seeking), and indirect coping was defined as the use of strategies designed to adjust to stressful demands by changing or removing the self (e.g., self-distraction, disengagement) rather than actively managing the situation (Carver & Scheier, 1994).

Although limited, studies have found direct coping, specifically seeking social support, to be important for Asian American and Hmong American college students who may experience high intergenerational family stress and conflict (Lee, Su, & Yoshida, 2005; Su, Lee, & Vang, 2005). For example, when family conflict was perceived to be high for Hmong American young adults, social support seeking behavior buffered the potential negative effects of psychological distress (Su et al., 2005). Social support and problem-solving coping have also been shown to diminish the negative mental health effects associated with stressors such as financial strain and chronic health issues (Contrada & Baum, 2011; Cutrona & Russell, 1990). Other studies have also found indirect coping to be an adaptive coping strategy for Asian Americans. For instance, one study found that in relation to ethnic discrimination, the use of indirect coping (e.g., forbearance) was related to better mental health outcomes with SEAAS (Noh, Beiser, Kaspar, Hou, & Rummens, 1999). These findings suggest

the importance of examining the role of direct and indirect coping strategies in relation to stress and mental health outcomes. As not all children of trauma survivors may experience the negative effects of their parent's stress (e.g., secondary traumatic stress and financial stress), examining protective factors such as coping strategies may be important to consider in understanding the potential buffering effects of coping on mental health outcomes.

Present study

As studies have recommended the importance of examining pre-immigration trauma experiences and post-migration stressors such as employment, income, and English proficiency, much of the literature on the mental health needs of the SEAA community have primarily been based on anecdotal impressions and speculations rather than empirical data (Hsu et al., 2004). Furthermore, as much of the literature has focused on SEAA refugees who have directly experienced trauma, there continues to be limited research examining the generational experiences of stress with SEAAs in relation to mental health. Given the lack of research examining the generational impact of stress on SEAAs in relation to mental health outcomes, additional empirical research is needed to further understand the mental health needs of SEAAs over generations. This study advances the literature by examining two significant stressors identified as important to consider in understanding SEAA mental health. As research has also recognized the importance of examining protective factors thought to buffer the negative impacts of stress on mental health, this study also examined whether direct and indirect coping may mitigate the strength of the relationship between stress and mental health outcomes with 1.5-generation

and second-generation SEAAs. Specifically, this study used the moderation model to examine the moderating role of direct and indirect coping between secondary traumatic stress on mental health, the moderating role of direct and indirect coping between financial stress on mental health, as well as the interaction effects of secondary traumatic stress and financial stress on mental health. With a better understanding of the chronic stressors impacting this community and the potential moderating effects of coping, effective interventions may be tailored to reduce the negative impacts of stress this community may experience over generations.

Chapter 2: Review of the Literature

As a fairly recent immigrant group, it is important to understand the social and political context that has shaped SEA immigration to the U.S. to further understand the mental health challenges this community may face (Chung & Bemak, 2006; National Center for Education Statistics, 2012; Ying, 2001). In order to gain a better understanding of the mental health needs of SEAAs over time, literature on the socio-political context of SEAA immigration was reviewed along with two salient factors hypothesized to impact the mental health of this community (e.g., traumatic stress and financial stress). The first section provides an overview of the history of SEAA immigration to the U.S. The second section highlights the importance of considering secondary traumatic stress in understanding the mental health challenges of SEAAs over generations. The third section addresses the importance of considering the post-migration challenges of financial stress in relation to mental health with SEAAs and its potential impact on mental health outcomes. The fourth section highlights research pertaining to the role coping may play in understanding risk and protective factors of stress and its potential role in buffering the negative effects of secondary traumatic stress and financial stress on mental health.

Understanding the Context of SEAA Immigration

The U.S.'s involvement in the Vietnam War and the aftermath directly affected SEA immigration to the U.S. As a result of the historical and political forces that have shaped refugee immigration, approximately 1,174,651 refugees from SEA countries have immigrated to the U.S. since the first wave of refugees in 1975 to 2010 (Southeast Asian Action Resource Center, 2011). In fact, 2,506,303 individuals

currently identify as SEAA in the U.S. and this number is expected to grow (Southeast Asian Action Resource Center, 2011). SEAA refugees include Cambodians, Laotians (including different ethnic groups such as the Hmong, Mien, Meo), and Vietnamese (Wong, Kinzie, & Kinzie, 2009). Although diversity among SEAA groups exist (e.g., language, religion), SEAAs are often studied as a collective group due to similarities in migration status as refugees. For instance, due to war and political persecution, many SEAAs experienced significant trauma, including exposure to war and bombings, torture and persecution, being hunted by militia, witnessing the death of loved ones, family separation, starvation, years in reeducation camps, and dangerous conditions that led to the evacuation and resettlement of SEAAs to the U.S. (Chan, 2004; Uba, 1994; Wong et al., 2009). This high level of trauma exposure found among SEA refugees marks a different immigration pathway in relation to other Asian American immigrant groups. In this study, SEAA was used to describe individuals from Cambodia, Laos (including individuals who identify as Hmong), and Vietnam, and who share commonalities in their pre- and post-immigration experiences.

Historical Events of Southeast Asian Refugees. A series of Communist takeovers in Southeast Asia in 1975 marked the beginning of the largest group of refugees to resettle in the U.S. Although the Vietnam War has been the primary focus, the political turmoil that ensued during and after the Vietnam War spread to the surrounding countries of Cambodia and Laos, forcing many of the residents to flee their homelands due to war. The U.S. entered into Cambodia and bombed villages, supply routes, and areas that housed Vietnamese Communist camps while in

Laos, the U.S. recruited Hmong individuals to counteract military operations in North Vietnam (Wong et al., 2009).

Cambodia. In Cambodia, on April 17, 1975, less than two weeks before the Fall of Saigon in Vietnam, the Khmer Rouge, the Communist group led by Pol Pot, took over Phnom Penh, the capital city of Cambodia, ending Cambodia's first civil war by defeating the U.S.-backed Khmer Republic (Chan, 2004). Days prior to the takeover, thousands of Cambodians were airlifted out of the country with the assistance of the U.S. government, resulting in the first wave of refugees (Shrake & Chen, 2012). In an attempt to create a utopian society, the Khmer Rouge removed all traces of Western and traditional influence by torturing and executing approximately 90% of the educated population such as teachers, businessmen, military leaders, Buddhist monks, and anyone affiliated with the former government (Chan, 2004). Other individuals were forced into labor camps where most died of starvation or disease. During this time, nearly 2 million out of 7 million Cambodians died (Chan, 2004). In 1979, the Communist Socialist Republic of Vietnam helped to drive the Khmer Rouge leaders out of power, which resulted in the second civil war in Cambodia. During this time, over half a million Cambodians fled to refugee camps, where many were granted admission into other countries for resettlement, including the U.S., also known as the second wave of refugee resettlement (Shrake & Chen, 2012). The majority of Cambodian refugees that were granted admission into the U.S. arrived between 1981 and 1985. Among the SEA refugee groups, Cambodians have been reported to experience the most severe levels of trauma exposure under the Khmer Rouge (Chung & Kagawa-Singer, 1993). For instance, one study found that

nearly 99% of Cambodian American refugees in Long Beach, California had all experienced near-death due to starvation, 96% experienced forced labor, 98% experienced a combat situation, and 90% experienced the murder of a family member or friend (Marshall, Berthold, Schell, Elliott, Chun, & Hambarsoomians, 2006).

Vietnam. The Fall of Saigon on April 30, 1975 marked a significant turning point in the Vietnam War. The Northern Vietnamese Communist army captured Saigon, the capital city of South Vietnam at this time, resulting in the first wave of refugees from Vietnam (Shrake & Chen, 2012). Similar to Cambodia, the first wave of refugees from Vietnam were mostly urban educated and skilled individuals and government officials who assisted the U.S. during the war (Shrake & Chen, 2012). Thousands of South Vietnamese that remained in Vietnam were separated from loved ones and sent to reeducation camps, where they experienced harsh conditions, torture and punishment, starvation, and hard labor (Krippner & McIntyre, 2003). The second wave of refugees from Vietnam were primarily known as "boat people," due to escaping Vietnam in overcrowded boats and harsh conditions. This second wave primarily included South Vietnamese who were imprisoned and tortured in reeducation camps and ethnic Chinese Vietnamese facing increased persecution by the Communist Socialist Republic of Vietnam (Wong et al., 2009). An estimated 80% of excursions were attacked by pirates and approximately 200,000 Vietnamese refugees died during this trip (Lee & Lu, 1989).

Laos. Although the Geneva Conference established Laos as a neutral country in 1954, North Vietnam relied on the Ho Chi Minh Trail in Laos to fight against South Vietnam (Conboy, 1995). In December 1975, Laos came under Communist

rule by the Pathet Lao, a Communist group that was backed up by North Vietnam. The Pathet Lao played a significant role in the Vietnam War by providing a strategic passageway for troops and military supplies to be transported from North Vietnam to South Vietnam on the Ho Chi Minh Trail, which ran along the Laos border (Wong et al., 2009). To protect U.S. interests in the region and to aid in the war without direct military involvement, the U.S. also recruited and trained Laotians, mostly of Hmong descent, to fight against and counteract the military operations of Pathet Lao and North Vietnam (Conboy, 1995). These individuals were promised that if Laos fell to the Pathet Lao and North Vietnam, then the U.S. would protect them by providing them shelter. Over 30,000 Hmong soldiers were recruited into the war, and their death rates were ten times as high as U.S. soldiers serving in Vietnam (Wong et al., 2009). With the withdrawal of U.S. support at the end of the Vietnam War, the Pathet Lao took over, which resulted in thousands of lowland Laotians and Hmong and Mien from the highlands to flee across the Mekong River into Thailand where refugee camps were set up. As many fled for their lives through hiding and escaping through the jungle, thousands of the Hmong and Laotians that remained in Laos were sent to reeducation camps, similar to the South Vietnamese, where they experienced harsh conditions, punishment, starvation, and hard labor (Krippner & McIntyre, 2003). Laotian (and Hmong) refugees who fled by foot to nearby refugee asylum camps on the Thailand border became a part of the second wave of refugee immigration to the U.S. (Shrake & Chen, 2012).

First Wave of Immigration. SEA immigration occurred in three distinct waves, with each wave experiencing different levels of trauma (Shrake & Chen,

2012). The Fall of Saigon and the withdrawal of American troops in 1975 (until 1978) marked the first major wave of SEA immigration to the U.S. and included urban educated individuals (e.g., doctors, university teachers), high government officials who assisted Americans during the war, and other individuals who may have had direct ties to the American government (Shrake & Chen, 2012; Kelly, 1986; Knudson, 1981). Although the capitals of Laos and Cambodia also fell to communist forces in 1975, the first wave of refugees were approximately 95 percent Vietnamese with a smaller percentage of Cambodian refugees (Shrake & Chen, 2012). Many individuals felt that the U.S. had a moral obligation to help the Southern Vietnamese who were allies with the U.S. during the war and were facing persecution (Knudson, 1981). This wave composed mostly of Vietnamese and Cambodian individuals with social standing, such as political leaders, educated professionals, and the wealthy (Tewari & Alvarez, 2009). In order to assist the resettlement effort of the first wave of SEA refugees, the Indochinese Migration and Refugee Assistance Act of 1975 was passed to help fund the resettlement process so that not one state would bear the economic burden of accommodating the refugees (Indochinese Migration and Refugee Assistance Act, 1975). Under this act, special task forces were created to further disperse refugees throughout different states to speed up refugee assimilation (Desbarats, 1985; Interagency Task Force on Indochina Refugees, 1975). The government contracted voluntary agencies such as religious and charitable organizations who acted as sponsors to the displaced refugees (Shrake & Chen, 2012; Zaharlick & Brainard, 1987; Desbarats, 1985; Bach & Bach, 1980). During this time, President Gerald Ford authorized the entrance of 130,000 SEA refugees into the U.S.

The first wave tended to be resettled near refugee holding centers (Shrake & Chen, 2012; Zaharlick & Brainard, 1987). Future waves of refugees were admitted to the U.S. under the reunification policy that allowed families that were separated to be reunited; this has influenced resettlement patterns of SEAs into ethnic enclaves in specific regions of the U.S. (Mortland & Ledgerwood, 1987).

Second Wave of Immigration. The period from 1978 to 1980 marked the second major wave of SEA immigration to the U.S. The second wave of refugees were considered to have experienced more trauma, were less educated, and were more affected by their relocation experiences than the first wave; it consisted primarily of individuals and family members who fled persecution by escaping by boat (often referred to as boat people) or by foot to refugee asylum camps (Shrake & Chen, 2012). The boat people consisted of thousands of refugees that fled their homelands on overcrowded boats, with many not surviving while out at sea (Knudson, 1981). Refugees during this wave also spent extended periods of time in temporary refugee camps, where harsh conditions were further experienced before resettling to the U.S. (Wong et al., 2009). In particular, refugees from Cambodia and Laos experienced the lengthiest time in refugee camps, with an average of 3 years spent in these camps (compared to an average of 1.5 years for Vietnamese refugees) before being resettled to the U.S. (Gong-Guy, Cravens, & Patterson, 1991). The second wave was also larger than the first and was more heterogeneous and ethnically diverse with 55.5 percent of the refugees from Vietnam, 36.6 percent from Laos, and 7.8 percent from Cambodia (Shrake & Chen, 2012). Refugees from Laos included Hmong individuals, an ethnic minority group in the mountains of Laos that were

recruited by the U.S. government to fight against communist forces in that region in the 1960s and were persecuted by the Laos communist regime. Cambodian refugees consisted of individuals who were persecuted and tortured under the Khmer Rouge (Shrake & Chen, 2012). As larger numbers of refugees were entering the United States, congress passed the Refugee Act of 1980 that set an annual quota for refugee immigration to 50,000 a year (Shrake & Chen, 2012). The act allocated more funds to resettlement programs and allowed refugees to become eligible for the same welfare benefits as U.S. citizens (Shrake & Chen, 2012; Desbarats, 1985).

Third Wave of Immigration. The third wave of SEA immigration consisted of immigrants that were granted admission to the U.S. through the Orderly Departure Program of 1980, an agreement with Vietnam that allowed families and individuals to enter the U.S. to be reunited with relatives of refugees who were already permanently settled in America, individuals who were former re-education camp detainees, and children who had American fathers, also known as Amerasians (Shrake & Chen, 2012). Although SEA ethnic groups may have immigrated to the U.S. in different waves and may have experienced differing levels of trauma, studying SEAAs collectively is reasonable given that Vietnamese, Hmong, Cambodians, and Laotians share similarities in their pre- and post-immigration experiences and have experienced psychological and physical trauma stemming from the civil war (Chung & Kagawa-Singer, 1993; Sakamoto & Woo, 2007). For instance, motives for leaving their native country have been found to be common to all SEA groups such as forced relocation, imprisonment prior to exit, and fear of arrest or harm from the new regime (Krippner & McIntyre, 2003).

Summary of the Context of SEAA Immigration. The stressful events that led up to the displacement of SEAs from their respective native countries have been found to be traumatic (e.g., imprisonment as political prisoners, unsanitary conditions in refugee camps, death and separation from loved ones; Krippner & McIntyre, 2003). As refugees are forced to relocate with the fear of persecution, they often have to act quickly and have little time to prepare for their precarious journey and most leave their native country with very few possessions. The adverse effects of trauma and the stresses of migration are major psychological factors to consider with SEAA refugees. With post-resettlement challenges in addition to unresolved trauma experiences, it is not surprising that SEAAs may have higher rates of PTSD, depression, and anxiety (Chung & Bemak, 2006; Mollica et al., 1992; Ying, 2001).

Trauma and Transmission

Given the socio-political context of SEAA immigration, pre-immigration trauma appears to play a pertinent role with SEAA refugees as this community has experienced trauma directly related to the civil war back in their respective native countries. Pre-immigration trauma experiences may include witnessing the death of loved ones and spending years in re-education and refugee camps (Krippner & McIntyre, 2003). Although many studies have focused on how pre-immigration trauma has directly affected SEAA refugees, not much is known on how children may be affected by their parents' pre-immigration trauma experiences. Parental mental health challenges resulting from pre-immigration trauma and stress have been found to place children at risk for emotional disturbances (Field et al., 2013). One study found that the rates of psychiatric disorders among SEA refugee children,

adolescents, and young adults in Australia who were exposed to pre-immigration trauma were twice that of Australians of the same age who were not exposed to pre-immigration trauma experiences (Krupinski & Burrows, 1986). Thus, refugee pre-immigration trauma and stress may have significant impacts on children.

Historical and Collective Trauma. Research from other communities that have experienced historical and collective trauma may be useful in understanding the collective trauma experience of SEAAs. For instance, the impact of traumatic historical events on the indigenous peoples of the Americas by European cultures continues to have significant implications for clinical interventions with Native individuals. For example, one study assessed community trauma by examining a model of culturally syntonic grief resolution and healing from historical trauma among the Lakota (Braveheart-Jordan & DeBruyn, 1995). Using group modalities such as incorporating sharing of experiences, the provision of hope, collective mourning, and social support, this study found that education about the historical trauma experiences led to increased awareness about trauma, its impact, and grief-related affects (Braveheart-Jordan & DeBruyn, 1995). Further, the process of sharing emotional reactions with others of similar backgrounds within a traditional Lakota context led to a cathartic sense of relief, and the initiation of a healing and mourning process resulted in a reduction in grief affects and an increase in positive group identity (Braveheart-Jordan &DeBruyn, 1995). In working with the transgenerational effects of trauma, clinicians and researchers have also implemented interventions based on recent findings. For instance, researchers have suggested that it may be helpful for clinicians working with patients who have experienced transgenerational

trauma to construct multigenerational family trees that include details of a family's trauma history, an activity that may help families move beyond secrets and toward connection and growth (Danieli, Norris, & Engdahl, 2017).

Researchers studying Native American and Canadian populations are finding similar broad effects among children and grandchildren of survivors of mass cultural oppression. An emerging and related line of research has also examined the relationship between ongoing racial discrimination and trauma and has found that higher rates of perceived discrimination were associated with trauma symptoms, which included: uncontrollable hyperarousal, worries about future negative events, and perceiving others as dangerous (Williams, Printz, & DeLapp, 2018).

Intergenerational Transmission of Trauma. Researchers have been investigating how traumatic effects may be transmitted across generations. The psychological impact of parental trauma on their offspring have primarily been explored through the Holocaust literature and has often been described as the transmission of trauma (Kellerman, 2001). Studies examining the intergenerational effects of trauma have primarily focused on offspring of Holocaust survivors with parental PTSD being associated with an increased risk for psychopathology in offspring (Lehrner et al., 2014). However, there are mixed findings in the literature regarding whether parental pre-immigration trauma may be transmitted throughout generations. In the Holocaust literature, some studies have found no evidence for the negative intergenerational effects of trauma (Van Ijzendoorn et al., 2003). However, other studies have found that second and third generations with direct relatives who were Holocaust survivors report significantly higher levels of secondary traumatic

stress than groups without any direct Holocaust survivors (Giladi & Bell, 2013). Possible explanations for differences in findings include resilience and vulnerability factors that may put subsequent generations at risk (Giladi & Bell, 2013; Van Ijzendoorn et al., 2003). Emerging research has also suggested that the transmission of trauma mechanisms may also impact other communities that have experienced trauma, genocide, and war. In interviewing 41 mothers who lived through the 1994 Rwandan genocide, researchers have found both direct effects of genocide such as the way in which mothers communicated to children regarding the trauma (e.g., maintaining silence or expressing hope) as well as indirect effects of genocide such as heightened poverty, greater family work burden, and compromised parenting (Berckmoes, Eichelsheim, Rutayisire, Richters, & Hola, 2017).

Genetics and the Transmission of Trauma. Emerging research has also suggested that the transmission of trauma may be passed down through alterations in biological regulation systems and in posttranslational modifications in protein and tissue remodeling from the mother to the child in the womb (Miller et al., 2009). For instance, one study found that maternal PTSD was associated with greater glucocorticoid sensitivity in offspring of Holocaust survivors, further implicating long term effects on the experiences of trauma on subsequent generations. (Lehrner et al., 2014). Another study found that adult offspring of Holocaust survivors showed significantly higher cortisol levels and higher rates of mental health challenges such as depression and anxiety compared to a healthy population and these differences were largely attributable to parental PTSD (Yehuda, Halligan, & Grossman, 2001). Thus, genetic factors have also been explored as a potential mechanism of biological

embedding through the experiences of chronic early life stress (Miller, Chen, & Parker, 2011).

Parenting Styles and Intergenerational Trauma. The transmission of trauma has also been suggested to occur directly through parental communication styles and child-rearing practices and attachment due to the parent's unresolved trauma (Field et al., 2013). Overprotectiveness and role reversal parenting styles have been cited as a result of unresolved trauma. For instance, in a study with second and third generation offspring of Holocaust survivors, the researchers found that the transmission of trauma was transmitted through both perceived parental burden and through parent-child role reversal, which may perpetuate secondary traumatization across several generations (Letzter-Pouw et al., 2014). Role-reversing parenting has been discussed in the Holocaust literature and recently in the SEAA refugee experience as a possible outcome of past exposure to trauma and genocide (Bar-On et al., 1998; Field et al., 2013). Specifically, role-reversal has been examined as a mediator variable in explaining the transmission of trauma. Role-reversal parenting occurs when parents may turn to their child to have their emotional needs met (Chase, 1999). Consequently, the child may feel burdened with a sense of responsibility for the emotional well-being of his/her parent(s). For instance, one study with Cambodian Americans found that survivors who continue to be psychologically affected by past trauma engage in role reversing where parents turn to their children to have their emotional needs met (Field et al., 2013). In turn, children are concerned for their parent's well-being.

A second type of parenting style that has been discussed as a possible outcome of past exposure to trauma is overprotective parenting (Bar-On et al., 1998; Field et al., 2013). Over-protective parenting occurs when the parent may experience the world as a dangerous place and may feel an excessive need to shield their children from such dangers. However over-protective parenting in relation to child mental health outcomes have been mixed in the trauma literature. For instance, in the Holocaust literature, over-protective parenting from parental experiences of trauma have been linked to poorer mental health outcomes in offspring (Bar-On et al., 1998; Brom, Kfir, & Dasberg, 2001). However, this link has not been found with SEAA populations (Field et al., 2013). The mixed findings in the trauma literature on the role of over-protective parenting may be due to cultural differences in parenting styles. For instance, over-protective parenting may be relatively normative among Cambodian and other SEAA families and thus a less valid indicator of maladaptive parenting (Field et al., 2013).

The rejecting parenting style has also been hypothesized as another communication style that may be relevant with SEAA parenting and asserts that parents who are continually affected by past trauma are also more likely to engage in a rejecting parenting style resulting in children who experience greater emotional abuse and neglect during childhood (Field et al., 2013). However this style of parenting has received less attention compared to the previous two.

The Parent-Child Relationship. Although research continues to remain limited, the transmission of trauma has commonly been studied through understanding the parent-child relationship as a method of transmitting trauma (Van

Ijzendoorn et al., 2003). Therefore, the majority of research on the intergenerational effects of trauma have primarily focused on the parent-child relationship and child-rearing experiences such as parenting styles and attachment relationships. For instance, it has been suggested that individuals with PTSD or depression may have less cognitive resources to deal with other responsibilities such as work and parenting which may result in child physical abuse or neglect (Duongtran, 2011; Field et al., 2013; Ying & Han, 2008). This may result in poorer levels of psychological adjustment in subsequent offspring.

Although scant, few studies with SEAAs have also examined how parental trauma and PTSD symptoms may impact the parent-child relationship and consequently may place children at increased risk for poorer mental health (Field et al., 2013; Han, 2005; Sangalang, Jager, & Harachi, 2017). Further, children who report greater related trauma symptoms in their parents are at an increased risk for anxiety and depression symptoms.

Secondary Traumatic Stress. Much of the research on the intergenerational effects of trauma have focused on the parent-child emotional relationship and not the actual indirect experiences of trauma. Children may be significantly impacted *indirectly* by their parent's pre-immigration trauma experiences, which may result in poorer mental health outcomes. Studies in the Holocaust literature have suggested that children of trauma survivors may absorb the inner pain and burden of their parents' experiences, which is consistent with the secondary traumatic stress concept (Kellerman, 2001; Letzter-Pouw, Shrira, Ben-Ezra, & Palgi, 2014).

Secondary traumatic stress may result from wanting to help a person affected by trauma and the secondary PTSD symptoms (e.g., intrusions, avoidance, arousal, distress) have been found to parallel those observed in individuals directly exposed to the trauma (Bride et al., 2004; Figley, 1999). Studies on secondary traumatic stress have primarily focused on the traumatic stress mental health professionals may experience indirectly in working directly with trauma survivors (Figley, 1995, 1999; Vrklevski & Franklin, 2008). Compassion fatigue and vicarious traumatization have also been used interchangeably to describe the emotional strain caretakers may feel in working with others suffering from the impact of trauma experiences (Figley, 1995). As previous measures such as the Secondary Traumatic Stress Scale (STSS) and the Vicarious Trauma Scale (VTS) have primarily focused on the secondary effects of trauma among direct service providers such as mental health professionals and social workers, these measures have not been validated with samples indirectly exposed to trauma over time such as children of trauma survivors.

Summary of Transmission of Trauma. As much of the research on the intergenerational effects of trauma have focused on the parent-child emotional relationship and not the actual indirect experiences of trauma, it is unclear whether and/or how children may be indirectly affected by their parent's trauma experiences. Therefore, this study was the first to our knowledge to examine how secondary traumatic stress may affect 1.5-generation and second-generation SEAAs in relation to mental health outcomes. In this study, the term secondary traumatic stress was used to describe the presence of PTSD symptoms caused by indirect exposure to traumatic

events through relationships with a person who has directly experienced trauma (Bride et al., 2004; Figley, 1999).

Post-Migration Financial Stress

Financial Stress. Several terms have been used to describe financial stress. For instance, researchers have also used the term economic hardships/strain and financial hardships interchangeably to describe experiences of financial stress. Economic distress is another term that has been used to define aspects of economic life that are potential stressors for individuals and families and encompasses both employment instability and economic deprivation (Johnson, 1988). As a result of unemployment, SEAA refugees may also experience economic distress. Employment instability may include sporadic employment, downward occupational mobility, and under-employment. Economic deprivation may include reduced income over time and inability to meet financial needs with current income. Employment uncertainty is defined as an individual's assessment of future employment prospects, and economic strain is defined as perceived financial adequacy (Voydanoff, 1984). Potential effects of economic distress on families may include effects on family functioning, and physical and mental health issues. Other measures of economic stress and strain have been measured with one-item questions assessing whether the individual's financial situation was better, same, or worse than previous 2 years (Johnson, 1988). Unemployment stress has been assessed with questions such as not being able to buy things they or their family may need (Johnson, 1988). Although these conceptualizations of financial stress are related in that they capture aspects of financial difficulties, they all do not capture the individual's perceived subjective

assessment of their financial challenges and whether or not individuals would perceive a financial situation as stressful. Therefore in this study, financial stress was defined as the perceived stress experience of not being able to meet one's financial responsibilities (Aldana & Liljenquist, 1998; Northern, O'Brien, & Goetz, 2010).

Financial Stress and Mental Health. Financial stress has been found to be linked to poorer physical and mental health outcomes (Catalano, 1991; Marmot & Wilkinson, 2006). For instance, financial challenges have been linked to mental and somatic health symptoms as well as physical health complaints such as increased anxiety, depression, headaches and migraines, insomnia and sleep disorders, high blood pressure, and digestive problems (Lyons &Yilmazer, 2005; O'Neill, Sorhaindo, Xiao, & Garman, 2005; Zimmerman & Katon, 2005). The stress associated with poverty and unemployment have also been found to adversely affect parenting behaviors of African American families, and as a result, the socio-emotional functioning of children are also compromised (McLoyd, 1990). However, although financial stress has been linked to poorer mental health, many studies have measured financial stress using demographic indicators such as reported level of income and few studies have actually examined the effects of perceived financial stress on mental health outcomes. One study with African American women did find that perceived financial distress was significantly associated with higher depressive symptoms, with the women identifying needing assistance in paying bills and debt, saving money, and purchasing a home or making repairs (Starkey, Keane, Terry, Marx, & Ricci, 2013).

Understanding SEAA Financial Stress. Economic strain and unemployment may have been a concern for SEA refugees, particularly as refugees lacked seniority,

had limited occupational and language skills, and may have been unfamiliar with the labor force opportunities in the new country, all which may have contributed to their financial stress (Johnson, 1988). As most refugees may arrive in the U.S. with little or no money and may depend on limited federal assistance, they can easily become caught in the cycle of poverty (Friedman & Jaranson, 1994; Kripnner & McIntyre, 2003). In looking at resettlement trends, SEAs tend to relocate to more urban areas with more government funding and states where refugees are concentrated tend to have higher public assistance benefit levels, larger Asian communities, and lenient public assistance eligibility requirements (Desbarats, 1985). While employment rates are high for some SEAA subgroups such as with Vietnamese Americans, Vietnamese Asians have been found to take minimum wage jobs and remain dependent on the American welfare system (Southeast Asian Action Resource Center, 2010; Kelly, 1986). In looking at employment patterns, SEAAs also tend to work longer hours than American workers and most of the jobs taken by SEAAs are blue-collar jobs (Southeast Asian Action Resource Center, 2011; Bach & Bach, 1980). Further, most SEAA refugee families come from traditional rural or village settings where the values of interdependence are stressed and arrive to the U.S. to a more secular, urban environment where they are forced to make decisions on their own and may have few or less employable skills (Krippner & McIntyre, 2003).

As previously mentioned, SEAAs are more likely to live in poverty and under-resourced neighborhoods compared to other Asian ethnic groups due to the socio-political nature of immigration with this refugee population. However, as financial stress has often been cited as a significant post-migration stressor thought to

impact the mental health of SEAAs and national reports have indicated the high poverty levels and economic disparities with this population, few studies have actually examined the impacts of financial stress on mental health outcomes with this population. One study did find that financial concerns were related to somatic health complaints with Cambodian families (D'Avanzo et al., 1994). Financial strain has also been implicated in studies examining household income level as a demographic variable in understanding academic and mental health outcomes with Hmong families (Su et al., 2005). Further, no study has examined the direct impact of financial stress on mental health with second-generation SEAAs.

Summary of Post-Migration Financial Stress. Very few studies have generally examined how perceived experiences of financial stress may impact health and mental health outcomes with SEAAs. Further, no study has directly looked at how perceived experiences of financial stress may impact health outcomes with second-generation SEAAs. As experiences of financial stress may be chronic and as SEAAs continue to experience high poverty rates despite immigrating to the U.S. three decades ago, it is important to understand how financial stress may affect subsequent generations. In this study, financial stress was defined as the perceived stress experience of not being able to meet one's financial responsibilities, resulting in cognitive, emotional, and behavioral responses to the economic stress (Aldana & Liljenquist, 1998; Northern et al., 2010).

The Stress and Coping Framework

Stress and Coping. Most research in the stress and coping literature have drawn upon Lazarus and Folkman's (1984) model of stress, appraisal, and coping in

relation to psychological distress. Specifically, this framework posits that people appraise both the stressful demand and the available coping resources in dealing with stressful situations. Psychological distress, also referred to as the stress reaction, may occur when a person perceives a situation or event in his/her environment as taxing or exceeding his or her resources (Lazarus & Folkman, 1984). With this appraisal, people may employ distinct coping strategies to reduce the psychological distress associated with the stressful demand. Although Lazarus and Folkman's (1984) stress and coping framework have widely been used in understanding psychological distress, researchers have debated on how to understand these relationships. Specifically, Lazarus and Folkman's (1984) model of coping is mediational as the authors have stated that coping strategies mediate the impact of stressful events on psychological outcomes. Several researchers have suggested that coping strategies should be mediator variables in understanding stress (e.g., race-related stress) and health outcomes (Clark, Anderson, Clark, & Williams, 1999; Harrell, 2000). However, other researchers have argued that coping strategies are better conceptualized as moderator variables (Cohen & Wills, 1985; Holmbeck, 1997). Therefore both mediation and moderation models of coping have been used in understanding the relationships between stress and health outcomes.

Coping as a Mediator. Coping may serve as a mediator when it is related to both the stressor and the stress reaction and links the stressors to the stress reaction through explaining the relationship between the predictor and outcome variable (Baron & Kenny, 1986). Through this mediation model, there is an appraisal of a demand (e.g. the stressor), a coping response to the demand (stressor is thought to

influence a certain type of coping response), which then leads to the stress reaction. Lee and Liu (2001) examined indirect and direct coping strategies as potential mediators in the relationship between intergenerational family conflict and psychological distress in Asian American, Hispanic, and European American college students. The researchers found that indirect coping mediated the effect of family conflict on psychological distress for Asian Americans and European Americans and partially mediated the effect for Hispanic Americans (Lee & Liu, 2001). Jose and Huntsinger (2005) examined both the mediation and moderation effects of coping in one study with Chinese Americans and European American adolescents and found that while avoidance coping partially mediated the stress to negative adjustment for Chinese American youth, problem focused and avoidance coping also moderated the effect of stress on negative adjustment for Chinese American youth.

Coping as a Moderator. Coping may serve as a moderator when the relationship between the stressor and the stress reaction is increased or reduced by a third, independent variable. The moderation framework has been used in describing the stress-buffering model where the coping strategy may reduce the negative impact of stress on health outcomes (Cohen & Wills, 1985). Specifically, the stress buffering model highlights the significance of coping strategies and how they may moderate the relationship between the stressful event and the stress reaction (Cohen & Wills, 1985). Following the stress-buffering model of coping, the aim of this study was to examine whether direct and indirect coping may mitigate the strength of the relationship between stress and health outcomes. Therefore, this study used the moderation model to examine the moderating role of direct and indirect coping

between secondary traumatic stress on health outcomes, financial stress on mental health outcomes, as well as the interaction effects of secondary traumatic stress and financial stress on mental health outcomes.

Direct and Indirect Coping. Reviews of the coping literature indicate that there are a wide range of coping strategies people may use to deal with specific stressful situations (Contrada & Baum, 2011; Skinner, Edge, Altman, & Sherwood, 2003). For instance, Skinner et al., (2003) identified five core coping categories individuals may use in dealing with stressors: problem-solving, social support seeking, avoidance, distraction, and positive cognitive restructuring. With several coping theories hypothesized to buffer the negative impacts of stress on health outcomes, researchers have examined the psychometric properties of commonly used coping measures and have posited that coping measures and accompany subscales represent overly complex models of coping (Cook & Heppner, 1997). Although research has indicated that there are a number of ways to categorize coping strategies due to the multiple dimensions of coping, researchers have proposed that coping may be theorized using a simpler two-factor model of coping (Contrada & Baum, 2011). For instance, a number of researchers have suggested that people tend to employ two broad but distinct coping strategies to reduce the psychological distress associated with the stressful demand. Lazarus and Folkman (1984) theorized the two broad but separate coping strategies as problem-solving or emotion-focused coping. Other researchers have described the two broad coping categories as approach or avoidance, engagement or disengagement, and active or passive coping (Carver & Scheier, 1994). Researchers have also acknowledged cultural differences in coping strategies

and have found that coping terminology may favor western contexts and have decided to use more neutral terminology in conceptualizing coping categories, such as direct and indirect coping (Cross, 1995; Lee & Liu, 2001; Liu & Iwamoto, 2007). Further, researchers have also found that two-factor models of coping have good fit indices and may be more appropriate (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Lee & Liu, 2000; Liu & Iwamoto, 2007). To acknowledge the cultural differences in coping strategies, this study used the neutral terminology of direct and indirect coping to describe the two-factor model of coping. Direct coping was defined as the use of strategies aimed to actively manage, resolve, or influence stressful demands through one's own efforts (e.g., problem-solving, support seeking), and indirect coping was defined as the use of strategies designed to adjust to stressful demands by changing or removing the self (e.g., self-distraction, disengagement) rather than actively managing the situation (Carver & Scheier, 1994).

Researchers have suggested that although indirect coping (e.g., avoidance, disengagement, passive) may be useful short-term, it is generally ineffective longer-term and may create more difficult challenges in the long-term (Carver & Scheier, 1994). However, research on the role of direct and indirect coping with Asian American populations have remain mixed. For instance, in relation to direct coping, problem-solving (referring to engaging in actions directed at solving a problem) and social support seeking (referring to engaging in actions directed at obtaining emotional support from others) have been found to be used most frequently by Asian Americans (Chang, 2001). One study found that direct coping, specifically social support seeking, was found to have a moderating effect on the relationship between

conflict and psychological distress (Lee et al., 2005; Su et al., 2005). Other studies have suggested that Asian Americans also engage in direct coping strategies such as relying on familial relationships, support from friends, and spirituality, which serve as a buffer in the relationship between stress and mental health outcomes (Yeh & Wang, 2000). However, research has also suggested that due to the collectivist contexts of Asian American experiences, Asian Americans may also employ more indirect coping strategies to manage stressful demands (Weisz et al., 1984). For instance, one study found that indirect coping may be an adaptive coping strategy in relation to ethnic discrimination with SEAAs and found that SEA refugees who experienced ethnic discrimination but coped using forbearance had lower depression scores than those who did not use this coping strategy (Noh et al., 1999). These findings suggest the importance of examining the role of direct and indirect coping strategies with SEAAs.

The Stress-Buffering Framework. The stress-buffering framework posits that social relationships and the exchange of emotional, informational, or instrumental resources (also known as direct coping strategies) are beneficial because they can decrease the negative effects of stress on mental and physical health outcomes and has commonly been used under the moderation framework (Barrera, 2000; Cohen & Wills, 1985; Contrada & Baum, 2011). For instance, Holocaust survivors who experienced pre-war years of stable family relationships and supports were able to offset the possible negative effects of trauma on their parenting (Van Ijzendoorn et al., 2003). In addition parents who had access to social support post-war were less likely to experience the intergenerational effects of trauma (Van Ijzendoorn et al.,

2003). Under the stress-buffering framework, another study found that perceived interpersonal social support buffered the negative effects of low income status on physical health outcomes (Coulon & Wilson, 2015). Specifically, the researchers found that at the lowest levels of income, greater perceived social support was protective against the adverse link between low income status and diastolic blood pressure for African American adults (Coulon & Wilson, 2015). Another study with Korean international college students also found that direct coping, specifically social support, buffered the negative effects of acculturative stress (which included aspects of financial problems) on psychological distress (Lee, Koeske, & Sales, 2004).

The Matching Hypothesis of the Stress-Buffering Framework. The stress-buffering model has been hypothesized to be most effective when the types of support matches the needs or challenges of the stressful event, also known as the matching hypothesis (Cohen & McKay, 1984; Cutrona & Russell, 1990). The matching hypothesis predicts that informational and tangible support should be most effective for controllable events (e.g., preparing for a job interview) whereas emotional and belonging support should be most effective for uncontrollable events (e.g., job layoff; Cutrona & Russell, 1990). However research regarding the matching hypothesis has yielded mixed findings, which may be in part due to the challenges in categorizing stressful events as controllable versus uncontrollable (Contrada & Baum, 2011).

Summary of the Stress and Coping Framework. Specifically, the stress buffering model highlights the significance of coping strategies and how they may moderate the relationship between the stressful event and the stress reaction (Cohen & Wills, 1985). A number of researchers have suggested that people tend to employ

two broad but distinct coping strategies to reduce the psychological distress associated with the stressful demand (Carver & Scheier, 1994; Contrada & Baum, 2011; Cross, 1995; Lazarus & Folkman, 1984; Lee & Liu, 2001). As a result of being separated from family members and losing original support systems pre-migration and being displaced into under-resourced neighborhoods post-migration, many SEAA families had to rebuild their social networks and experienced significant stress during this process (Ying & Han, 2007). Therefore, examining the potential moderating role of direct and indirect coping in the stress and mental health link with this population is warranted. Researchers have suggested that although indirect coping may be useful short-term, it is generally ineffective longer-term and may create more challenges (Carver & Scheier, 1994). However, research on the role of direct and indirect coping with Asian American populations have remain mixed, suggesting the importance of examining the role of direct and indirect coping strategies with SEAAs.

Chapter 3: Statement of the Problem

Present Study

In the context of health outcomes, pre-immigration trauma has frequently been identified as an important factor to consider in understanding the long-term negative effects of pre-immigration trauma on the physical and mental health of SEAA refugees. However, knowledge on the experiences of secondary traumatic stress for children of trauma survivors in this community remains limited. Furthermore, although economic hardships have been emphasized as another post-migration challenge SEAAs may experience in the U.S., no study has examined the intergenerational effects of perceived financial stress on mental health outcomes with SEAAs. Given the dearth of research examining the impact of chronic stress on 1.5-generation and second-generation SEAAs in relation to health outcomes, this study examined two significant stressors considered be important in understanding the mental health of the SEAA community. Thus, the primary aim of this study was to examine how secondary traumatic stress and financial stress may directly relate to mental health outcomes for 1.5-generation and second-generation SEAAs. Regarding generational status, 1.5-generation was defined as individuals who came to the U.S. as children and were raised in the U.S. context and second-generation was defined as individuals who were born in the U.S. while their parent (s) were born in an Asian country. Both 1.5-generation and second-generation SEAAs were included in the study as both generations were raised primarily in the U.S. context while parents were born and raised in an Asian country. Following the stress-buffering model of coping,

a secondary aim of this study was to examine whether direct and indirect coping mitigated the strength of the relationship between stress and mental health.

Design

Towards this end, this study was descriptive and cross-sectional in nature and used hierarchical multiple regression analyses to examine the individual and interaction effects of secondary traumatic stress and financial stress on 1.5-generation and second-generation SEAA mental health (psychological symptoms of mental health). This study also examined how direct and indirect coping moderated the relationship between secondary traumatic stress and mental health and the relationship between financial stress and mental health (see Figure 1; Appendix A).

Hypotheses

Hypothesis 1a: Based on past research that has significantly linked generational trauma to poorer mental health outcomes in children of trauma survivors (e.g., Field et al., 2013; Kellerman, 2001; Letzter-Pouw et al., 2013), we hypothesized that secondary traumatic stress would also correlate with mental health. Thus it was predicted that secondary traumatic stress (pathway a; see Figure 1; Appendix A) would have a significant, positive relationship with mental health. That is, individuals who perceived greater levels of secondary traumatic stress would be significantly more likely to report greater psychological distress and poorer mental health.

Hypothesis 1b: As financial stress has been linked to poorer mental health such as higher rates of depression (e.g., Butterworth et al., 2009), we hypothesized that financial stress would correlate with mental health and predicted that financial stress (pathway b; see Figure 1; Appendix A) would have a significant, positive

relationship with mental health. That is, individuals who perceived greater levels of financial stress would also be significantly more likely to report greater psychological distress and poorer mental health.

Hypothesis 1c: Based on past research that has linked direct coping to greater well-being (e.g., e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990), we hypothesized that direct coping would correlate with mental health and predicted that direct coping (pathway d; see Figure 1; Appendix A) would have a significant, negative relationship with mental health. That is, individuals who perceived greater levels of direct coping would be more likely to report less psychological distress and better mental health.

Hypothesis 1d: Based on past research that has linked indirect coping strategies to more psychological distress longer-term (e.g., e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990), we hypothesized that indirect coping would correlate with mental health and predicted that indirect coping (pathway c; see Figure 1; Appendix A) would have a significant, positive relationship with mental health. That is, individuals who perceived greater levels of indirect coping would be more likely to report greater psychological distress and poorer mental health.

Hypothesis 2a: Based on past research highlighting the cumulative impacts of chronic stress that may place individuals at greater risk for poorer physical and mental health (e.g., McEwen & Seeman, 1999; Nicholson, 1997), we hypothesized that there would be an interaction effect between secondary traumatic stress and financial stress (secondary traumatic stress x financial stress). That is, financial stress would moderate the relationship between secondary traumatic stress and mental

health (pathway e; see Figure 1; Appendix A) in that higher levels of financial stress would exacerbate the negative effects of secondary traumatic stress on mental health (would be stronger in magnitude). We also predicted that lower levels of financial stress would not significantly affect the relationship between secondary traumatic stress on mental health.

Hypothesis 3a: Based on the stress-buffering framework and past research that has found the significant role of direct coping in mitigating the ill effects of stress on health and mental health outcomes (e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990; Lee et al., 2005; Su et al., 2005), we hypothesized that direct coping would moderate the relationship between secondary traumatic stress and mental health (pathway g; see Figure 1; Appendix A). That is, the positive relationship between secondary traumatic stress and mental health would be weaker at higher levels of direct coping than at lower levels of direct coping.

Hypothesis 3b: Similarly, based on the stress buffering framework and past research (e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990; Lee et al., 2005; Su et al., 2005), we hypothesized that direct coping would also moderate the relationship between financial stress and mental health (pathway i; see Figure 1; Appendix A). Similarly, the positive relationship between financial stress and health would be weaker at higher levels of direct coping than at lower levels of direct coping.

Hypothesis 3c: Conversely, based on the stress-buffering framework that has linked indirect coping strategies to more psychological distress longer-term (e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990; Lee et al., 2005; Su et al., 2005), we hypothesized that indirect coping would moderate the relationship between

secondary traumatic stress and mental health in that the positive relationship between secondary traumatic stress and mental health would be greater at higher levels of indirect coping than at lower levels of indirect coping. (pathway f; see Figure 1; Appendix A).

Hypothesis 3d: Similarly, based on the stress buffering framework and past research linking indirect coping strategies to more psychological distress longer-term (e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990; Lee et al., 2005; Su et al., 2005), we hypothesized that indirect coping would also moderate the relationship between financial stress and mental health in that the positive relationship between financial stress and health would be greater at higher levels of indirect coping than at lower levels of indirect coping. (pathway h; see Figure 1; Appendix A).

Chapter 4: Methods

Participants

Participants consisted of 134 self-identified SEAA (approximately 9.70% Cambodian, 17.91% Hmong, 13.43% Laotian, 32.84% Vietnamese, 14.18% SEAA and Chinese, 7.46% more than one SEAA identity, and 4.48% biracial SEAA) adults over the age of 18 (M = 25.15, SD = 6.45). Regarding generational status, 75.37% of participants identified as second generation- were born in the U.S. and 22.39% identified as 1.5 generation- were born in an Asian country and came to the U.S. as children (M = 4.73, SD = 3.69). Approximately 65.69% of the participants identified as female, 33.09% as male, and 1.49% as other.

The majority of the participants identified as working full time (35.07%), followed by full time student (31.34%), followed by full time student working part time (17.91%), and part time student working full time (5.22%). The remaining participants identified as working part time, unemployed, and other (7.46%). Regarding educational levels, the majority of participants identified as starting but not completing a bachelor's degree from a 4-year college (20.90%) and completing a bachelor's degree from a 4-year college (20.90%), followed by completing high school or a general education degree (GED) equivalent (19.40%), followed by completing a master's degree (8.96%), followed by completing an associate's degree from a 2-year college (5.97%), followed by starting but not completing an associate's degree from a 2-year college (5.22%), followed by starting and not completing a doctoral degree (5.22%), followed by starting but not completing a master's degree (3.73%), and completing a doctoral degree (3.73%).

Approximately 53.73% of participants reported an estimated annual salary and/or family's estimated annual salary, which ranged from $0 to $250,000 (*M* = $54,607). Regarding public assistance, approximately 23.13% of participants indicated that members of their household currently receive public assistance such as food stamps (see Appendix D for additional demographics).

Regarding waves of immigration, 16.42% of participants indicated that their parents immigrated to the U.S. between the years of 1975-1978 (approximately the first wave of immigration), 34.33% of participants indicated that their parents immigrated to the U.S. between the years of 1979-1985 (approximately the second wave of immigration), and 29.10% of participants indicated that their parents immigrated to the U.S. between the years of 1986-1995 (approximately the third wave of immigration).

Regarding parental trauma, approximately 74.62% of participants indicated that their parent(s) experienced forced relocation due to fear and safety concerns, 56.72% indicated that their parent(s) spent years in refugee camps (ranging from 2 months to 10 years), 47.76% indicated that their parent(s) had immediate knowledge of forced separation, torture, imprisonment, or murder of family members or loved ones, 46.27% indicated that their parent(s) endured traumatic experiences before migrating to the U.S., 35.82% indicated that their parent(s) were a victim of physical and/or emotional torture, 25.37% indicated that parent(s) had family members who died during their migration to the U.S., and 4.48% indicated that their parent experienced a death or loss of spouse during their migration to the U.S.

Procedure

Given the challenges in recruiting and acquiring a representative sample size with this population, three primary methods (over the span of one year) were used to recruit participants. First, a random list of 6,000 self-identified Asian, Asian-American, and Pacific Islander undergraduate students were generated by the University of Maryland's registrar's office during the fall semester (2017). An email was automatically generated for this random list. Students were invited by email to participate in a one-time online study titled, Southeast Asian American Stress and Health Experiences. Students were sent a reminder email every two weeks, inviting students to participate. A total of three emails were sent to students from this random list. Only data from students who self-identified with a SEAA identity were retained from this random generated list.

Second, participants were recruited through convenience sampling through the researchers' connections with other self-identified SEAAs and organizations throughout the U.S. During the fall semester (2017) and spring semester (2018), the first author of this study gathered contact information of various self-identified SEAA student organizations (40 organizations) throughout the U.S. at various institutions of higher education and SEAA community organizations (4 organizations). These organizations were then contacted via email, inviting members of the organizations to participate in a one-time online study titled, Southeast Asian American Stress and Health Experiences. The researcher also asked the organizations to assist in distributing the survey to other self-identified SEAAs (e.g., family, friends, and colleagues) who may be interested in participating. The first author of this study also submitted online social media posts with SEAA specific interest groups (e.g.,

SEARAC, Laotian Americans) on social media (e.g., Facebook) during spring semester (2018) and fall semester (2018) to recruit more participants. On the social media posts, participants were informed that the purpose of the study was to better understand SEAAs' stress and health experiences.

A third method was used to recruit SEAA participants, which included going into the community in-person and to various cultural and community events to recruit participants for the study. One community event was attended in-person during fall semester 2018 and two community events were attended in-person during spring semester 2018, where the researcher collected participants' email addresses to distribute the online survey. In one event, the researcher attended a SEAA event in Washington, D.C. In another event, the researcher went into the Vietnamese community in northern Virginia to recruit self-identified SEAAs to participate in the study. In the third event, the researcher attended a Vietnamese Lunar New Year's celebration in Maryland. Again, participants were informed that the purpose of the study was to better understand SEAAs' stress and health experiences. With these three primary methods of recruitment, a response rate was not able to be determined because the first author of the study no longer had access to their University of Maryland email account (e.g., emails sent to individuals and student organizations were sent using this account). In previous research with this population, the researchers generated a response rate of approximately 9% (Truong & Miller, 2016).

In order to be included in the study, participants had to self-identify with a SEAA identity (this included biracial and multi-racial participants), identify as 1.5 generation (came to the U.S. as a child or adolescent) and second-generation (born in

the U.S.) adults, and indicate parental pre-immigration trauma. Data collected from students who identified as other Asian American ethnicities other than SEAA descent (e.g. Korean) were omitted from data analysis. To identify careless responders, two instructed response items (manipulation check items) were included in the survey such as: “For this question, please select no” for longer survey items. After completing the survey, participants also had the choice to enter into a raffle to win one of two $50 gift cards as an incentive for participation. Participants were also given an electronic debriefing form.

Measures:

Secondary Traumatic Stress. A modified version of the Secondary Traumatic Stress Scale (STSS; Bride, Robinson, Yegidis, & Figley, 2004) was used to assess secondary traumatic stress with SEAA populations. The STSS was originally developed to assess symptoms associated with secondary traumatic stress caused by indirect exposure to traumatic material. Most of the trauma literature with SEAAs have used the format of a checklist to assess parental exposure to specific traumatic experiences and the severity of trauma experiences before and during migration to the U.S. However, it is unclear whether or not children of trauma survivors would know the specific trauma experiences their parents may have faced. The modified STSS was developed in response to the limited measures on secondary traumatic stress and was designed to specifically measure secondary traumatic stress symptoms in SEAA children of trauma survivors. Based on PTSD symptoms related to trauma experiences, traumatic stress was operationalized as intrusion, avoidance, arousal, and emotional distress symptoms resulting from indirect exposure to

traumatic events through relationships with a person who has directly experienced traumatic events. The subscales of intrusion, avoidance, and arousal was used, reflecting the criteria of PTSD in the DSM-V, which has also been used in other measures of secondary traumatic stress (American Psychiatric Association, 2013; Bride et al., 2004). The subscale emotional distress was added to reflect Criteria D (negative alterations in mood), which has not been used in previous measures (American Psychiatric Association, 2013).

The modified STSS is a 29-item measure created to assess the frequency of intrusion, avoidance, arousal, and emotional distress symptoms associated with secondary traumatic stress of wanting to help a traumatized person (see appendix I). Participants were prompted with potential pre-immigration experiences SEA parents may have faced, including forced relocation, torture or imprisonment in re-education camps, and/or death of loved ones. Participants were then asked to indicate their perceived stress level of their parent's pre-immigration trauma experiences using a 5-point Likert-type scale (1 = not at all stressful, 2 = rarely stressful, 3 = sometimes stressful, 4 = often stressful, 5 = always stressful). Scores for the full STSS (all items) were obtained by summing the items and dividing by the total number of items. Higher scores indicated greater perceived secondary traumatic stress.

Previous studies assessing the original STSS measure with social workers exposed to indirect trauma have reported adequate estimates of reliability with an alpha coefficient of .93 with the full STSS measure, .80 for the intrusion subscale, .87 for the avoidance subscale, and .83 for the arousal subscale (Bride et al., 2004). Convergent validity was also established in examining the correlations between the

STSS and depression and anxiety (Bride et al., 2004). Discriminant validity was also established in that the STSS was unrelated to demographic variables of age, ethnicity, and income (Bride et al., 2004).

Since the STSS was modified to include a fourth subscale of emotional distress to reflect Criteria D (negative alterations in mood) for criteria of PTSD in the DSM-V, we conducted an exploratory factor analysis (EFA) to assess the factor structure (and construct validity) of the modified STSS and to examine the extent in which the items reflected the factors of intrusion, avoidance, arousal, and emotional distress. A previous study with SEAAs using the modified STSS suggested that a two factor structure was a better fit compared to the four factor scale, with a reliability coefficient of .95 (Truong & Miller, 2016). In this dataset, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy statistic, a test of commonality among items, was .913, and the Bartlett's Test of Sphericity was also found to be significant ($p < .001$), indicating that the items were interrelated enough for the purpose of factor analysis.

Parallel analysis was then conducted in order to examine the likely number of factors present. The results of parallel analysis indicated that there were likely two meaningful factors present from the dataset (eigenvalues of the raw data were greater than the values of randomized data for two factors). A principal-axis factor analysis using a two-factor solution was conducted using Direct Oblimin rotation. Items with primary factor loadings of .45 or greater were retained and (non-primary) cross loadings of .20 or lower were deleted. This resulted in 17 items that were deleted sequentially. This resulted in a two-factor structure where 12 items were retained (see Appendix I; bolded items represent items used in the current study for analyses). The

two factors were labeled indirect and direct trauma. An EFA was conducted due to the exploratory nature of the modified scale and the two factor structure was retained because it was a better fit compared to the four factor scale. In this current study, the reliability coefficient of the full scale was .94, the reliability coefficient for the indirect trauma subscale was .95, and the reliability coefficient for the direct trauma subscale was .92.

Financial Stress. Financial stress was assessed using a modified version of the Economic Hardship Questionnaire (EHQ; Lempers, Clark-Lempers, & Simons, 1989). The original EHQ is a 12-item questionnaire that asks participants to indicate how often their family experienced financially challenging events in the last six months. The last two items on the original EHQ were dropped as they do not directly assess financially challenging events. The EHQ was modified to assess the level of perceived stress of the financially challenging events. A sample item is" During the last 6 months, how often did you…take additional employment to help meet expenses?" Participants indicated the perceived stress level (1= never stressful, 2=rarely stressful, 3= sometimes stressful, 4=often stressful, 5=always stressful; see appendix I). Items were summed and divided by the number of items. Higher scores indicated greater perceived financial stress. The original EHQ measure yielded adequate estimates of reliability with an alpha coefficient of .86 in previous studies (Lempers et al., 1989). For the current study, the alpha coefficient was .89.

Coping. The Brief COPE (Brief COPE; Carver, 1997) was used to assess how individuals cope with stressful events. The Brief COPE is a 28-item measure based on the full 60-item COPE measure (Carver, Scheier, & Weintraub, 1989) and consists of

fourteen 2-item subscales of coping, which include: active coping, planning, positive reframing, acceptance, humor, religion, emotional support, instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame. The scale asked participants to indicate what they generally do when they experience a stressful event. Items were measured using a 4-point Likert scale with 1 = I usually don't do this at all, and 4 = I usually do this a lot. Reliability estimates have ranged from $\alpha = .57$ to .90 on the 2-item subscales. Items were summed and divided by the number of items. Higher scores indicated greater use of that coping strategy.

Several researchers have suggested that coping may be theorized using a simpler model of direct and indirect coping and that constructs should be measured by at least three items (Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Kline, 2005; Lee & Liu, 2001). Exploratory factor analyses on the Brief COPE have revealed a simplified two factor model of coping: cope-direct and cope-indirect and researchers have suggested that a two factor model may be more psychometrically sound in conceptualizing coping (Lee & Liu, 2001; Liu & Iwamoto, 2007). The two factor model of coping has yielded adequate internal reliability coefficients of .89 (direct coping) and .78 (indirect coping) with Asian American college students (Lee & Liu, 2001; Liu & Iwamoto, 2007).

We evaluated the two factor model of coping in this study by conducting an exploratory factor analysis (EFA) on the 28-item Brief COPE measure to examine the extent to which the items may reflect a more simplified model of coping. In this dataset, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy statistic, a test of commonality among items, was .684, and the Bartlett's Test of Sphericity was also

found to be significant ($p < .001$), indicating that the items were interrelated enough for the purpose of factor analysis.

A principal-axis factor analysis using a two-factor solution was conducted using Direct Oblimin rotation. Items with primary factor loadings of .45 or greater were retained and (non-primary) cross loadings of .20 or lower were deleted. This resulted in a two-factor structure where 4 items for direct coping and 6 items for indirect coping were retained (see Appendix K; bolded items represent items used in the current study for analyses). An EFA was conducted to replicate the simplified factor model of coping conducted in previous studies (Lee & Liu, 2001; Liu & Iwamoto, 2007). In this current study, the two factor model of coping yielded adequate internal reliability coefficients of .90 for direct coping and .78 for indirect coping.

Mental Health. The Kessler Psychological Distress Scale (K-6; Kessler et al., 2003) was used to assess the affective psychological symptoms of mental health. The purpose of the K-6 is to function as a global measure of distress, drawing from both depressive and anxiety related symptomology. The K-6 is the shortened version of the K-10, which was originally developed in the U.S. for the Substance Abuse and Mental Health Services Administration (SAMHSA) who wished to obtain a more accurate estimation of prevalence of mental illness in the general population (Kessler et al., 2003). In this study, only the 6 items on the K-6 were used (the K-6 contains supplementary questions that are not required for the scoring of the K-6). The K6 asked participants to assess their symptoms during the past 30 days (see appendix L). Participants responded on a 5-point Likert scale, ranging from 1 = all of the time to 5

= none of the time. A sample item is “During the past 30 days, about how often did you feel so depressed that nothing could cheer you up?” Items were then recoded using the 0-4 scoring system, where a response of “none of the time” was recoded to a score of 0 and a response of “all of the time” was recoded to a score of 4. The 6 items were then summed to yield a number between 0 and 24. Higher scores indicated greater distress and poorer mental health. The scale has demonstrated adequate internal consistency and reliability (0.89; Kessler et al., 2003). In the current study, the alpha coefficient was .86.

Demographics Questionnaire. The demographics questionnaire (see Appendix M) included general information about each participant such as the participant’s gender, age, self-identified Asian American ethnicity, generational status, highest education level completed, current educational or work status, parental pre-immigration trauma experiences, and parental year of immigration to the U.S. The demographics questionnaire also included items to screen for parental pre-immigration trauma experiences and validity check items.

Chapter 5: Data Analysis

Data Screening and Preliminary Analyses

A total of 370 participants completed some portion of the online survey. Out of the 370 participants, 189 participants identified as SEAA and were retained in the dataset. Out of the 189 remaining participants, 28 participants were removed due to having more than 10% missing data. The Little's MCAR test obtained for this study's data indicated that data for the remaining participants was missing completely at random, $\chi 2$ (1982, N = 189) = 2001.313, p = .376. The remaining missing data were imputed using expectation maximization (EM). Another 26 participants were removed due to indicating no parental trauma and no secondary traumatic stress (two of those participants identified as first generation and one participant identified as third generation). One participant was removed due to not meeting either of the two manipulation checks. This resulted in the final sample of SEAAs (N = 134) used in the subsequent analyses.

To account for independent variables measured at different scales, independent variables were standardized. Assumptions testing for multiple linear regression were also conducted, which included: linearity, homogeneity of variance, normality, skewness and kurtosis, as well as multicollinearity testing (Cohen, Cohen, West, & Aiken, 2003). Review of the partial scatterplot of the independent variables and the dependent variable indicated that linearity is a reasonable assumption. A scatterplot of unstandardized residuals to predicted values demonstrated a random display of points, providing further evidence of linearity. Examining the scatterplots of studentized residuals against predicted values and studentized residuals against

values of the independent variables provided evidence of homogeneity of variance as there was a relatively random display of points where the spread of residuals appeared fairly constant over the range of values. The assumption of normality was tested via examination of the unstandardized residuals. Review of the Shapiro-Wilk (*SW*) test statistics for normality (*SW* = .987, *df* = 134, *p* = .237) and skewness (.379) and kurtosis (.023) suggested that normality was a reasonable assumption. Skewness and kurtosis were also evaluated for all variables and results indicated low levels of skewness and kurtosis (below the range of an absolute value of 2), providing further evidence of normality. Lastly, tolerance was greater than .10 and the variance inflation factor was less than 10, suggesting that multicollinearity was not an issue.

Hierarchical Multiple Regression Analyses

Hierarchical multiple regression analysis was used to test whether secondary traumatic stress, financial stress, direct coping, indirect coping (entered in Step 1), and the moderation effects of secondary traumatic stress x financial stress, secondary traumatic stress x indirect coping, secondary traumatic stress x direct coping, financial stress x indirect coping, and financial stress x direct coping (entered in Step 2) predicted mental health (see Figure 1; Appendix A). In step 1, when the main effects of secondary traumatic stress, financial stress, direct coping, and indirect coping were entered into the model, the model explained approximately 52% of the variance in mental health $F(4,129) = 37.08$, $p < .001$. In step 2, although the addition of the interaction terms entered into the model was significant and also explained 52% of the variance in mental health $F(9,124) = 17.23$, $p < .001$, the addition of interaction terms to the model did not significantly improve the model ($\Delta R^2 = 2\%$; $p >$

.05). Secondary traumatic stress (β = .21, t = 2.73, p < .05), financial stress (β = .23, t = 2.78, p < .05), and indirect coping (β = .51, t = 7.36, p < .05) significantly predicted mental health. Contrary to expectations, none of the interaction terms were significant (see Table 4; Appendix E).

Post Hoc Analyses

Because our EFA test of the modified secondary traumatic stress scale revealed two factors (indirect and direct traumatic stress), we conducted post hoc analyses to examine whether the differing types of trauma (indirect and direct) would relate to mental health differently.

Indirect trauma. Hierarchical multiple regression analysis was used to test whether indirect traumatic stress, financial stress, direct coping, indirect coping (entered in Step 1), and the moderation effects of indirect traumatic stress x financial stress, indirect traumatic stress x indirect coping, indirect traumatic stress x direct coping, financial stress x indirect coping, and financial stress x direct coping (entered in Step 2) predicted mental health (see Table 5; Appendix F). In step 1, when the main effects of indirect secondary traumatic stress, financial stress, direct coping, and indirect coping were entered into the model, the model explained approximately 51% of the variance in mental health F(4,129) = 35.56, p < .001. In step 2, although the addition of the interaction terms entered into the model was significant and also explained 51% of the variance in mental health F(9,124) = 16.63, p < .001, the addition of interaction terms to the model did not significantly improve the model (ΔR^2 = 2%; p > .05). Financial stress (β = .27, t = 3.30, p < .05) and indirect coping (β = .51, t = 7.44, p < .05 significantly predicted mental health. Surprisingly, indirect

secondary traumatic stress was not a significant predictor of SEAA mental health, however the coefficient was in the hypothesized direction and approached significance (β = .14, t = 1.96, p =.053). None of the interaction terms were significant.

Direct trauma. Hierarchical multiple regression analysis was used to test whether direct traumatic stress, financial stress, direct coping, indirect coping (entered in Step 1), and the moderation effects of direct traumatic stress x financial stress, direct traumatic stress x indirect coping, direct traumatic stress x direct coping, financial stress x indirect coping, and financial stress x direct coping (entered in Step 2) predicted mental health (see Table 6; Appendix G). In step 1, when the main effects of direct secondary traumatic stress, financial stress, direct coping, and indirect coping were entered into the model, the model explained approximately 52% of the variance in mental health $F(4,129) = 36.59$, $p < .001$. In step 2, although the addition of the interaction terms entered into the model was significant and explained 53% of the variance in mental health $F(9,124) = 17.58$, $p < .001$, the addition of interaction terms to the model did not significantly improve the model ($\Delta R^2 = 3\%$; $p > .05$). Direct secondary traumatic stress (β = .21, t = 2.69, $p < .05$), financial stress (β = .25, t = 3.17, $p < .05$), and indirect coping (β = .50, t = 7.31, $p < .05$) significantly predicted mental health. None of the interaction terms were significant.

Indirect and direct trauma. Hierarchical multiple regression analysis was used to test whether indirect traumatic stress, direct traumatic stress, financial stress, direct coping, indirect coping (entered in Step 1), and the moderation effects of indirect traumatic stress x financial stress, indirect traumatic stress x indirect coping,

indirect traumatic stress x direct coping, direct traumatic stress x financial stress, direct traumatic stress x indirect coping, direct traumatic stress x direct coping, financial stress x indirect coping, and financial stress x direct coping (entered in Step 2) predicted mental health (see Table 7; Appendix H). In step 1, when the main effects of direct secondary traumatic stress, indirect secondary traumatic stress, financial stress, direct coping, and indirect coping were entered into the model, the model explained approximately 52% of the variance in mental health $F(5,128) = 29.68$, $p < .001$. In step 2, although the addition of the interaction terms entered into the model was significant and explained 54% of the variance in mental health $F(13,120) = 12.75$, $p < .001$, the addition of interaction terms to the model did not significantly improve the model ($\Delta R^2 = 4\%$; $p > .05$). Financial stress ($\beta = .21$, $t = 2.46$, $p < .05$), indirect coping ($\beta = .49$, $t = 7.01$, $p < .05$), and the interaction between direct secondary traumatic stress and indirect coping ($\beta = .19$, $t = 2.10$, $p < .05$) significantly predicted mental health. Although direct secondary traumatic stress was not a significant predictor of SEAA mental health, the coefficient was in the hypothesized direction and approached significance ($\beta = .17$, $t = 1.94$, $p = .053$). The interaction between indirect secondary traumatic stress and indirect coping also approached significance ($\beta = -.16$, $t = -1.96$, $p = .052$).

Simple slope tests for the interaction between direct secondary traumatic stress and indirect coping revealed that as levels of indirect coping increased, the slopes of the relationship between direct secondary traumatic stress and mental health decreased. At low levels of indirect coping ($\beta = 1.53$, $t = 2.93$, $p < .05$), at moderate levels of indirect coping ($\beta = 1.41$, $t = 4.27$, $p < .05$), and at high levels of indirect

coping ($\beta = 1.28$, $t = 3.05$, $p < .05$), direct secondary traumatic stress and mental health were positively associated. However, as the level of indirect coping increased (from low to moderate to high), the magnitude of the association between direct secondary traumatic stress and mental health decreased. Ultimately, this pattern of findings suggests that indirect coping buffers against the ill effects of direct secondary traumatic stress on mental health.

Chapter 6: Results and Discussion

Discussion

This study jointly examined two stressors (secondary traumatic stress and financial stress) considered to be important in understanding the mental health of the SEAA community and focused on the generational experiences of stress with SEAAs. This study also examined the role of coping (direct and indirect) in relation to mental health with this population. Towards this end, the primary aim of this study was to examine how secondary traumatic stress, financial stress, direct coping, and indirect coping may directly relate to mental health outcomes for self-identified 1.5-generation and second-generation SEAAs (hypotheses 1a-1d). Based on past research highlighting the cumulative impacts of chronic stress that may place individuals at greater risk for poorer physical and mental health (e.g., McEwen & Seeman, 1999; Nicholson, 1997), this study also examined whether higher levels of financial stress would moderate the relationship between secondary traumatic stress and mental health (hypothesis 2a). Following the stress-buffering model of coping, another aim of this study was to examine whether direct and indirect coping mitigated the strength of the relationship between stress (financial stress and secondary traumatic stress) and mental health (hypotheses 3a-3d). As the EFA test of the modified secondary traumatic stress scale revealed two factors (indirect and direct secondary traumatic stress), post hoc analyses were also conducted to explore whether the differing types of trauma (indirect and direct) would relate to mental health differently.

Consistent with emerging research implicating the generational effects of trauma and mental health with this population (Field et al., 2013), present findings

suggest that individuals who perceived greater levels of secondary traumatic stress were also more likely to report greater psychological distress and thus poorer mental health (hypothesis 1a; pathway a; see Figure 1; Appendix A). As financial stress has been linked to poorer mental health in previous studies (e.g., Butterworth et al., 2009), results also suggest that individuals who perceived greater levels of financial stress also indicated greater psychological distress and poorer mental health (hypothesis 1b; pathway b; see Figure 1; Appendix A). Past research has linked direct coping to greater well-being for various populations, including Asian Americans (Contrada & Baum, 2011; Cutrona & Russell, 1990; Lee, Su, & Yoshida, 2005). Contrary to our expectations, direct coping was not a significant predictor of SEAA mental health, however the coefficient was in the hypothesized direction (hypothesis 1c; pathway d; see Figure 1; Appendix A). Research on indirect coping have been mixed. Although studies have found that the use of indirect coping may lead to more psychological distress, other studies have also found indirect coping to be an adaptive coping strategy for Asian Americans (e.g., e.g., Contrada & Baum, 2011; Cutrona & Russell, 1990; Noh et al., 1999). Results in this current study suggest that individuals who used greater levels of indirect coping also reported greater psychological distress and poorer mental health (hypothesis 1d; pathway c; see Figure 1; Appendix A). This is consistent with prior research that has found indirect coping to lead to more psychological distress longer-term (Contrada & Baum, 2011). Although other studies have implicated the cumulative impacts of chronic stress, placing individuals at greater risk for poorer mental health (e.g., McEwen & Seeman, 1999; Nicholson, 1997), financial stress did not significantly moderate the relationship between

secondary traumatic stress and mental health in this current study (hypothesis 2a; pathway e; see Figure 1; Appendix A).

Based on the stress-buffering framework and past research that has found direct coping to minimize the negative effects of stress on mental health outcomes and indirect coping strategies to exacerbate stress on mental health outcomes, we hypothesized that that direct coping would moderate the relationship between secondary traumatic stress on mental health and financial stress on mental health (hypothesis 3a and 3b; pathway g and pathway i; see Figure 1; Appendix A). We also hypothesized that indirect coping would moderate the relationship between secondary traumatic stress on mental health and financial stress on mental health (hypothesis 3c and 3d; pathway f and pathway h; see Figure 1; Appendix A). Surprisingly, results suggest that both indirect and direct coping did not moderate the relationship between financial stress or secondary traumatic stress and mental health.

Post hoc analyses. Post hoc analyses were conducted to examine whether the differing types of secondary trauma (indirect and direct) would relate to mental health differently. Surprisingly, when both indirect and direct secondary trauma were entered into the same model as separate predictors, indirect coping was found to moderate (buffer) the relationship between direct secondary trauma and mental health. On the other hand, indirect coping did not significantly moderate the relationship between indirect secondary trauma and mental health, although there was a trend towards significance (p = .052; given the small sample size, the study may be underpowered). This contributes to the mixed results in the literature on the role of indirect coping with Asian American populations. For instance, research has

suggested that Asian Americans may employ more indirect coping strategies to manage stressful demands due to the collectivist contexts of Asian American experiences (Weisz et al., 1984). One study found that indirect coping may be an adaptive coping strategy in relation to ethnic discrimination with SEAAs (Noh et al., 1999). Surprisingly, when indirect secondary trauma was independently entered into the model with the moderator variables, it was not a significant predictor of SEAA mental health, however the coefficient was in the hypothesized direction (p =.053). When direct secondary trauma was independently entered into the model with the moderator variables, it was significantly related to mental health. It is interesting to note that indirect and direct coping did not significantly moderate the relationship between financial stress and mental health. This may be due to the different coping methods that may be used by individuals based on the various types of perceived stress (e.g., controllable vs. uncontrollable events).

Limitations

It should be noted that the sample size in this study was small given the complexity of the model and the inclusion of multiple interaction terms. Therefore the results of the study should be interpreted cautiously. Further, as this study included individuals who self-identified as SEAA, future studies should examine how these constructs may play out in specific SEAA populations (e.g., Cambodian) instead of the inclusion of other SEAA ethnicities as well as to continually explore the unique variables that may be more relevant to a population such as the trauma variable with SEAAs. For example, although SEAAs as a collective group have experienced similar pre-immigration trauma experiences, among the SEA refugee groups,

Cambodians have been reported to experience the most severe levels of pre-immigration trauma exposure (Chung & Kagawa-Singer, 1993). Future research should obtain a larger and more representative sample.

As the EFA for the coping measure forced items into two factors: indirect and direct coping, there may have been measurement issues related to this EFA method in that the measure was not used as the authors intended, which included fourteen subscales. Given that the items that were retained for direct coping reflected instrumental and emotional support, it may be that these items may not reflect the breadth of direct coping strategies or fully capture the construct as intended for SEAAs, resulting in instrumentation issues and may be why the direct coping items that were retained and used in the direct coping factor was not a significant predictor of mental health. It should also be noted that items loaded onto the indirect coping factor may not have captured the breadth of indirect coping or other types of coping that may be available. Thus it may be possible that the inconsistencies in measurement may have affected the strength and relationships of the coping predictor variables to the outcome variable.

As both indirect and direct coping did not moderate the relationship between stress and mental health, this may also be due to a mismatch in the types of coping individuals may engage in for various stressors. Although the use of broad coping strategies may be related to mental health outcomes, individuals may also use different coping strategies to manage various stressors. For example, informational and tangible support may be more effective for controllable events whereas emotional and belonging support should be most effective for uncontrollable events (Cutrona &

Russell, 1990). In addition to examining the role of indirect and direct coping, future research should explore other coping strategies that may be used in managing various stressors in relation to mental health outcomes.

Results from the trauma measure used in this study should also be interpreted with caution as the secondary trauma measure used in this study was modified from a secondary traumatic stress scale that was originally developed to assess symptoms associated with secondary traumatic stress caused by indirect exposure to traumatic material for social workers (Bride et al., 2004). As a result, the scale was not used as the original authors intended and items included in the modified measure may not fully capture the underlying construct. For example, parallel analysis and EFA in the current study suggested that a two-factor model was a better fit to the data rather than the three factors that the original authors proposed or the four factors that the authors of this study proposed. As the full secondary traumatic stress measure comprised of the items on the direct and indirect secondary trauma subscale (two factors), the direct and indirect secondary trauma subscales were not highly correlated to each other (r = .59), suggesting that the factors may have been measuring different constructs of secondary trauma. Further, the validity evidence of the modified measure has not fully been validated. Thus more work is needed to establish the validity of this scale in measuring secondary traumatic stress.

During the post hoc analyses when both indirect and direct secondary trauma were entered into the same model as separate predictors, indirect coping was found to moderate the relationship between direct secondary trauma and mental health. However, direct secondary trauma was not a significant predictor of SEAA mental

health until the addition of the moderator variables. Thus, the results of the post hoc analyses may be due to statistical suppression and should be interpreted cautiously.

And finally, the study's cross-sectional design does not allow for causal or directional inferences regarding the relationships among the variables. Future studies may benefit from exploring the relationships using a theoretical framework longitudinally in SEAAs. The generalizability of this study's potential findings should also be interpreted cautiously. For instance, participants included 1.5-generation and second-generation SEAAs, therefore the study should not be generalized to other Asian and/or ethnic/racial groups or SEAAs from other generations. As the study also included participants who indicated various types/levels of parental pre-immigration trauma (e.g., death of loved ones, experiences in a refugee camp) as well as different waves of immigration to the U.S., future studies should explore how the varying levels of pre-immigration trauma experienced and the different waves of immigration may impact the perceived level of secondary traumatic stress as it relates to mental health as well as the relationship among other variables. Future studies should also explore how other factors may relate to stress and mental health such as personality traits, future orientation, as well as exploring how other factors may impact perceived secondary traumatic stress (e.g., how much parents talk about their pre-immigration trauma experiences with their children, children's understanding of their parent's pre-immigration trauma experiences, and post-traumatic growth).

Implications for Research

In light of the study's limitations, this study extends the literature on SEAA mental health in several ways. First, the study focused on a population that is oftentimes underrepresented in the Asian American psychology literature. Secondly, this study jointly focused on examining two well-documented stressors (secondary traumatic stress and financial stress) hypothesized to impact the mental health of the SEAA community and found that both secondary traumatic stress and financial stress were significant predictors of SEAA mental health. Further, this study focused on the intergenerational experiences of SEAAs, where research continues to remain limited.

As studies in the trauma literature have examined the intergenerational effects of trauma through the parent-child attachment relationship (Field et al., 2013), this study takes a novel approach to examining the intergenerational effects of trauma in the form of secondary traumatic stress. Further, as economic hardship (as measured by income, education, and occupation) has often been stated as an important factor to consider in understanding the unique challenges of SEAAs post-migration, this study is the first to our knowledge that examined perceived financial stress as a distinct stressor jointly with secondary traumatic stress as it relates to mental health outcomes. Lastly, as research has suggested the importance of examining factors thought to buffer the negative impacts of stress (Contrada & Baum, 2011), this study also examined how indirect and direct coping may moderate the relationship between stress and mental health. Although the stress-buffering framework using direct and indirect coping was not supported in this current study, it may be that items retained for direct and indirect coping may not reflect the breadth of coping strategies for SEAAs. Thus future research is imperative in order to examine the breadth of coping

strategies that may be more relevant to SEAAs. The findings also suggest the importance of examining other moderators that may buffer the relationship between stress and mental health. Thus, future research should examine alternative moderators (e.g., future orientation and outlook, self-efficacy, locus of control, personal resources) that may mitigate the impact of stress on mental health with this population.

Lastly, the results of this study highlights the importance of examining how historical contexts and contextual stressors may impact communities over generations. For instance, this study found that both secondary traumatic stress and financial stress were found to be significant predictors of mental health for 1.5-generation and second-generation SEAAs, suggesting that these two stressors continue to be relevant for subsequent generations. As emerging lines of research are exploring how historical and cultural traumas may impact subsequent generations (Danieli et al., 2017), it is critical to expand this research to further understand and address the longer-term impacts on health with communities who have experienced trauma and compounded contextual stressors. Thus, additional research is needed to further understand the impact of chronic stressors on mental health over generations and to advance current levels of understanding on how to effectively address the mental health needs of this community. For example, future research may explore how SEAAs make meaning out of their collective trauma histories as SEAAs living in the U.S. over generations as well as explore the strengths of this community in managing multiple pre-immigration and post-migration stressors. Another important future area of research would be to develop culturally responsive intervention

programs aimed at helping individuals to manage the chronic stressors. Although it would be beneficial to research and test interventions at the individual and group level, it is also important to develop larger scale intervention studies aimed at examining how policies may impact access to culturally responsive resources for this community and how access to resources may impact health outcomes.

Implications for Practice

One factor that has consistently been cited in the research literature regarding this community is the experience of pre-immigration trauma and post-migration economic hardships and its effect on mental health outcomes (Chung & Bemak, 2006; Krippner & McIntyre, 2003; Ying, 2001; Chung & Kagawar-Singer, 1993). This study found that both secondary traumatic stress and financial stress were significant predictors of mental health for 1.5-generation and second-generation SEAAs, suggesting the importance of examining the impact of chronic stressors over generations. Thus it may be helpful for mental health professionals working with members of this community to take into account the impact of family trauma history and chronic stressors (e.g., financial stress) as it may relate to current mental health concerns. For instance, researchers have suggested that it may be helpful for clinicians working with the transgenerational effects of trauma with clients to construct multigenerational family trees that include details of a family's trauma history, an activity that has been suggested to help families move toward connection and growth (Danieli et al., 2017).

In addition to training mental health professionals to be familiar with the mental health challenges of this community, it may also be helpful for practitioners to

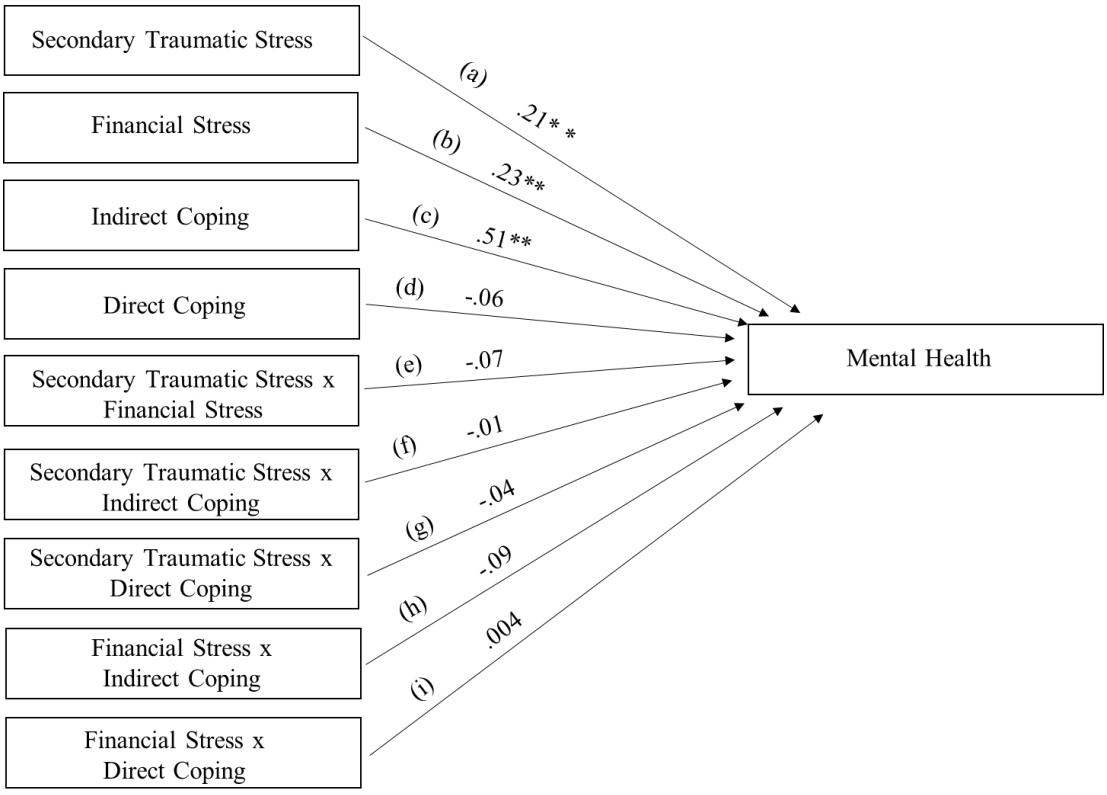
think about culturally responsive ways of healing for this community. For example, with other communities that have experienced collective and community trauma, incorporating group modalities such as psychoeducation about historical trauma, sharing of experiences, the provision of hope, collective mourning, and social support led to an increased awareness about trauma and its impact, a sense of relief, decreased grief-affect reactions, and positive group identity (Braveheart-Jordan &DeBruyn, 1995). Given the collectivist values of SEAA communities, group modalities that facilitate community healing may be a more effective mode of treatment than individual therapy that tends to be based on western principles. Thus, research from other communities that have experienced historical and collective trauma may be useful in understanding the collective trauma experience of SEAAs and may inform practice with this community.

In addition to individual and group counseling contexts, psychologists are also equipped to address contextual and systemic stressors such as financial stress. For instance, psychologists may serve as consultants and on committees that may shape institutional and government policies related to the mental health needs of refugee communities. One path of intervening may be to use data and research to examine policies that impact access to culturally responsive resources to this community and to help shape policies that may mitigate the stressors of this community such as increasing funding and access to financial resources (e.g., assistance with food, clothing, finances, career) in order to assist refugee communities with longer-term adjustment. As having a strong connection to family and community has been found to be a protective factor for SEAAs (Hsu et al., 2004), psychologists may also

consider interventions and policies that would strengthen existing supportive networks among SEAA communities. Psychologists may also engage in discussions with members of the community in order to assist in advocating for policies that consider the needs of the SEAA community. This may allow psychologists to gain a better understanding of the needs of the community as well as the barriers to care.

Appendix A

Figure 1: *Predictors of SEAA mental health (N = 134)*



*Note that this model depicts the results of the hypothesized model; **p < .01*

Appendix B

Table 1

Means, Standard Deviations, Internal Consistency Estimates, and Correlations (N = 134)

Variable	1	2	3	4	5
1. Secondary Traumatic Stress	--				
2. Financial Stress	.58**	--			
3. Direct Coping	-.06	.04	--		
4. Indirect Coping	.37**	.44**	.02	--	
4. Mental Health	.51**	.52**	-.07	.66**	--
M	2.39	2.16	2.93	2.10	8.71
SD	.99	.85	.85	.62	4.82
α	.94	.89	.90	.78	.86

*Note. *p < .05; **p < .01*

Appendix C

Table 2

Means, Standard Deviations, Internal Consistency Estimates, and Correlations with Post Hoc Analyses: Indirect and Direct Secondary Traumatic Stress (N = 134)

Variable	1	2	3	4	5	6
1. Indirect Secondary Trauma	--					
2. Direct Secondary Trauma	.59**	--				
3. Financial Stress	.51**	.55**	--			
4. Direct Coping	-.04	-.06	.04	--		
5. Indirect Coping	.30**	.39**	.44**	.02	--	
6. Mental Health	.42**	.50**	.52**	-.07	.66**	--
M	2.56	2.15	2.16	2.93	2.10	8.71
SD	1.13	1.09	.85	.85	.62	4.82
α	.95	.92	.89	.90	.78	.86

*Note. *p < .05; **p < .01*

Appendix D

Table 3

Demographic Information (N = 134)

Demographics Variable	n	%
Receive Public Assistance		
Yes	31	23.13
No	99	73.88
Participant's educational level		
Completed high school or GED	26	19.40
Completed associate's degree	8	5.97
Completed bachelor's degree	28	20.90
Completed master's degree	12	8.96
Completed doctoral degree	5	3.73
Mother's educational level		
No formal education	12	8.96
Completed high school or GED	33	24.63
Completed associate's degree	11	8.21
Completed bachelor's degree	22	16.42
Completed master's degree	1	0.75
Completed doctoral degree	2	1.49
Father's educational degree		
No formal education	7	5.22
Completed high school or GED	32	23.88
Completed associate's degree	13	9.70
Completed bachelor's degree	25	18.66
Completed master's degree	9	6.72
Completed doctoral degree	4	2.99

Appendix E

Table 4

Hierarchical Linear Regression Analyses for Variables Predicting SEAA Mental Health (N = 134)

Variable	B	*SE B*	β	*t*	*p*	R^2	ΔR^2	*F*
Step 1								
STS	1.01	.36	.21	2.80	< .01**	.52	.53	37.08**
FS	.87	.37	.18	2.32	.02*			
IC	2.41	.33	.50	7.38	< .01**			
DC	-.34	.29	-.07	-1.17	.25			
Step 2								
STS	1.00	.37	.21	2.73	< .01**	.52	.02	17.23**
FS	1.10	.40	.23	2.78	< .01**			
IC	2.44	.33	.51	7.36	< .01**			
DC	-.28	.30	-.06	-.92	.36			
STS x FS	-.35	.34	-.07	-1.02	.31			
STS x IC	-.06	.38	-.01	-.15	.88			
STS x DC	-.19	.35	-.04	-.54	.59			
FS x IC	-.41	.32	-.09	-1.27	.21			
FS x DC	.02	.38	.004	.06	.96			

Note. STS = Secondary Traumatic Stress; FS = Financial Stress; IC = Indirect Coping; DC = Direct Coping; ** $p < .01$, * $p < .05$.

Appendix F

Table 5

Post Hoc Analyses: Hierarchical Linear Regression Analyses with Indirect Secondary Traumatic Stress (N = 134)

Variable	B	*SE B*	β	*t*	*p*	R^2	ΔR^2	*F*
Step 1								
I-STS	.75	.34	.16	2.20	.03*	.51	.52	35.55**
FS	1.05	.36	.22	2.87	< .01**			
IC	2.49	.33	.52	7.59	< .01**			
DC	-.37	.29	-.08	-1.27	.21			
Step 2								
I-STS	.67	.35	.14	1.95	.05	.51	.02	16.63**
FS	1.29	.39	.27	3.30	< .01**			
IC	2.47	.33	.51	7.44	< .01**			
DC	-.32	.30	-.07	-1.06	.29			
I-STS x FS	-.24	.34	-.05	-.70	.49			
I-STS x IC	-.32	.35	-.06	-.90	.37			
I-STS x DC	-.11	.31	-.02	-.34	.74			
FS x IC	-.37	.32	-.08	-1.17	.24			
FS x DC	-.03	.35	-.01	-.09	.93			

Note. I-STS = Indirect Secondary Traumatic Stress; FS = Financial Stress; IC = Indirect Coping; DC = Direct Coping; ** $p < .01$, * $p < .05$.

Appendix G

Table 6

Post Hoc Analyses: Hierarchical Linear Regression Analyses with Direct Secondary Traumatic Stress (N = 134)

Variable	B	*SE B*	β	*t*	*p*	R^2	ΔR^2	*F*
Step 1								
D-STS	.93	.36	.19	2.63	.01*	.52	.53	36.59**
FS	.96	.36	.20	2.64	< .01**			
IC	2.39	.33	.50	7.23	< .01**			
DC								
Step 2								
D-STS	1.00	.37	.21	2.69	< .01**	.53	.03	17.58**
FS	1.18	.37	.25	3.17	< .01**			
IC	2.43	.33	.50	7.31	< .01**			
DC	-.39	.30	-.08	-1.31	.19			
D-STS x FS	-.59	.35	-.13	-1.69	.09			
D-STS x IC	.54	.41	.10	1.33	.19			
D-STS x DC	-.01	.36	-.002	-.03	.98			
FS x IC	-.58	.31	-.13	-1.91	.06			
FS x DC	-.14	.41	-.03	-.34	.73			

Note. D-STS = Direct Secondary Traumatic Stress; FS = Financial Stress; IC = Indirect Coping; DC = Direct Coping; ** $p < .01$, * $p < .05$.

Appendix H

Table 7

Post Hoc Analyses: Hierarchical Linear Regression Analyses with Indirect and Direct Secondary Traumatic Stress (N = 134)

Variable	B	*SE B*	β	*t*	*p*	R^2	ΔR^2	*F*
Step 1								
I-STS	.46	.38	.09	1.21	.23	.52	.54	29.68**
D-STS	.73	.39	.15	1.86	.07			
FS	.84	.38	.18	2.24	.03*			
IC	2.38	.33	.50	7.23	< .01**			
DC	-.33	.29	-.07	-1.13	.26			
Step 2								
I-STS	.46	.39	.10	1.16	.25	.54	.04	12.75**
D-STS	.82	.42	.17	1.94	.05			
FS	.99	.40	.21	2.46	.02*			
IC	2.34	.33	.49	7.01	< .01**			
DC	-.40	.31	-.08	-1.29	.20			
I-STS x FS	.21	.43	.04	.49	.62			
D-STS x FS	-.80	.45	-.17	-1.79	.08			
I-STS x IC	-.81	.41	-.16	-1.96	.05			
I-STS x DC	-.18	.36	-.04	-.51	.61			
D-STS x IC	1.04	.49	.19	2.10	.04*			
D-STS x DC	-.01	.41	-.003	-.03	.97			
FS x IC	-.34	.32	-.08	-1.04	.30			
FS x DC	-.06	.41	-.01	-.14	.89			

Note. I-STS = Indirect Secondary Traumatic Stress; D-STS = Direct Secondary Traumatic Stress; FS = Financial Stress; IC = Indirect Coping; DC = Direct Coping; ** $p < .01$, * $p < .05$.

Appendix I

Secondary Traumatic Stress Scale Revised for SEAAs (STSS-29 items; Bride, Robinson, Yegidis, & Figley, 2004)

Instructions: We are interested on how your parent's pre-immigration trauma experiences have affected your life. Some pre-immigration trauma experiences may include forced relocation, torture or imprisonment in re-education camps, years in refugee camps, and/or death of loved ones. Please indicate your perceived stress level on how you experienced these things due to your parent's pre-immigration trauma experiences using the 1-5 scale below.

Perceived stress level:
1= not at all stressful
2= rarely stressful
3= sometimes stressful
4= often stressful
5 = always stressful

INTRUSION subscale (4 items)

1. I thought about my parent's trauma experiences when I didn't intend to (indirect)

2. I had dreams about my parent's trauma experiences

3. It seemed as if I was reliving the pre-immigration trauma experienced by my parents

4. Certain triggers reminded me of my parent's pre-immigration trauma experiences

AVOIDANCE subscale (10 items)

5. I avoided places that remind me of my parent's pre-immigration trauma experiences

6. I avoided things that remind me of my parent's pre-immigration trauma experiences

7. I avoided talking about my parent's pre-immigration trauma experiences

8. I had no feelings related to my parent's pre-immigration trauma experiences

9. I was emotionally numb when it came to my parent's pre-immigration trauma experiences

10. I had little interest in being with others (direct)

11. I avoided thinking about my parent's pre-immigration trauma experiences

12. I had trouble remembering important parts of my parent's pre-immigration trauma experiences

13. I felt discouraged about the future (direct)

14. I was less active than usual (direct)

AROUSAL subscale (6 items)

15. I had trouble concentrating (direct)

16. I had trouble sleeping or staying asleep (direct)

17. I was easily startled

18. I was super alert or on guard

19. I was easily irritated

20. I was withdrawn

EMOTIONAL DISTRESS subscale (9 items)

21. Reminders of my parent's trauma experiences upset me (indirect)

22. I felt guilty when I thought about my parent's pre-immigration trauma experiences (indirect)

23. I absorbed the pain of my parent's pre-immigration trauma experiences

24. I felt sad about my parent's pre-immigration trauma experiences (indirect)

25. I felt helpless about my parent's pre-immigration trauma experiences

26. I felt hopeless about my parent's pre-immigration trauma experiences

27. I worried about my parents when I thought about their pre-immigration trauma experiences (indirect)

28. I was distressed about my parent's pre-immigration trauma experiences (indirect)

29. I was concerned about my parent's pre-immigration trauma experiences (indirect)

Appendix J

Modified Economic Hardship Questionnaire (Lempers, Clark-Lempers, & Simons, 1989)

For the following 10 questions choose one of the answers listed below regarding the perceived stress level of the events:

1= not at all stressful
2= rarely stressful
3= sometimes stressful
4= often stressful
5 = always stressful

During the last 6 months, how often did you……how stressful was this for you (perceived stress)?

1) Cut back on social activities and entertainment expenses?

2) Postpone major household purchases?

3) Postpone clothing purchases?

4) Change transportation patterns to save money?

5) Change food shopping or eating habits to save money?

6) Cut back on charitable contributions?

7) Reduce household utility use?

8) Sell some possessions?

9) Postpone medical care to save money?

10) Take additional employment to help meet expenses?

Appendix K

Brief COPE (Carver, 1997; 28 items)

Instructions: We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. The following asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do.

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

Indicate what YOU usually do when YOU experience a stressful event.

1. I turn to work or other activities to take my mind off things.
2. I concentrate my efforts on doing something about the situation I'm in.
3. I say to myself "this isn't real."
4. **I use alcohol or other drugs to make myself feel better. (indirect)**
5. **I get emotional support from others. (direct)**
6. **I give up trying to deal with it. (indirect)**

7. I take action to try to make the situation better.

8. I refuse to believe that it has happened.

9. I say things to let my unpleasant feelings escape.

10. I get help and advice from other people. (direct)

11. I use alcohol or other drugs to help me get through it. (indirect)

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

13. I criticize myself. (indirect)

14. I try to come up with a strategy about what to do.

15. I get comfort and understanding from someone. (direct)

16. I give up the attempt to cope. (indirect)

17. I look for something good in what is happening.

18. I make jokes about it.

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

20. I accept the reality of the fact that it has happened.

21. I express my negative feelings.

22. I try to find comfort in my religion or spiritual beliefs.

23. I try to get advice or help from other people about what to do. (direct)

24. I learn to live with it.

25. I think hard about what steps to take.

26. I blame myself for things that happened. (indirect)

27. I pray or meditate.

28. I make fun of the situation.

Appendix L

The Kessler Psychological Distress Scale (K-6; Kessler et al., 2003; 6 items)

INSTRUCTIONS: The following questions ask about how you have been feeling during the past 30 days. For each question, please circle the number that best describes how often you had this feeling. Your responses are confidential so please answer as honestly as possible using the rating scale below:

1 = All of the time
2 = Most of the time
3 = Some of the time
4 = A little of the time
5 = None of the time

During the past 30 days, about how often did you feel…

1. …nervous?
2. …hopeless?
3. …restless or fidgety?
4. …so depressed that nothing could cheer you up?
5. …that everything was an effort?
6. …worthless?

Appendix M

Demographics

1. Sex (1 = female; 2 = male, 3 = other- specify)

2. Age _____

3. Please indicate your Asian ethnic group (please select all that apply):

    1. Cambodian

    2. Hmong

    3. Laotian

    4. Vietnamese

    5. Other Asian ethnic group (specify):_____

4. Which do you consider to be most appropriate in describing your generational status:

    a. 1st Generation = I was born in an Asian country and came to the U.S. as an adult

    b. 1.5 Generation = I was born in an Asian country and came to the U.S. as a child or adolescent

    c. 2nd Generation = I was born in the U.S., either parent was born in an Asian country

    d. 3rd Generation = I was born in the U.S., both parents were born in the U.S., and all grandparents were born in an Asian country

    e. 4th Generation = I was born in the U.S., both parents were born in the U.S., and at least one grandparent was born in an Asian country and one grandparent was born in the U.S.

f. 5th Generation = I was born in the U.S., both parents and all grandparents were also born in the U.S.

g. Don't know what generation best fits since I lack some information

h. Other (Please specify): _____

5. Please indicate the **highest** level of education that you have completed:

a. Started but did not complete high school, general education degree (GED), or equivalent

b. Completed high school, general education degree (GED), or equivalent

c. Started but did not complete associate's degree from 2-year college or technical school

d. Completed associate's degree from 2-year college or technical school

e. Started but did not complete bachelor's degree from 4-year college or technical school

f. Completed bachelor's degree from 4-year college or university

g. Started but did not complete master's degree

h. Completed master's degree

i. Started but did not complete doctoral degree

j. Completed doctoral degree

k. Other (Please specify):_____

6. Please indicate your current status:

a. Full time student

b. Full time student and working part-time

c. Part time student and working full time

d. Working full time

e. Working part-time

f. Unemployed

g. Other (Please specify):_____

Validity/Attention Check Items

1. For this question, please select "Not Applicable" (One, Two, Three, Not Applicable)

2. For this question, please select "No" (Yes, No)

Additional Demographic Items

1. If **<u>your parent(s)</u>** were born outside of the United States (U.S.), please indicate whether they experienced any pre-immigration trauma experiences before migrating to the U.S. (These experiences may include forced relocation due to war and persecution, fear and safety concerns, torture or imprisonment in re-education camps, years in refugee camps, and/or death of loved ones).

a. Not applicable, my parents were born in the U.S.

b. No, my parents were born outside of the U.S. but did not experience any pre-immigration trauma experiences

c. Yes, my parents experienced pre-immigration trauma experiences before migrating to the U.S.

c. Unsure if my parents experienced any pre-immigration trauma experiences

d. Other (please specify):_____

2. If **<u>your parent(s)</u>** experienced pre-immigration trauma experiences, please indicate whether they experienced any of the following **(please indicate all that apply):**

a. Not applicable, my parents did not experience any pre-immigration trauma experiences

b. Don't know if my parents experienced any of the following experiences

c. Forced relocation due to fear and safety concerns

d. Being a victim of physical and/or emotional torture

e. Having immediate knowledge of forced separation, torture, imprisonment, or murder of family members or loved ones

f. Spent year(s) in refugee camps (specify number of years):_____

g. Had family member(s) who died during their migration to the U.S. (specify number of family members):_____

h. Death or loss of spouse during their migration to the U.S.

i. Endured traumatic experiences before migrating to the U.S. (please specify):

_____

3. If your parents were born in an Asian country before coming to the U.S., what year did they arrive to the U.S? :_____

4. If you were born in an Asian country before coming to the U.S., what year did you arrive to the U.S.? :_____

5. Do you or members of your household currently receive public assistance (e.g., food stamps, welfare, etc.): yes/no: _____

6. If you are working, please indicate your estimated annual salary. If you are currently still in school, please type in your family's estimated annual salary:

_____

7. Please indicate the **highest** level of education that your **mother** (or guardian 1) completed:

a. No formal education
b. Started but did not complete elementary or equivalent
c. Completed elementary or equivalent
d. Started but did not complete junior high/middle school or equivalent
e. Completed junior high/middle school or equivalent
f. Started but did not complete high school, general education degree (GED), or equivalent
g. Completed high school, general education degree (GED), or equivalent
h. Started but did not complete associate's degree from 2 year college or technical school
i. Completed associate's degree from 2 year college or technical school
j. Started but did not complete bachelor's degree from 4 year college or university
k. Completed bachelor's degree from 4 year college or university
l. Started but did not complete master's degree

m. Completed master's degree

n. Started but did not complete doctoral degree

o. Completed doctoral degree

p. Other: please specify:

8. Please indicate the **highest** level of education that your **father** (or guardian 2) completed:

q. No formal education

r. Started but did not complete elementary or equivalent

s. Completed elementary or equivalent

t. Started but did not complete junior high/middle school or equivalent

u. Completed junior high/middle school or equivalent

v. Started but did not complete high school, general education degree (GED), or equivalent

w. Completed high school, general education degree (GED), or equivalent

x. Started but did not complete associate's degree from 2 year college or technical school

y. Completed associate's degree from 2 year college or technical school

z. Started but did not complete bachelor's degree from 4 year college or university

aa. Completed bachelor's degree from 4 year college or university

bb. Started but did not complete master's degree

cc. Completed master's degree

dd. Started but did not complete doctoral degree

ee. Completed doctoral degree

ff. Other: please specify:

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