RESILIENCE-RELATED OUTCOMES AMONG WAR-AFFECTED ARAB REFUGEES IN THE U.S.

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DEDICATION

I would like to dedicate this dissertation to refugees worldwide who go through many difficulties, but still have hope and fight for a better future.

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Sara Makki Alamdari

RESILIENCE-RELATED OUTCOMES AMONG WAR-AFFECTED ARAB REFUGEES IN THE U.S.

Refugees undergo different kinds of stressors between fleeing their home country and resettling in a new one. Most studies have examined negative aspects of the refugee experience such as mental disorders or resettlement challenges. Building on strengths-based approach, the purpose of this study is to examine resilience-related outcomes. This researcher believes that refugees demonstrate adaptive and positive outcomes in the face of adversities. For this purpose, resilience-related outcomes are conceptualized as local language improvement and social connections in the host country. Using the stress coping model, trauma theory, and resilience theory, this research examines these adaptive outcomes in association with experienced war-trauma and post-migration stressors among Arab-speaking war-affected refugees in the U.S. This researcher recruited 130 participants through mosques and resettlement agencies in Indianapolis. Participants completed a paper-based survey. The researcher conducted several hierarchical regression analyses and found not strong social connections and local language proficiency among the participants. Participants applied problem-focused coping strategies more than other types of strategies. There was a considerable probability of PTSD. Health status and stay length significantly predicted social connections and English language proficiency. In addition, education was found as a significant factor in improving language proficiency. The analysis indicated that problem-focused and emotion-focused coping strategies buffer the negative effects of war trauma and feeling of loss on social connections. The study revealed negative impact of dysfunctional coping

strategies on potential PTSD among the participants. Implications for social work practice, education, and policy, as well as, recommendations for future studies are discussed.

Hea-Won Kim, Ph.D., Chair

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Chapter 1: Introduction

By the end of 2017, there were 68.5 million forcibly displaced individuals living worldwide (United Nations High Commissioner for Refugees [UNHCR], 2018a). Among those forcibly displaced, 25.4 million were refugees (UNHCR, 2018a). According to the UNHCR (2018b), a refugee is defined as someone:

> who has been forced to flee his or her country because of persecution, war, or violence. A refugee has a well-founded fear of persecution for reasons of race, religion, nationality, political opinion or membership in a particular social group. Most likely, they cannot return home or are afraid to do so. War and ethnic, tribal and religious violence are leading causes of refugees fleeing their countries (p.1).

In 2017, the top five source countries of refugees were the Syrian Arab Republic, Afghanistan, South Sudan, Myanmar and Somalia, covering around 70% of refugees worldwide (UNHCR, 2018a). The top three host countries at the end of 2017 were Turkey (3.5 million), Pakistan (1.4 million), and Uganda (1.4 million) (UNHCR, 2018a).

Among different groups of refugees, Arab war-affected refugees resettled in the U.S. are the population of interest for this research. Arab countries recently affected by war include Syria, Iraq, Lebanon, Palestine, Sudan, South Sudan, Yemen, Kuwait, Libya and Somalia (Wikipedia, 2018). Since 2004 by the end of 2016, more than 813,000 refugees arrived to the U.S. (U.S. Department of Homeland Security, 2014; 2017). Thirty-three percent, more than 264,000, of this number were originally from Syria, Iraq, Kuwait, Somalia, South Sudan, Sudan, and Yemen (U.S. Department of Homeland Security, 2014; 2017). It is notable that in the reports of the U.S. Department of Homeland Security, there was no specific line for refugees from Libya, Lebanon, Palestine or Gaza Strip. That is, the proportion of refugees from Arab war-affected

countries is more than 33%. This number is significant and highlights the importance of studying these groups of refugees.

Each refugee goes through a unique pathway after fleeing their home country, and depending on that specific pathway, he or she undergoes many kinds of stressors in different phases (Doski, 2018). In their home country, they experience violence, torture or war trauma. Fleeing their home country, crossing the border illegally, staying in neighboring countries and camps, and going through the asylum-seeking process all impose additional severe stressors (Doski, 2018; Livingood, n.d.). Some refugees are resettled in a third country. Though granted permanent settlement, they often experience acculturation and resettlement stressors (Betancourt et al., 2015). Most refugees never get resettled in a third country (UNHCR, n.d.), and stay in neighboring countries for a long time. These neighboring countries are mainly developing countries, which already struggle with structural economic, social, and political issues (Ramazzotti & Gravina, 2013). These structural issues affect available resources for supporting refugees, which can lead to less favorable settings for refugees' well-being. By the end of 2017, most of the refugees, almost 85%, were hosted in the developing world (UNHCR, 2018a). Like refugees resettled in the developed countries, those hosted in developing countries struggle with many challenges, however with more severity. Some of these challenges include the lack of access to health services, social welfare services, legal status, education system, legal job and employment opportunities, and freedom of movement (Center for Victims of Torture, 2015; Dako-Gyeke & Adu, 2017).

These challenges and stressors impose significant effects on refugees' health and well-being. The high prevalence of stress-related mental disorders among conflict-

affected populations provides clear evidence of the serious adversities they endure. Psychological disorders like posttraumatic stress disorders (PTSD) and depression can occur in any given society, but the prevalence of these disorders is higher in a conflict-affected context because of severe stressors and hopelessness (Atwoli, Stein, Koenen, & McLaughlin, 2015; Baingana & Bannon, 2003; Charlson et al., 2016; Fazel, Wheeler, & Danesh, 2005; Ghosh, Mohit, & Murthy, 2004; WHO, 2011). Addressing the large variability in reported rates of mental disorders, Fazel et al. (2005) conducted a meta-analysis of approximately 7,000 refugees living in developed countries. This meta-analysis showed that among adult refugees, the prevalence of PTSD and major depression were 9% and 5%, respectively (Fazel et al., 2005). Calculating the adjusted pooled prevalence of PTSD and major depression among general conflict-affected populations and refugees in low- and middle-income countries, a meta-analysis implemented by Charlson et al. (2016) indicated a 12.9% prevalence for PTSD and 7.6% for major depression (Charlson et al., 2016). In addition, WHO (2011) reported that the prevalence of depression and PTSD among populations affected by mass conflict are 17% and 15%, respectively. These reported rates are higher than the global mean of major depression (3.5%) and anxiety disorders (3.7%) (Global Burden of Disease Study 2013 Collaborators, 2015), and highlight the importance of understanding the mental well-being of refugees.

Study Rationale

Most researchers studying refugees' stressors have focused on prevalence and risk factors of psychiatric problems such as anxiety, depression, and PTSD (Betancourt et al., 2015; Bhui et al., 2012; Bishop & Makki Alamdari, 2018; Nickerson et al., 2014;

Palmieri, Galea, Canetti-Nisim, Johnson & Hobfoll, 2008; Pedersen, Tremblay, Errázuriz, Gamarra, 2008; Steel et al., 2009; Summerfield, 1999; Thomas, Roberts, Luitel, Upadhaya, & Tol, 2011). High emphasis on pathology and mental disorders in studies of refugees is problematic, considering that as a result of experiencing an adversity, different pathways may happen ranging from resilience, post-traumatic growth, and recovery to chronic or delayed pathology (Bonanno, 2012; Connor & Davidson, 2003). Showing mental health problems is an extreme condition, and resilience is the opposite extreme (Yehuda & Flory, 2007) and the most common outcome (Bonanno, 2012; Le Brocque, Hendrikz, & Kenardy, 2009). That is, many people show positive emotions and a low degree of disruption in their functioning in relationships and work after an aversive event (Bonanno, 2004). Interestingly, among refugees, adaptive functioning is more typical than pathology (Summerfield, 1999).

Therefore, more studies are needed to investigate pathways other than pathology in the face of adversity experienced by refugees. To address this need, the researcher of this study intends to examine resilience in the face of stressors and its outcomes. Resilience is defined as a coping resource and a personality characteristic that enables one to overcome adversity and bounce back to life (Connor & Davidson, 2003). The term "resilience-related outcome", used in this research, is derived from the study of Yehuda and Flory (2007). A "resilience-related outcome" is the objective outcomes a person demonstrates so to be considered a resilient person. Different researchers have defined evidence or outcome of resilience differently. For example, life satisfaction, absence of negative emotions, anger control, forgiveness, accomplishing age-appropriate developmental tasks, functioning, health status, happiness, and social integration are

interpreted as evidence or outcome of resilience (Afifi & MacMillan, 2011; Bonanno, 2004; Cicchetti, 2003; Luthar, Cicchetti, & Becker, 2000; Masten & Powell, 2003; Vanderbilt-Adriance & Shaw, 2008). In the next chapters, resilience-related outcomes will be discussed in the context of refugees.

Ethical Obligations and Policies to Study Resilience among Refugees

Studying resilience among refugees is important in terms of ethical obligations of the social work profession, international policies, and frameworks. Examining resilience aids in understanding how vulnerable populations walk through extreme life challenges, which ultimately allows professionals, agencies, and government to better support them in this endeavor. Resilience helps individuals move forward and adapt to life despite experiencing such adversities, protects individuals from choosing unhealthy coping mechanisms like substance and alcohol abuse, and prevents them from developing mental disorders like PTSD, depression, and anxiety (Agaibi & Wilson, 2005; Bonanno, 2004; Connor & Davidson, 2003; Hoge, Austin, & Pollack, 2007; Luthar et al., 2000; Rutter, 1987; Windle, 2011). The necessity of this study is further supported when one considers the mutual relation of resilience and health (Friedli, 2009), in addition to social work's values, health-related policies and frameworks such as Universal Declaration of Human Rights.

Social Work's Ethical Obligation

According to the *National Association of Social Workers Code of Ethics* (2008), providing services for people in need (e.g., conflict-affected populations and refugees) is the primary goal of the social work profession. War-affected populations face a considerable number of difficulties that could benefit from social work service.

Challenging social injustice, social workers have a responsibility to support social change to make the world a more just and peaceful place especially for oppressed, vulnerable, and ethnically diverse groups like refugees and civilians affected by political violence.

Moreover, valuing the dignity of individuals and having a professional obligation to enhance individuals' self-determination, social workers should help conflict-affected populations strengthen their capacities to bounce back to life and prevent mental disorders. In addition, ameliorating relationships and social support networks among conflict-affected populations that help promote life quality is consistent with the social work core value of human relationships. Finally, providing culturally-sensitive interventions for culturally diverse groups like refugees from low- and middle- income countries or war-affected civilians is an ethical responsibility for social workers. Therefore, understanding the factors increasing refugees' resilience will help not only direct social work practice in serving this vulnerable population, but also inform policy-making decisions at national levels to protect this group's well-being as well as integration in new communities.

International Policies and Frameworks

Rights-based approach. In this study, applying a rights-based approach is beneficial because it recognizes every human being including refugees as a right-holder and places the responsibility on multiple stakeholders. The rights-based approach is grounded in humanities and proposes that social workers should go beyond conservative law, and keep in mind the importance of universal entitlements and human rights normative frameworks (Gabel, 2015; Ife, 2016). Despite similarities with the strengths-based approach, a rights-based intervention goes beyond strengths and highlights the

importance of transformation, empowerment, and advocacy to change policies (Gabel, 2015; Ife, 2016). It also emphasizes the governments' accountability in providing and protecting individuals and groups with their rights (Gabel, 2015; Ife, 2016). This approach is in divergence with conservative arguments such as needs- and charity-based approaches, which emphasize merely addressing needs based on the fact that individuals deserve the help (Gabel, 2015; Ife, 2016). In the needs-based approach, solutions are provided based on the values and choices of authorities and professionals rather than the values of those in need. Furthermore, human services are developed in response to a deficiency not a violation of rights. A rights-based approach is radical, since it puts an emphasis on providing service, not because individuals need or deserve services, but because that is their right (Ife, 2016).

Universal Declaration of Human Rights. Universal principles of human rights should be considered in a rights-based approach (Gabel, 2015) because they create an enabling policy environment in which rights are part of an intervention. In this way, the *Universal Declaration of Human Rights* is critical. As stated in *Article 25* of *the Declaration* (United Nations [UN], 1948), everyone has the right to access standard health requirements including social services and medical care. In this vein, Farmer and Gastineau (2002) proposed "a new agenda for health and human rights" (p.237). This agenda suggests making health the symbolic center of the agenda and provision of health services a basic right (Farmer & Gastineau, 2002). In this way, health professionals including social workers should engage in a human rights framework (Farmer & Gastineau, 2002). The agenda also highlights the importance of a new research agenda around health-related issues such as research on the health effects of mass conflict, and

goes beyond only studying, and puts emphasize on pragmatic and meaningful interventions (Farmer & Gastineau, 2002). A human rights framework also provides an opportunity for social workers to create social change and help the oppressed resist a system of oppression through building both personal and political power (Jayasooria, 2016; Jewell, Collins, Gargotto, & Dishon, 2009). Thus, providing services to conflict-affected populations to improve their adaptation to life, resilience, and mental health while preventing the develop of mental disorders is consistent with human rights declarations and professional values of social work.

Mental Health Action Plan, World Health Organization (WHO). Because of the strong association between resilience and mental health, examining international mental health policies/programs is important. Demonstrating the goal "to promote mental well-being, prevent mental disorders, provide care, enhance recovery, promote human rights and reduce the mortality, morbidity and disability for persons with mental disorders" (p.9), the WHO developed the *Mental Health Action Plan 2013-2020* (WHO, 2013). Highlighting serious physical and mental health consequences of continuing conflicts, this action plan makes specific recommendations for the role of "Member States, international and national partners and the Secretariat" (p.11) during humanitarian emergencies like natural disasters and armed conflicts. These actions include providing comprehensive and responsive community-based mental health services through working with mental health providers and national emergency committees to address trauma and promote resilience (WHO, 2013). At this point, it is important to indicate that the WHO mental health resolutions EB109.R8 as well as WHA55.10 represent "support for implementation of programs to repair the psychological damage of war, conflict and

natural disasters" (p.2), and "to strengthen action to protect children from and in armed conflict" (p.2) (WHO, 2002a; 2002b).

Inter-Agency Standing Committee (IASC), United Nations (UN). Other humanitarian actors have also paid attention to the mental health needs of populations in emergencies. In 1992, the IASC started its work as a mechanism to improve collaboration among the UN and non-UN agencies in emergency settings. IASC was a response to the "UN General Assembly Resolution" (p. ii) regarding promoting humanitarian activities (IASC, 2007). The IASC Task Force on Mental Health and Psychosocial Support (MHPSS) in Emergency Settings developed a guideline in 2007 to provide support for humanitarian organizations in planning and implementing minimum multi-sectoral essential services to improve the mental well-being of populations affected by emergencies and disasters (IASC, 2007; Rubenstein & Kohli, 2010).

Principles underlined by this guideline include human rights, evidence-based interventions, local resources promotion, attention to local context, and integrating the activities in other support systems and services (IASC, 2007; Rubenstein & Kohli, 2010). MHPSS services are now requirements for any humanitarian interventions (IASC, 2007). For example, in a 2013 global review, the UNHCR as a member of the taskforce mentions that "UNHCR's global protection mandate should include addressing the MHPSS needs of the people they serve [including refugees, displaced individuals and asylum seekers]" (Meyer, 2013, p.11). Highlighting the overlap between mental health and the UNHCR's responsibility for protection, the necessity of integration of MHPSS services in UNHCR's activities to promote its target population's well-being is acknowledged (Meyer, 2013).

UN Global Compact. Moreover, according to the 2018 UN's global compact and its objectives to "enhance refugees' self-reliance" and to "expand access to third country solutions" (UN, 2018, p.8), social workers have a responsibility to become local, national and international advocates to transform mental health services and policies. The UN global compact calls on mobilization of political will, more sustained and equitable contributions among stakeholders, and broader support (UN, 2018). International solidarity and humanity are underpinning principles of the UN global compact seeking burden and responsibility-sharing among stakeholders to better assist host countries, protect refugees, and strengthen cooperation (UN, 2018). International instruments including international humanitarian law and international human rights guide the global compact (UN, 2018).

World Bank's mission and UN Sustainable Development Goals. Finally, considering the strong interrelationships among poverty, human development, social capital, and mental health (Baingana, Bannon, & Thomas, 2005; Thomas, 2003), promoting mental health and resilience is consistent with the World Bank mission of poverty-reduction as well as with the UN' Sustainable Development Goals (SDGs; Sachs, 2012; UN Department of Public Information, 2017). These goals strongly emphasize ending poverty (UN, 2015; UN Department of Public Information, 2017). If individuals cannot bounce back to life after adversities like mass conflict, their declining mental conditions decrease the population's motivation and capacity to work, participate in society, and trust in others (Baingana et al., 2005; Jayasooria, 2016).

Chapter 2: Theoretical Frameworks

The theoretical framework for this research is built on three theories: stress and coping model, trauma theory, and resilience theory. The stress and coping model examines the relation of stressful events and outcomes through two mediators of cognitive appraisal and coping (Lazarus & Folkman, 1984a). This researcher uses two other theories to elaborate potential outcomes of a stressful event. That is, trauma theory will add to this model by looking at the processes through which mental status and brain function are negatively affected by traumatic and stressful experiences. In contrast, the resilience theory examines how some individuals do not develop negative outcomes and adapt to life.

Stress and Coping Model

The theory of psychological stress and coping explains relations between stressful person-environment encounters and immediate or long-term outcomes (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, Kanner, & Folkman, 1980; Lazarus & Folkman, 1984a). The theory specifies two processes including cognitive appraisal and coping that mediate between stress and outcomes (Folkman et al., 1986; Lazarus & Folkman, 1984a). Cognitive appraisal is the subjective interpretation of the event and happens through two different evaluative processes (Folkman et al., 1986; Pakenham, 1999). First, through primary appraisal, a person experiencing stress assesses if the person-environment transaction has potential harm, threat, controllability or benefit for the person's or his/her beloved' ones' well-being, growth, health, values, and goals (Folkman et al., 1986; Lazarus et al., 1980). Through secondary appraisal, the person evaluates what can be done to prevent or overcome the potential harm or to improve

benefits (Folkman et al., 1986). For example, coping strategies are evaluated through this appraisal process (Folkman et al., 1986).

Further, coping is the person's cognitive and behavioral efforts to deal with demands of the stressful encounter (Lazarus & Folkman, 1984b). These efforts are process-oriented, changing constantly as the stressful event develops (Folkman et al., 1986). In addition, coping is contextual, and is influenced by the person's ongoing evaluation of demands and resources (Folkman et al., 1986; Lazarus & Folkman, 1984b). Coping strategies can be grouped into two major categories of problem-focused or emotion-focused strategies (Lazarus & Folkman, 1984b; Pakenham, 1999). The former category presents the coping strategies directed to alter the source of stress, while the emotion-focused category refers to coping styles aimed at regulating and reducing stressful emotions (Folkman et al., 1986; Lazarus & Folkman, 1984b; Pakenham, 1999).

The stress coping model is similar to the conceptual framework used by Pearlin, Mullan, Semple, and Skaff (1990) in studying the stress process of caregiving. Pearlin et al. (1990) state that the stress process is complex and consists of four domains: the context and background, the stressors, the mediators, and the manifestations of stress. The context of stress could include individual or family-related factors such as socioeconomic status and gender (Pearlin et al., 1990). Pearlin et al. (1990) mention coping and social support as principal mediators affecting the potential outcomes of stressors. They also articulate that manifestations or outcomes of the stress can be related to people's well-being, health, and social roles (Pearlin et al., 1990).

The stress coping model and Pearlin et al.'s (1990) framework were beneficial for this study because both examined the connection of stress and trauma with outcomes

through the coping process and social support. However, this researcher used this model somewhat differently. First, the researcher focused only on coping strategies. Examining social support was beyond the scope of this study. For this research, three categories of emotion-focused, problem-focused, and dysfunctional coping strategies were used (Carver, Scheier, & Weintraub, 1989). Emotion-focused strategies such as acceptance, positive reinterpretation, religion, and humor are aimed at reducing distress and predominant when one feels the stressor is something that must be tolerated (Carver et al., 1989). These strategies can be helpful when the situation is beyond the control of individuals (Lazarus & Folkman, 1984b). Problem-focused strategies such as planning, active coping, and use of instrumental support are aimed at doing something to alter the source of problem and predominant when one feels something constructive can be done to address the root causes of the problem using problem-solving skills (Carver et al., 1989; Penley, Tomaka, & Wiebe, 2002). According to Carver et al. (1989), having two categories of problem- versus emotion-focused is too simple. Some emotion-focused strategies are less helpful such as denial, mental disengagement, and venting, while others involve positive meaning making such as positive thinking (Carver et al., 1989). Therefore, they suggest the use of a third category called dysfunctional coping strategies, which are maladaptive and not very useful. Many studies put dysfunctional and emotion-focused strategies together (Lazarus & Folkman, 1984b; Pakenham, 1999), which is not accurate. Thus, different from the original model developed by Lazarus and Folkman (1984b), this research considered three categories of coping strategies.

Second, this model emphasizes on coping strategies as only mediator. The literature shows that coping strategies can also moderate between stressors and outcomes.

While mediators examine why and how the relationship between stressors and outcomes exists, moderators explain the strength of this relationship (Bennett, 2000). The current study is interested in examining coping strategies as a moderator to see how different categories of coping may act as a buffer between refugees' stressors and potential outcomes. Many studies examined coping strategies as moderators (Chao, 2012; Dardas & Ahmad, 2015; Lilly, & Graham-Bermann, 2010; Rantanen, Mauno, Kinnunen, & Rantanen, 2011). For example, Dardas and Ahmad (2015) examined coping strategies as moderators between stressors and quality of life among caregivers of children with autism and found problem-focused coping strategies including "escape avoidance" and "seeking social support" as amplifiers of quality of life. In a study of college students in the U.S., Chao (2012) studied dysfunctional coping strategies such as watching TV and venting as a moderator between stressors and well-being and demonstrated their deteriorating effects. Using three categories of emotion-, problem-, and avoidance-focused strategies, Rantanen et al. (2011) looked at moderating effects of coping strategies between life-work conflict and individuals' well-being in Finland and found emotion-focused strategies such as positive thinking buffered against job dissatisfaction. Buffering effects of emotion-focused coping such as self-controlling against PTSD were also found among survivors in the presence of high intimate partner violence (Lilly & Graham-Bermann, 2010). Only a few studies examined buffering effects of coping strategies among refugees and immigrants (Wei, Heppner, Ku, & Liao, 2010). For example, in a study of Asian Americans in the U.S., Wei et al. (2010) reported low use of reactive coping strategies as a moderator reducing the strength of relationship between racial discrimination and depression. Considering the limited number of studies regarding

this group, examining moderating effects of coping strategies among refugees is critical. This can also help social workers identify what kind of coping strategies are more effective in practice with refugees.

The stress coping model can be applied for the context of refugees. In studying war-affected refugees, stressors include war-related trauma, transition difficulties before resettlement in a third country, and post immigration stressors (Baingana & Bannon, 2003; Makki Alamdari, 2020b; Sulaiman-Hill & Thompson, 2012; Yakushko, Watson, & Thompson, 2008). To deal with these stressors, many different kinds of coping strategies have been reported by refugees including active problem solving, religion and spirituality, acceptance, denial, and distraction (Dako-Gyeke & Adu, 2017; Seguin & Roberts, 2017). In the face of these stressors, refugees manifest both negative and positive outcomes (Palmieri et al., 2008; Pedersen et al., 2008). One limitation of stress coping model is the lack of articulating the kind of outcomes we may expect. Researchers may look at a broad range of potential outcomes. To address this limitation, in the current study, two other theoretical frameworks were explained in this chapter. Trauma theory helps explain how stressors may lead to negative manifestations such as mental disorders among refugees (Caruth, 1996). Interestingly, studies show that positive outcomes are more predominant among refugees (Schweitzer, Melville, Steel, & Lacharez, 2006; Summerfield, 1999). Thus, the researcher is interested in examining mainly positive outcomes, and for this purpose, resilience theory is presented in this chapter.

Trauma Theory: Biological Explanation of Mental Disorders Development in the Face of Trauma

Caruth (1996) and Felman and Laub (1992) are the pioneers of theorizing trauma and introducing trauma theory to the humanitarian community (Radstone, 2007) in the late 20th century. Connecting memory with brain functioning, rather than with the unconscious as argued by Freud, this theory goes through and beyond clinical work about the experiences of trauma survivors and psychoanalysis, and provides a biological explanation for trauma response (Caruth, 1996; George, 2010; Herman, 1992; Radstone, 2007).

The *American Psychiatric Association (APA)'s Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) defines PTSD as a mental condition that may be developed by experiencing or witnessing overwhelming, stressful, and terrifying events for oneself, family member or close friend (APA, 2013). According to DSM-5 and *International Statistical Classification of Diseases and Related Health Problems 10* (ICD-10), these traumatic events might be accidental or they may be premeditated violence: death, rape, war, serious injury or natural disaster (APA, 2013; WHO, 2014). Caruth (1996) defines PTSD as "an overwhelming experience of sudden or catastrophic events in which the response to the event occurs in the often uncontrolled, repetitive appearance of hallucinations and other intrusive phenomena" (p. 57). Traumatic amnesia and dissociated memory are some biological symptoms of experiencing a horrifying event (Herman, 1992; Radstone, 2007).

Trauma theory pays attention to different aspects such as referentiality, history, and inter-subjectivity (Radstone, 2007). Affecting memory, a traumatic event is related to

suspended representation of the event in the brain or "absence of traces" (Caruth, 1996; Radstone, 2007, p.12). Flashbacks in a traumatized person's brain do not represent the experienced trauma; rather, they present an event, which is not integrated into the person's consciousness (Caruth, 1995; Herman, 1992; Radstone, 2007; Suleiman, 2008). Among different forms of trauma theory, Mollica's theory (1999; 2006) of refugees' trauma is noteworthy (George, 2010). Highlighting natural and innate forces within trauma victims for self-healing, refugee trauma survivors can heal and bounce back through narratives, storytelling, and interpretation of their traumatic experiences (George, 2010; Mollica, 2006).

One criticism of this theory is that it does not clarify which events are traumatic, making the analysis of trauma problematic (Radstone, 2007). To address this challenge, it is critical to keep in mind refugees' unique and complex experiences in several phases of their transition to a new life. For example, refugees not only lose their loved ones and belongings in their home country, but also start a difficult journey to find a new home (Doski, 2018). Furthermore, once in the new home, they must deal with integration and resettlement challenges (Doski, 2018). Another limitation is that trauma theory focuses on micro and biological aspects of trauma, and ignores environmental factors. It also does not explain why some trauma-exposed people develop PTSD or mental disorders, and others do not (Hoge et al., 2007; Yehuda & Flory, 2007). In this case, resilience theory can help address this issue.

Resilience Theory

In contrast to risk factors and consistent with the strengths-based approach (Saleebey, 1996), resilience theory provides a unifying framework of processes,

strengths, and positive factors enabling individuals at risk to adapt to life after adversities (Garmezy, 1993; Yates & Masten, 2004; VanBreda, 2001; Zimmerman, 2013). Resilience theory indicates that positive factors distributed across ecological levels contribute to understanding why and how individuals overcome adversity or mature in spite of risk situations (Garmezy, 1993; Yates & Masten, 2004; Zimmerman, 2013).

There are three major resilience models including the compensatory, protective, and challenge models. These models explain how protective and promotive factors operate (Fleming & Ledogar, 2008; Zimmerman, 2013). In the compensatory model, resilience factors directly and independently decrease/neutralize risk impacts. The protective model highlights positive factors that either reduce the negative impact of risk indirectly or contribute to resilience through another positive factor. Finally, in the challenge model, initial modest risk factors contribute to the development of coping skills through challenging the individual at risk (Fergus & Zimmerman, 2005; Fleming & Ledogar, 2008; Rutter, 1987; Zimmerman, 2013).

It is important to understand that resilience factors are strongly dependent on context, time (e.g., phase of conflict), and culture (Attanayake et al., 2009; Tol, Song, & Jordans, 2013). Resilience factors can be found in one's personality, family, or social environment (Garmezy, 1993; Rutter, 1990; Windle, 2011). Fergus and Zimmerman (2005) and Windle (2011) refer to the resilience factors within individuals as *assets*, and those in their environment as *resources*. Assets include childhood/psychological development, personality characteristics such as optimism, cognitive skills, and hardiness (Agaibi & Wilson, 2005; Hoge et al., 2007; Rutter, 1987; VanBreda, 2001). Coping mechanisms also are another example of assets (Agaibi & Wilson, 2005; Hoge et al.,

2007). Resources can include social support received from different sources such as family or community.

Resilience factors come in two types. *Protective* factors are associated with protecting individuals from developing mental disorders like PTSD symptoms (Hoge et al., 2007; Tol et al., 2013; Windle, 2011). *Promotive* factors are related to achieving positive outcomes and adaptation (Tol et al., 2013; Windle, 2011). For example, social support can be a protective factor when it prevents developing mental disorders, but it can also be a promotive factor when it enhances positive adjustment. Resilience factors are not exactly the converse of risk factors. For example, although childhood developmental disorders are risk factors, this does not mean that lacking these disorders is a resilience factor (Hoge et al., 2007).

Highlighting many different processes and factors, resilience theory can be criticized for ambiguity. This theory does not explain how the resilience process is different in the face of different traumatic events (Luthar et al., 2000). Studying aboriginal adolescents, Burack, Blidner, Flores, and Fitch (2007) criticized the linearity of the theory. Burack et al. (2007) stated that resilience theory does not take into an account real-world complexities. Finally, by only underlining strengths, this theory sometimes ignores essential risk factors.

In spite of these limitations, resilience theory can be helpful in explaining how some refugees overcome extreme traumatic experiences and reach positive outcomes. This is important, since studies demonstrated the strength of conflict-affected individuals and refugees. Despite serious violence exposure, Barrios Suarez (2013) underlined the striking resilience among adult Quechua women affected by armed conflict during their

childhood. In an ethnographic study of four single mother refugees from conflict-affected Sudan, Burundi, and Democratic Republic of Congo who resettled in Australia, Lenette, Brough, and Cox (2013) indicated that resilience among refugees is generally evidenced because of overcoming many difficulties such as poverty, language obstacles, and integration in a new community (Lenette et al., 2013). Chung, Hong, and Newbold (2013) highlighted the significant individual capacity of single women refugees in Canada to adapt to daily life through staying strong. Although some refugees experience severe adversities, many do not develop long-term mental issues and are very resilient (Schweitzer et al., 2006; Schweitzer, Greenslade, & Kagee, 2007; Steel, Silove, Phan, & Bauman, 2002; United States Committee for Refugees and Immigrants, 2000). Resilience theory can help explain why and how refugees survive against serious adversities and achieve positive outcomes such as adaptation to life.

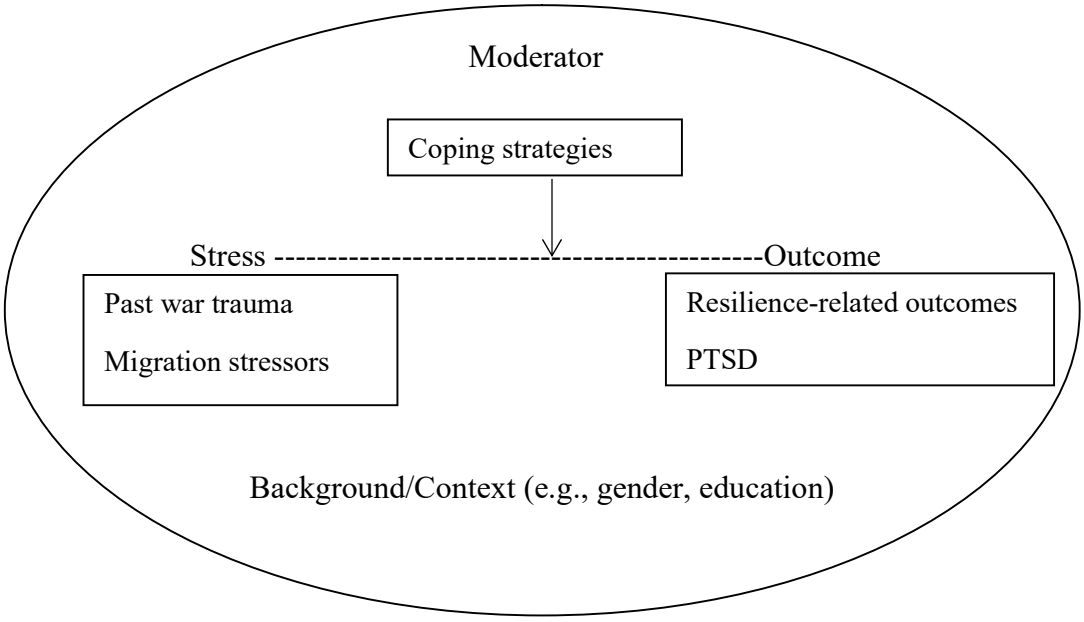
Combination of the Theories

The aforementioned theoretical frameworks were combined in developing this study. The stress coping model is the primary framework. However, this model was used slightly differently from the original model by replacing mediator with moderator, because this researcher examines the strength of relationship between stressors and outcomes as a result of utilization of different coping strategies. The literature review and methods section are organized around main components of stress process including stressor, background, moderator and outcome. Past trauma and post-migration stress are examined as stressors experienced by refugees. Consistent with stress coping model and resilience theory, background and context of stressors including demographic information such as health, gender, and education are included in the theoretical framework of this

study. Three categories of emotion-focused, problem-focused, and dysfunctional coping strategies are used as moderator. The researcher used trauma theory to examine the negative stress outcome of PTSD. In addition, putting emphasis on positive and adaptive outcomes in this research, resilience theory is helpful to focus on resilience-related outcomes among refugees. Figure 1 illustrates the main concepts and connection among these theories.

Figure 1

Theoretical Model



Chapter 3: Literature Review

In this chapter, the existing literature is reviewed and organized based on the stress and coping model. That is, at the beginning, stressful events experienced in different phases of refugees' life are discussed. In this case, war-trauma and post migration stress were included. This researcher did not examine stressors experienced at transition between the home country and the U.S. This was a broad topic, which was out of the scope of this study. Later, resilience-related outcomes for the context of refugees are elaborated. Finally, literature around background variables and moderators are reviewed.

Stressors Encountered by Refugees

Stressors in the Home Country

Populations affected by mass conflict experience many kinds of trauma for several reasons that threaten their health and adaptation to life. Lack of a productive economy during mass conflict leaves populations at risk for poverty (Baingana & Bannon, 2003). Even in post-conflict circumstances, insecurity, fragile and unstable situations, and the probability of conflict relapse impose high rates of mental pressure on individuals (Collier, 2003; Collier & Hoeffler, 2004). Mass conflict threatens social ties, family unity, and community integration, impedes social services, and forcibly pushes populations to displacement (Baingana & Bannon, 2003; Murthy & Lakshminarayana, 2006; Sulaiman-Hill & Thompson, 2012). Further, loss of family members, due to death and/or separation, economic loss, and observing and engaging in mass violence are traumatic experiences (Baingana & Bannon, 2003).

Political conflict directly causes negative effects on physical and mental health, and may result in disability and mortality (Baingana & Bannon, 2003; Murthy & Lakshminarayana, 2006). In mass conflict situations, some groups like children are most vulnerable to these conditions because of malnutrition, susceptible neurological systems, and the lack of appropriate parental care (Attanayake et al., 2009; Baingana & Bannon, 2003; Meyer, 2013; Murthy & Lakshminarayana, 2006). The disabled, elderly persons, and women are other vulnerable groups in conflict-affected contexts (Ghosh et al., 2004; Kastrup, 2006; Miller et al., 2006; Murthy & Lakshminarayana, 2006).

Post-Migration Stressors

Those refugees who eventually resettle in a third country undergo resettlement and migration stressors such as acculturation stress, discrimination, loss, novelty and not feeling at home that impose other mental pressures (Aroian, Norris, Tran, & Schappler-Morris, 1998; Betancourt et al., 2015; Schwartz, Unger, Zamboanga, & Szapocznik, 2010; Sulaiman-Hill & Thompson, 2012). One major resettlement difficulty is acculturation stress. Acculturation is defined as the process of change in the original culture patterns as a result of continuous and long-term contact with individuals from different cultures (Berry, 1997; Berry & Sam, 1997; Redfield, Linton, & Herskovits, 1936). The change may occur in multidimensional components including cultural practices such as language use, cultural values and cultural identifications like attachment to cultural groups (Schwartz et al., 2010). Acculturation or acculturative stress is an unfavorable psychological response to acculturation experience (Berry, 1998; Smart & Smart, 1995).

Rodriguez, Myers, Mira, Flores, and Garcia-Hernandez (2002) explained that such stressors may come from two kinds of perceptions. That is, acculturative stressors may happen when a person perceives that individuals from the receiving culture may show contempt to the person because of incompatibility with the mainstream culture or/and when a person has the perception that the individuals from the cultural origin may be unhappy with the person for not following the heritage culture (Rodriguez et al., 2002). Resources of acculturation stressors include balancing different cultural values, perceived cultural conflicts, language differences, and the pressure of learning acceptable social behaviors in the host community (Padilla, Cervantes, Maldonado, & Garcia, 1988; Rodriguez et al., 2002). For example, immigrants and refugees from Latin America, the Middle East, Africa, and Asia settling in the western countries experience gaps in cultural values, since they come from regions where collectivism culture is valued more than individualism (Schwartz et al., 2010). Such differences impose acculturative stress on newcomers.

Other migration stressors are related to discrimination (Aroian et al., 1998). Unlike voluntary immigrants who are viewed as contributors to the growth of the host country, refugees who are involuntarily displaced from their homeland may be seen as a burden and thus less welcomed in a new country (Steiner, 2009). Therefore, refugees are more likely to face discrimination in the receiving country (Louis, Duck, Terry, Schuller, & Lalonde, 2007). Those migrants experiencing discrimination may face more difficulties adapting during migration and may hold their cultural heritage strongly and not adopt the host cultural values easily. Consequently, they may remain separated from the host culture (Berry, 1980; Rumbaut, 2008). Acculturative stressors are associated

with negative health and well-being among refugees. For example, in a study of Bosnian refugees resettled in Austria, Kartal and Kiropoulos (2016) found a negative association between mental health and acculturative stressors. Similarly, Yako and Biswas (2014) studied Iraqi refugees in the U.S. and reported language barriers and social isolation as contributors to sustained distress and hopelessness.

Resilience-Related Outcomes

As previously mentioned, this study focuses on positive outcomes gained by refugees in the face of adversities. For this purpose, this section defines resilience-related outcomes in a contextually-appropriate way for refugees. There is a large gap in this field, and the main contribution of this study is to address this gap. One limitation in the existing literature is the lack of a measurable and well-articulated conceptualization of resilience. Some studies that examine resilience and psychosocial well-being of refugees do not provide a clear definition of resilience (Elsass & Phuntsok, 2009; Thomas et al., 2011). Other refugee resilience studies provided some implicit explanation or definition of resilience in their work (Betancourt et al., 2015; Chung et al., 2013; Fernando, 2012). For example, Betancourt et al. (2015) studied resilience in the face of resettlement and acculturative stressors, and considered resilience-related outcome implicitly as healthy family and community functioning as well as healthy adjustment. Some studies in this field do not offer any measurable conceptualization of resilience. Using a focus group, Fernando (2012) attempted to determine components of resilience for Sri Lankan communities. In addition to components of resilience identified in the Western literature, Fernando (2012) found two components of psychosocial gratitude and strong will relating to religion or Karma among Sri Lankans impacted by disasters. This work was valuable

to elicit some cultural elements, but it did not provide an operationalization of resilience-related evidence.

Likewise, some studies measure resilience, however, their measurement is questionable in terms of methodology. Siriwardhana, Abas, Siribaddana, Sumathipala, and Stewart (2015) tried to use resilience-specific measurements to operationalize resilience among conflict-affected Sri Lankans. However, their operationalization had critical drawbacks. They measured resilience as a dependent variable using the 14-item Resilience Scale (Wagnild, 2009). This scale measures resilience as an individual personality characteristic such as being patient or though, which cannot be used as a dependent variable. According to resilience theory, personality is a kind of asset that can facilitate resilience process and cannot be a manifestation of resilience. In other words, the way resilience was operationalized in this study was not theoretically correct. In another study, Cardozo et al. (2004) measured mental disorders and functioning as outcome variables among an Afghan postwar population. They did not provide any explicit definition of resilience and did not mention functioning as a part of their resilience conceptualization (Cardozo et al., 2004). Similarly, in a study of four communities experiencing several years of ongoing rocket fire in Israel, Gelkopf, Berger, Bleich, and Cohen Silver (2012) examined posttraumatic stress (PTS), global distress, and functioning as dependent variables. Functioning was examined in six domains of educational, intimacy, social, spousal, vocational, and parental domains. Gelkopf et al. (2012) did not explicitly mention functioning as evidence of resilience. One limitation in their study was calculating one score as a mean for all six domains. It is important to look at the scores in each domain separately, since sometimes individuals may perform well in

one domain and not in another (Luthar & Zelazo, 2003; Afifi & MacMillan, 2011). One area that was lacking in the work of both Gelkopf et al. (2012) and Cardozo et al. (2004) was more emphasis on mental disorders such as depression, anxiety, and PTS symptomatology, rather than functioning and adaptation.

Finally, another study with questionable conceptualization of resilience is Ellis et al.'s (2016) study. Ellis et al. (2016) looked at different potential positive or negative outcomes among Somali refugees, and discussed civic (e.g., volunteering) and political engagement (e.g., voting) as indicators of positive adaptation and resilience. Expecting refugees to become a volunteer in the community might not be realistic, since at the beginning of their arrival, they are struggling with resettlement and acculturative stressors, and given their previous traumas, this conceptualization might not be accurate. Further, it takes around five years until a refugee can become a citizen. Before becoming a citizen, green card holders are not allowed to participate in federal elections (Apsan Law Offices, n.d.). Even if they have a right to participate in presidential election, voting is not a good marker of adaption and resilience in the face of adversity because of its political and momentary nature.

Considering all these gaps, this researcher aimed to provide a contextually appropriate conceptualization of resilience-related outcomes by incorporating refugee integration literature. This is helpful to look at refugees' adaptation in several domains (Afifi & MacMillan, 2011; Bonanno, 2004; Cicchetti, 2003; Luthar et al., 2000; Masten & Powell, 2003). There is no generally accepted definition of refugee integration (Ager & Strang, 2008; Robinson, 1998). Ager and Strang (2004) define an integrated person or group as those who:

> 1) achieve public outcomes within employment, housing, education, health etc. which are equivalent to those achieved within the wider host communities; 2) are socially connected with members of a (national, ethnic, cultural, religious or other) community with which they identify, with members of other communities and with relevant services and functions of the state; and 3) have sufficient linguistic competence and cultural knowledge, and a sufficient sense of security and stability, to confidently engage in that society in a manner consistent with shared notions of nationhood and citizenship. (p.5)

Based on this definition, Ager and Strang (2004) suggested refugee integration should be examined in four categories with 10 domains. The categories include means and markers, social connections, facilitators, and foundations. The means and markers embrace domains of health, housing, employment, and education as critical factors representing main areas of attainment. The second category includes three domains of social bridges (connections with other ethnic, national, and religious groups), social links (connection with non-governmental and governmental services, political processes, and civic duties), and social bonds (a sense of belonging to specific group or community), which highlights the importance of social connections in the integration process. Domains of safety and stability, and language and cultural knowledge belong to the category of facilitators. The category of foundations includes one domain, rights and citizenship, which represents obligations and expectations for the integration process.

Other studies mention very similar, but somewhat different domains of integration (Dubus, 2017; Lichtenstein, Puma, Engelman, & Miller, 2016). For example, in a qualitative study, interviews were conducted among 110 refugee service providers in four countries of Iceland, U.S., Switzerland and Germany (Dubus, 2017). Participants explained their view of indicators of successful resettlement for refugees. Some respondents described learning the host community's language and self-sufficient

employment as results of a successful resettlement program (Dubus, 2017). Further, Lichtenstein et al. (2016) considered 10 domains, eight of which are the same as Ager and Strang (2004); however, social links, and rights and citizenship were removed and instead, children's education and civic engagement were added.

For this study, domains of language, social bonding, and social bridging were considered as integral parts of successful integration indicating resilience-related outcomes among refugees (Cheung & Phillimore, 2017; Fozdar & Hartley, 2013; Lichtenstein et al., 2016). Throughout this study, the terms "resilience-related outcomes" and "integration outcomes" will be used interchangeably. It is important to consider the degree of improvement in language of the host country in terms of fluency and literacy as a marker of good functioning and successful integration (Cheung & Phillimore, 2017). Acquisition and usage of local language are kind of human capital that can facilitate employment and social participation of refugees and immigrants (Adamuti-Trache, 2013; Beiser & Hou, 2001; Fozdar & Hartley, 2013). Adamuti-Trache (2013) examined local language acquisition among more than 6,000 immigrants including refugees in Canada and reported that two thirds of participants had high levels of language proficiency, which helps their successful social, civic, and economic integration in the host country. This number is smaller for refugees as Bernstein and DuBois (2018) in reviewing refugee integration reports in the U.S. emphasized low language proficiency almost among half of refugees, which negatively affect their successful integration.

The domains of social bonding and social bridging – both together was called "social connections" in this work– in the host country are also essential to consider (Cheung & Phillimore, 2017; Lichtenstein et al., 2016). Phillimore (2012) discusses that

active participation in the society through developing social relationships and networks provides foundation for effective refugee integration, especially for women (Cheung & Phillimore, 2017). Social networks can help with refugees' employment. People who have more social contacts are more likely to learn about employment opportunities (Calvo-Armengol & Jackson, 2004). Studies show that refugees who have limited social networks reported low paid, low status, and low skilled employments (Cheung & Phillimore, 2017; Fozdar & Hartley, 2013; Hebbani, Colic-Peisker, & Mackinnon, 2017). Social interactions also help refugees and immigrants feel welcomed in the host community, trust people at school or work, feel safe and secure, and form the national identity (Enns, Kirova, & Connolly, 2013; Hebbani et al., 2017; Strang & Ager, 2010).

These social connections can be with culturally different groups, with those from the same ethnicity, or with agencies and organizations (Ager & Strang, 2004; De Vroome & Van Tubergen, 2014; Fozdar & Hartley, 2013). Discussing three types of social networks including personal, ethno-religious, and formal, Cheung and Phillimore (2017) indicated that recently arrived refugees in the UK mostly connect with religion organizations as well as friends. These social contacts influence refugees' and immigrants' integration in the host country by affecting their intention for stay. For example, Haug (2008) studied Bulgarian and Italian immigrants in Western Europe and found social ties with people from the same ethnicity in the host country and with natives are a social capital encouraging these immigrants to stay in the host country. In the study of more than 4,000 immigrants and refugees in the Netherlands, De Vroome and Van Tubergen (2014) reported strong social ties with people in the country of origin as determinant of immigrants' intension for return migration.

Other refugee integration domains are also important; however, some domains such as safety and stability are associated with factors beyond individual's choice and control, and thus, can be used for policy-makers to monitor refugees' integration. Lichtenstein et al. (2016) defined the safety and stability domain as refugees' feeling at home and outside, and their experience of being the victim of a crime. This is mainly a macro-level factor affecting refugees, not an individual-level factor indicating refugee's functioning or adjustment. Therefore, these cannot be used as individual-level indicators of resilience-related outcome.

Likewise, domains of economic sufficiency and housing depend on the whole family, rather than an individual person. Lichtenstein et al. (2016) discussed that economic sufficiency is a better term than economic self-sufficiency, because the former captures family dynamic. In other words, family's housing and net income do not depend only on individual primary wage earner. Other family members also play different roles in earning income, holding job, and securing housing (Lichtenstein et al., 2016). Thus, these domains are family-level factors, which were beyond the scope of this study.

Further, domains of employment, training and education, children's education, cultural knowledge, and civic engagement are not applicable for every refugee. For example, Bernstein and DuBois (2018), and Koyama (2017) reported that employment rate is lower among refugee women than men for several reasons such as the influence of traditional gender-specific roles in some cultures (Cheung & Phillimore, 2017; Fozdar & Hartley, 2013). Thus, many refugee women may never seek employment, which does not mean they are not successful in the integration process. In addition, only a few percentages of refugees, especially in the first years of arrival, enroll in educational

degree programs (Doski, 2018). Doski (2018) also mentions that not all refugees have a child, or come with a family to the U.S. Likewise, civic engagement at initial years of arrival is neither common (Lichtenstein et al., 2016) nor expected due to high level of resettlement stressors (Doski, 2018; Makki Alamdari, Alhajri, & Kim, 2016). Therefore, the most relevant individual-level domains that the researcher could examine for every group of refugees were language and social connections in the host country.

In the existing literature, there are some gaps in examining these domains. For example, language proficiency has been frequently studied as a predictor of health, mental problems (Brown, Schale, & Nilsson, 2010; Heeren et al., 2012), sense of belonging (Morrice, 2013), socio-cultural adaptation (Buchanan, Abu-Rayya, Kashima, Paxton, & Sam, 2018), and employment (Correa-Velez, Barnett, & Gifford, 2015; De Vroome & Van Tubergen, 2010) among refugees and asylum-seekers. It is crucial to examine language as outcome variable resulting from the resilience process. Further, social connections have not been studied in relation with refugees' past trauma and post-migration stressors and adaptation to new life.

Background/Demographic Factors

This study included four variables of gender, education, health status, and U.S. length of stay as background variables.

Gender. There are a few studies that examined the association of gender with resilience-related outcomes among refugees. Cheung and Phillimore (2017) and Adamuti-Trache (2013) examined language improvement among refugees in the UK, and immigrants in Canada, respectively, and both reported significant gender differences in language literacy and fluency with higher scores for men. Cheung and Phillimore (2017)

also examined social networks of refugees resettled in the UK, and found that over time, women are more likely to have social networks with relatives and religious organizations than men are. In a national survey with a cluster representative sample, Cardozo et al. (2004) recruited 699 nondisabled and 100 disabled adult Afghans to examine their mental health and functioning status in 2002 after more than 20 years of mass conflict. Being female was found to be associated with poorer social and role-emotional functioning among the non-disabled Afghan population (Cardozo et al., 2004). More studies are needed to examine the association of gender with local language improvement and social connections among refugees.

Education. Education is a critical demographic variable affecting refugees' resilience-related outcomes. Van Tubergen (2010), Cheung and Phillimore (2017), and Adamuti-Trache (2013) found pre-migration schooling and post-migration education as factors improving second language proficiency among refugees resettled in the Netherlands, the UK, and adult immigrants in Canada, respectively. Interestingly, Bernstein and DuBois (2018) and Capps and Newland (2015) articulated that literacy in refugee's native language is a critical facilitator for English language acquisition. The importance of having at least a high school education was underlined by Cardozo et al. (2004) for mental health protection among the postwar Afghan general population. Similarly, Sossou, Craig, Ogren, and Schnak (2008) demonstrated that education can facilitate the internal strength and optimism within Bosnian refugees in the U.S. leading to higher degrees of resilience in the face of adversities. Fozdar and Hartley (2013) also demonstrated that limited education exacerbates limited social network among refugees resettled in Australia. Studying refugees resettled in the UK, Cheung and Phillimore

(2017) also mentioned that having secondary or tertiary education will enhance formal social networks with organizations for men.

Health status. Examining factors affecting second language proficiency among 3,500 refugees in the Netherlands, Van Tubergen (2010) found health problems and depression as risk factors because of reducing efficacy in language acquisition. Similarly, Iversen, Sveaass, and Morken (2014) studied 239 refugees in Norway and reported violent traumatic experiences as a negative factor affecting refugees' motivation of second language acquisition. Disability was also found as a risk factor for social and role-emotional functioning (Cardozo et al., 2004). This demographic variable has not been studied adequately in association with resilience-related outcomes including language proficiency and social connections in the host country.

Length of stay. Length of stay has been studied frequently among immigrants and refugees. Hegan (1998) studied Maya immigrants in Houston and highlighted the gradual changes in functions and forms of social contacts over time. The study indicated that for successful integration of immigrants in the U.S., social contacts with non-ethnic individuals and organizations are critical (Hegan, 1998). In a study with refugees resettled in the UK, Cheung and Phillimore (2017) reported increasing social contacts with friends and relatives and decreasing social networks with ethnic organizations over time. Studying refugees and immigrants in Canada and Europe, Beiser and Hou (2001) and Kristen, Mühlau, and Schacht (2016) found as immigrants' stays lengthen, language skills improve. This finding was consistent with the study of Adamuti-Trache (2013) reporting higher language skills after four years of stay among immigrants in Canada. Reviewing major refugee integration reports developed in the U.S., Bernstein and DuBois

(2018) also highlighted the improvement of English language over time; however, they argued that it remains a major challenge. Bernstein and DuBois (2018) stated that 77% of recently arrived refugees have limited English proficiency. This rate is much higher than 58% limited language proficiency among refugees who arrived at least 20 years prior to the study (Bernstein & DuBois, 2018). Cheung and Phillimore (2017) also indicated improvement in literacy and fluency of local language among refugees in the UK over time for both genders; however, they found significant gender differences over time in attending English language courses (Cheung & Phillimore, 2017). That is, more men participated in English courses in the more immediate aftermath of their arrival, and reversely, more women participated in these courses in subsequent years (Cheung & Phillimore, 2017). Length of stay in the host country is a critical factor in relation with resilience-related outcomes among refugees and was included in this study.

Moderators between Stress and Resilience-Related Outcomes

Based on the theoretical framework mentioned in the previous chapter, the only moderator this study examines is coping strategies. For this purpose, three categories of emotion-focused, problem-focused, and dysfunctional coping strategies are considered (Carver et al., 1989). Conflict-affected populations report all types of coping strategies. In a systematic review among populations exposed to mass conflict from countries with low- and middle-income, Seguin and Roberts (2017) found the main coping strategies were positive thinking (i.e., an emotion-focused strategy), problem-solving, and support-seeking (i.e., problem-focused strategies).

Problem-focused strategies. In a study of refugee women in Canada, Chung et al. (2013) demonstrated that refugees seek different kinds of support in the community

that can be considered as problem-focused coping. For example, the limitations in government supports force these refugees to get support from non-governmental organizations (NGOs), religious organizations, or cultural communities (Chung et al., 2013). Income earning was also reported as a problem-focused coping factor applied by Liberian refugees in a refugee resettlement in Ghana (Dako-Gyeke & Adu, 2017). Studying immigrants in Toronto, Noh and Kaspar (2003) highlighted the effective moderating effects of problem-focused coping strategies such as taking formal action, personal confrontation, and social support seeking between racial discrimination and mental health issues. Similarly, Walsh and Tuval-Mashiach (2012) examined coping strategies in relation to discrimination and internal feelings among Ethiopian immigrants in Israel and reported active coping ways such as awareness and confrontation with perpetrator associated with more positive internal feelings, better integration, and a stronger sense of belonging.

Emotion-focused strategies. Some studies demonstrated the effectiveness of emotion-focused strategies for refugees. For example, in a study of Sudanese refugees in Australia, comparison with others who are less lucky (e.g., people in refugee camps) emerged as a coping strategy enhancing positive reframing of post-migration challenges (Schweitzer et al., 2007). Comparison with others, as an emotion-focused coping, is also important to realize that a mass conflict survivor is not alone (Luster, Qin, Bates, Johnson, & Rana, 2009; Zraly & Nyirazinyoye, 2010; Rantanen et al., 2011). In addition, one of the coping strategies frequently discussed in the empirical literature is religion and spirituality. Studies of refugees in Nepal, Ghana, Australia, and Boston, all identified religion as a significant coping strategy (Betancourt et al., 2015; Dako-Gyeke & Adu,

2017; Lenette et al., 2013; Schweitzer et al., 2007; Thomas et al., 2011). Similarly, studying Tibetan torture survivors in India, Lewis (2013), and Elsass and Phuntsok (2009) mentioned spirituality and Buddhism as a coping strategy as well as a mind training method. Sanchez, Dillon, Concha, and De La Rosa (2015) examined moderating effects of emotion-focused strategies (religion and spirituality) among Latino immigrants in Florida and found that religion weakens the relationship between acculturative stressors and alcohol use. Further, Leaman and Gee (2012) studied African refugee torture survivors in the U.S. and found private religious practices as a moderator between physical torture and PTSD and depression.

Dysfunctional coping strategies. In a study of 75 refugee adults in New York who experienced torture, Hooberman, Rosenfeld, Rasmussen, and Keller (2010) examined coping styles as a moderator between resilience variables (cognitive appraisals, social comparisons, and social support) and PTSD symptoms. They indicated that dysfunctional coping strategies such as emotion-focused disengagement and avoidance usually act as a risk for developing PTSD (Hooberman et al., 2010). Similarly, Noh and Kaspar (2003) examined moderator effects of coping strategies between perceived discrimination and depression among Korean immigrants in Canada and reported debilitating effects of dysfunctional strategies including passive acceptance and distraction.

In the literature, there is not an adequate number of studies examining coping strategies as a moderator between refugee stressors and resilience-related outcomes (e.g., language proficiency and social connections). Further, consideration of two categories of problem-focused versus emotion-focused strategies in some studies is not accurate, so

dysfunctional strategies should be considered as a separate category from emotion-focused coping strategies (Carver et al., 1989). Therefore, including three categories of problem-focused, emotion-focused, and dysfunctional coping strategies, this study examines each category's moderating effects between stressors and refugees' resilience-related outcomes.

Conclusion

The goal of this study is to examine the association of war-trauma, post-migration stressors, demographics, and coping strategies in relation to resilience-related outcomes among war-affected Arab refugees resettled in the U.S. Resilience-related outcomes including improvement in local language and social connections are used as dependent variables. Coping strategies are considered as moderator. Gender, education, length of stay in the U.S., and health status are examined as control variables.

The overall research question is as follows: What factors contribute to resilience-related outcomes (e.g., language and social connections in the host country) among Arab war-affected refugees resettled in the U.S.? Hypotheses are:

1. Higher levels of war trauma exposure and post-migration stressors are associated with decreased levels of language improvement and lower social connections in the host country as well as probable PTSD while controlling for gender, education, health status, and U.S. length of stay.
2. Unlike dysfunctional coping strategies, problem-focused and emotion-focused coping strategies will buffer negative effects of post-migration stressors and war trauma exposure on probable PTSD and against language improvement

and social connections in the host country while controlling for gender, education, health status, and U.S. length of stay.

Chapter 4: Methods

The goal of this study is to examine the association of stressors/traumas, demographics, and coping strategies in relation to resilience-related outcomes. The research question is as follows: What factors contribute to resilience-related outcomes (e.g., language, social connections in the host country) among Arab war-affected refugees resettled in the U.S.?

Study Participants

Inclusion and Exclusion Criteria

There were three inclusion criteria: 1) age 18 and above; 2) war-affected Arab refugees who live in the U.S.; 3) ability to read and write Arabic. There was no exclusion criterion in this study. The inclusion criteria were checked verbally before distributing a paper version of the survey. However, several questions were added to the beginning of the survey to screen and ensure eligibility criteria. Age was asked in years as an open-ended question. A question was asked about country of birth. The options were Arab countries recently affected by war including Syria, Iraq, Lebanon, Palestine, Gaza Strip, Sudan, South Sudan, Yemen, Kuwait, Libya, and Somalia. One question was asked to see if participants experienced war with yes/no options. Ability to read and write Arabic was asked with yes/no options. After each of these questions, in a parenthesis, it was explained that if participant does not meet that criterion, the person should disregard completing the survey. After checking all these criteria, if a person was eligible for this study, the Study Information Sheet (SIS) was provided (See Appendix D).

Recruitment

Recruitment took place in Indianapolis. Because of the vulnerability and inaccessibility of the target population, probability sampling was not feasible. In this research, non-probability sampling occurred through convenience sampling. For the purpose of recruitment, the researcher contacted various places Arab residents frequently use. In this case, the researcher communicated with the directors of resettlement agencies, chief executive officers of health clinics, imams of mosques, priests of churches, and managers of grocery stores, especially ethnic groceries such as Saraga International Grocery to introduce the research purpose and procedures and ask for permission to post the study flyer. Both English and Arabic versions of the flyer were shared with the contact persons after the researcher got their permission.

The flyer included a statement of research goals and the contact information of the researcher such as phone number and email. Further, in the flyer, it was explained that the survey does not include any question about participant's personal information or identifier, and no traceable information will be gathered during all research phases. It was also mentioned that there is a $10 gift card as token of appreciation for participation.

In terms of administration, after getting permission from the venues, the researcher went to churches, agencies, and community events and then administered the survey on site. For example, the researcher went to resettlement agency's English as a Second Language (ESL) classes. With the agency's permission, she administered the survey before or after the ESL class. After introducing the study, inclusion criteria were explained. The researcher shared the SIS with those who meet the criteria and are interested in participation. The person completed the survey in the agency/site. The

researcher put questionnaires and envelopes in the place and left the room to give privacy to participants. Similarly, the researcher went to religious gatherings and events. For example, there were weekly religious events on Sundays at churches and on Fridays at mosques. After the researcher introduced the study, she administered the survey at the church/mosque. For grocery stores and health clinics, the researcher set up a table and shared the study flyer. If anyone who was interested approached the researcher, she explained the study and checked their eligibility. If the person was eligible, the researcher asked him/her to complete the survey on site.

Variables and Measures

In this section, the measurement of variables is explained. Appendix A presents the source of questions used for measurement and incorporated changes. Appendix B indicates the number of questions for each variable and response choices. Appendix C shows the questionnaire used for this study.

Demographic Information

Four background variables were used as control variables: gender, education, health, and length of stay in the U.S. The relevant questions included gender with three options of “male”, “female” and “other”. Education level was measured with eight options: “no school, but able to read and write” to “other professional degree”. Health status was measured using a question, “how do you rate your current health?” with five options of “very poor” to “excellent”. Length of stay in the U.S. was measured using a question, “when did you enter the U.S.?” with two open-ended options of year and month. All these four demographic variables were control variables. Other demographic questions were included to learn more about study’s participants. That is, marital status

had six options of "never married", "separated", "divorced", "widowed", "married" and "living with a partner". Employment status was also be one of demographic questions. Participants were asked to respond if they are employed and if so, to identify hours employed per week. If they were not employed, they were asked to specify barriers to their employment with options of "no decision to work", "children at home", working as volunteer", "could not find job", "too old", "enrolled in vocational training", "health issues", "attending school", and "other" (Lichtenstein et al., 2016).

Stressors

War trauma exposure. To measure war trauma exposure, the Harvard Trauma Questionnaire (HTQ; Harvard Program in Refugee Trauma, 1998) was used. HTQ is the most commonly used scale in refugee trauma studies (Sigvardsdotter, Malm, Tinghög, Vaez, & Saboonchi, 2016). There are six versions of this questionnaire. Three of them were developed for refugees from Indochina including Vietnamese, Laotian, and Cambodian populations and the other three were written for non-refugees (Harvard Program in Refugee Trauma, 2011). This scale was developed for refugees using expert consensus methods in clinical context and validated among Indochinese refugee groups (Dunlavy, 2010; Sigvardsdotter et al., 2016). Although this scale was developed for the use with Southeast Asians, their translations have been applied in studies with Arab-speaking refugees such as Iraqi refugees, Lebanese and South Sudanese conflict-affected populations (Arnetz et al., 2014; Farhood, Dimassi, & Lehtinen, 2006; Roberts, Damundu, Lomoro, & Sondorp, 2009).

The scale has five parts. The first part is about the person's history of war-related traumatic experiences. The second part, personal description, contains open-ended

questions around the person's most terrifying and worst experiences. The third part is regarding head injury and consciousness loss as a result of traumatic events. PTSD symptoms are asked about in the fourth part of this scale, and the last part is how to score the symptoms (Harvard Program in Refugee Trauma, 1998; Mollica et al., 1992).

Only the first part, trauma events, is of interest for this research. This part of the questionnaire is a 41-item scale about previous war trauma experiences. Items are about material deprivation, war situation, evacuation, imprisonment, coercion, assault, torture, physical injury, disappearance/death of beloved persons, murder, and witnessing violence (Dunlavy, 2010; Harvard Program in Refugee Trauma, 1998). In responding to these questions, respondents were permitted not to answer if they found some items upsetting. For each item, a respondent could check a box, if they experienced that trauma item. If they checked the box for a torture item, they were asked about the kind of torture. Participants were asked for more information on other trauma items if they checked the box. A checked box is coded as one and if not, it is coded as zero. Responses to all questions are summed up as cumulative trauma (Arnetz et al, 2014), with greater numbers representing higher levels of war trauma exposure.

Although the fourth part, trauma symptoms, was not used for this research, it is critical to note its strong validity and sensitivity, for this part demonstrated significant correlation with the first part of the scale, which approves cross validity of the first part (trauma events) (Mollica et al., 1992). This scale verified strong test-retest reliability ($r = 0.89$) and internal consistency reliability (Cronbach's alpha = 0.90) (Mollica et al., 1992; Sigvardsdotter et al., 2016). However, in this study, it was not possible to calculate Kuder-Richardson reliability test because of the number of missing data. The scale also

showed cultural sensitivity and acceptance among Indochinese refugees and bicultural staff (Mollica et al., 1992).

Post-migration stressors. The Arabic version of Demands of Immigration Scale (DIS) (Aroian, Kaskiri, & Templin, 2008) was used to measure the target population's post-migration stressors after resettlement in the U.S. The original scale has 23 items with six sub-scales including loss, novelty, occupation, language, discrimination, and not feeling at home (Aroian et al., 2008). The subscale of loss presents unresolved attachment to places and people in the home country (Aroian et al., 2008). The novelty subscale elicits unfamiliarity related to living in the new country (Aroian et al., 2008). The occupation subscale embraces difficulty in finding a job and limitations in access to career development opportunities (Aroian et al., 2008). The language subscale asks about one's perception of having inadequate language proficiency in the new country (Aroian et al., 2008). The subscale of discrimination taps subtle and active perceived discrimination in the receiving country (Aroian et al., 2008). Finally, the subscale of not feeling at home includes feelings about not belonging to the new country (Aroian et al., 2008).

Three sub-scales of loss (4 items), discrimination (4 items), and not feeling at home (3 items) were used in this study. Respondents were asked to indicate the extent to which they feel upset by each of the items on a six-point scale: "not at all" (code=1), "slightly" (code=2), "somewhat" (code=3), "moderately" (code=4), "much" (code=5) to "very much" (code=6). Sample items of the scale include "I miss the people I left behind in my original country", "As an immigrant, I am treated as a second-class citizen", and "I do not feel that this is my true home" (Aroian et al., 2008, p.8). The responses of all items

were added together as a score of post-migration stress. A higher score represents higher post-migration stress.

Aroian et al. (2008) verified moderate to high internal consistency reliability for all subscales (Cronbach's alpha = 0.79 to 0.91) and for the total DIS (Cronbach's alpha = 0.92). In this study, Cronbach's alpha was found 0.87 and 0.93 for subscales of loss and discrimination, respectively, which indicates high internal consistency. Correlations of the all subscales except occupation with two scales of emotional status (the Profile of Mood States and the Center for Epidemiological Studies-Depression Scale) were significant and moderate to high (bivariate correlation=0.19 to 0.44), supporting concurrent validity of the scale (Aroian et al., 2008). Discriminant validity was supported by significant differences in the total DIS scores between new and longstanding Arab women immigrants (Aroian et al., 2008).

Moderators

Coping strategies. To measure coping strategies, Brief COPE (Carver, 1997), the abbreviated version of the COPE Inventory developed by Carver et al. (1989) was used. This inventory has 14 conceptually different coping reactions including active coping, self-distraction, planning, behavioral disengagement, denial, venting, use of emotional support, use of instrumental support, positive reframing, planning, acceptance, humor, self-blame, religion, and substance use (Carver, 1997; University of Miami, Department of Psychology, n.d.). In the Brief COPE, per each kind of coping reaction, two items exist. That means the Brief COPE has 28 items in total. This study applied all these coping reactions. In the literature, these coping strategies have been grouped into three categories of problem-focused (i.e., active coping, use of instrumental support, and

planning), emotion-focused (i.e., acceptance, use of emotional support, humor, positive reframing, and religion) and dysfunctional coping strategies (i.e., behavioral disengagement, self-blame, substance use, self-distraction, venting, and denial) (Carver et al., 1989; Cooper, Katona, & Livingston, 2008).

Respondents were asked to identify the frequency they engage in each coping strategy. A four-point Likert scale with the options of "I haven't been doing this at all" (code=0) to "I've been doing this a lot" (code=3) was used as response choices (University of Miami, Department of Psychology, n.d.). Some example items are "I've been trying to come up with a strategy about what to do" (problem-focused), "I've been praying or mediating" (emotion-focused) and "I've been turning to work or other activities to take my mind off things" (dysfunctional strategy) (Carver, 1997, p.96). For each coping category of problem-, emotion-focused and dysfunctional strategies, a summary score was calculated. Greater scores demonstrated more frequent use of that category.

An exploratory factor analysis demonstrated the clarity of the factor structure in the Brief COPE. The factor structure of the Brief COPE presented general consistency with the factor structure reported for the full COPE Inventory (Carver, 1997). This scale was used in a study with Hurricane Andrew survivors at three points of time (Carver, 1997). Averaged across these three points, the Brief COPE's internal consistency reliability for different coping types were reported with Cronbach's alpha between 0.50 and 0.90 (Carver, 1997). The Cronbach's alphas less than 0.70 are not adequate; however, Cronbach's alpha was found adequate for three aforementioned categories. Cooper et al. (2008), in their study of caregivers of patients with Alzheimer, found

Cronbach's alpha of 0.72, 0.84 and 0.75 respectively for emotion-, problem-focused and dysfunctional coping strategies. In studying college students' distress, Chao (2012) used only dysfunctional strategies and reported Cronbach's alpha of 0.85 for this category. These three categories were also approved in terms of convergent (i.e., correlated with attachment style), concurrent, and content validity (Cooper et al., 2008). For this dissertation, the researcher calculated internal consistency for each three categories and found Cronbach's alpha of 0.47, 0.71, and 0.46 for emotion-focused, problem-focused, and dysfunctional coping strategies. This reveals that two sub-scales of emotion-focused and dysfunctional coping do not have an adequate reliability.

Resilience-Related Outcomes

For the purpose of this research, the researcher considered language and social connections as relevant domains indicating resilience-related outcomes among refugees. These domains were chosen from the refugee integration literature (Ager & Strang, 2004; 2008; Lichtenstein et al., 2016) as discussed in the previous chapter.

Language. Two items were developed by the researcher to measure this domain. One item examined improvement in English: "Since the time you arrived, how much have you improved in English language (i.e., understanding, speaking, reading, & writing)?" A five-point Likert scale was used to measure the extent of improvement ranging from "not at all (code=0)" to "a great deal (code=4)". The other item examined current English proficiency using a five-point Likert options from "very poor" (code=1) to "excellent" (code=5). Many studies measured language competency using only one item. For example, Lichtenstein et al. (2016), and Budría, de Ibarreta, and Swedberg (2017) measured language proficiency using one item in terms of speaking skills among

refugees and immigrants. Each item was analyzed separately. Greater score for each item identifies greater improvement and proficiency in English language, respectively. In terms of validity, face and content validity was ensured using the feedback of experts.

Social connections. To create relevant items for this domain, ideas were borrowed from a survey called Refugee Integration Survey and Evaluation (RISE) developed by the Quality Evaluation Designs (Lichtenstein et al., 2016). The RISE was developed based on Ager and Strang (2004, 2008) models to measure integration success among refugees in Denver (Lichtenstein et al., 2016). Using around 50 items, this survey assesses refugee integration across 10 pathways/subscales including employment and economic self-sufficiency, social bonding, social bridging, education and training, language and culture, safety and stability, housing, health and physical well-being, civic engagement and children's education (Lichtenstein et al., 2016).

In this study, to measure social connections, four questions were derived from two subscales of social bonding and social bridging (Lichtenstein et al., 2016). In the RISE, these two subscales, containing six items, are the only ones concerning social connections. Social bonding implies interactions with those who are from the same ethnic and language background (Lichtenstein et al., 2016). Social bridging indicates friendship with those who are not in the family or ethnic groups (Lichtenstein et al., 2016). Two of these four items measure the frequency of time spent with people from the same cultural and ethnic background as well as those from a different background. Two other questions ask about the frequency of attending events and celebrations of the same cultural and ethnic background as well as those of a different culture. Instead of asking yes-no questions from the RISE, a five-point Likert scale was used with a range of "not at all (1),

a little (2), sometimes (3), often (4), and always (5)" since frequency can provide more details beyond only yes or no responses.

Example items include: "How frequently do you spend time with people who share your culture, ethnic group, language, or religion here in the U.S.? (Lichtenstein et al., 2016, p.42)", and "Since coming to the U.S., how frequently have you attended a celebration or event of a culture, ethnic group, language, or religion different than your own (i.e., march, parade, festival)? (Lichtenstein et al., 2016, p.43)". For the purpose of analysis, a summary score of four items was calculated. Greater scores indicate higher social connections for a given refugee.

In terms of validity, the RISE survey has strong construct validity, aligning with the Ager and Strang framework (2004), and relates strongly to refugees' experiences (Lichtenstein et al., 2016). To enhance reliability, group and cognitive interviews and community feedback were applied to ensure that the target population understand the items as intended (Lichtenstein et al., 2016). It was verified that the survey is reliable, since responses for specific respondents have been similar across several years, which indicates test-retest reliability (Lichtenstein et al., 2016). However, because of the significant changes in the original scale in this study, face and content validity should be verified through sharing the questions with several experts. Internal consistency was ensured using Cronbach's alpha of 0.82 after having data gathered.

PTSD Screening

In addition to functioning and refugee integration, measuring PTSD symptoms is helpful to examine the correlation between functioning and symptomology at the same time. Further, learning about PTSD prevalence among refugees is critical. To measure

PTSD, the Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) (Prins et al., 2015) was used. PC-PTSD-5 is a revised version of primary care PTSD screen (PC-PTSD; Prins et al., 2016). The purpose of the revised version is to incorporate the criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) for PTSD (Prins et al., 2016). Compared to the original scale, PC-PTSD-5 has a different stem and an additional item identifying trauma-specific guilt and blame (Prins et al., 2016). The purpose of PC-PTSD-5 is to identify probable PTSD, and if so, to refer for further assessment (U.S. Department of Veterans Affairs, 2018).

The PC-PTSD-5 has five items asking about the experience of a person about having nightmares, being on guard, feeling guilty, avoiding situations, and feeling numb (Prins et al., 2015). Respondents were asked to identify if they have had any of these experiences in the past month. There were two options of response including "Yes" or "No". Items included "had nightmares about the event(s) or thought about the event(s) when you did not want to?", "been constantly on guard, watchful, or easily startled?" and "felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?" (Prins et al., 2015, p.1). Other items included: "Tried hard not to think about the event(s) or went out of your way to avoid situations that reminded you of the event(s)?" and "felt numb or detached from people, activities, or your surroundings?" (Prins et al., 2015, p.1).

This scale has face and content validity in regard to the DSM-5 criteria (Prins et al., 2016). Although there is no study reporting the revised version's reliability (Prins, 2018), the original PC-PTSD verified strong test-retest reliability ($r = 0.83$; Prins et al., 2016). Response to this scale was considered "probable" if a person chose three "yes"(s)

(U.S. Department of Veterans Affairs, 2018). This does not mean that the person has PTSD; but needs further examination. In addition, PTSD was considered "improbable" if one answered two or less yes(s). For the purpose of analysis, this variable was treated as a dichotomous variable with two categories of PTSD-probable or -improbable. For PTSD items, Kuder-Richardson test indicated scale's reliability as the coefficient was 0.74 and all the items had a corrected item-total correlation more than 0.30.

Open-Ended Questions

At the end, two open-ended questions were asked. These questions provided an opportunity for more in-depth understanding of refugees' experience. The first question was "Since arrival in the U.S., what have you accomplished successfully in your job, personal life and family, which make you feel happy or proud (e.g., buying a property or a car; owning a business; doing voluntary work; donating money; helping your family members out of the US; completing courses in college or school; receiving a certificate, license, or award; or pursuing your dreams)?" The second question was to learn about the effects of social and political context on refugees" lives and was "Thinking back on the experiences you have had since your arrival in the U.S., how do you think the social and political climates of the cities/communities in which you have lived have affected your life?" These questions were analyzed by thematic analysis and identifying themes.

Translation

Having the survey translated into Arabic was considered to reach groups who are more diverse in terms of English proficiency and education. This is fundamental, as education is a significant demographic variable for predicting resilience (Cardozo et al., 2004; Pedersen et al., 2008; Sossou et al., 2008). However, translation poses some threats

to the validity and reliability of findings. To ensure the trustworthiness of the translation, the researcher used two strategies. First, for some of the abovementioned scales, Arabic translation has already been developed and validated. For example, the Harvard Trauma Questionnaire, Brief COPE, and DIS have validated Arabic translations. The researcher purchased the first scale's copyright. But the latter two were accessible to the public.

Second, other survey items were translated using back-translation (Brislin, 1970). That is, two independent individuals whose native language is Arabic translated the survey into Arabic. These individuals were bilingual students in the university, who were in human science majors. Later, two other Arabic-speaking students were asked to back-translate the Arabic version into English. The discrepancies between two English versions were discussed with another student to address and verify the accuracy of the translation. To recruit translators, the researcher posted a flyer in the Classified, which is accessible to all students, and provided a gift card of $10 to appreciate their help.

Pre-Testing Study

Two pre-testing studies were implemented. The first pre-testing study was to ensure that the English version of the survey is accurate and relevant to the context of Arab refugees who experienced war. For this purpose, a cognitive interviewing method was helpful. This method can be used to ensure accuracy and quality of the survey and improve validity (Willis, 2004). By focusing on respondents' cognitive processes involved in responding to the survey, this method is also helpful in identifying and analyzing sources of response error (Collins, 2003; Willis, 2004). The cognitive processes include four actions of comprehending questions, retrieving information, making a judgement on its relevance as an answer, and responding to the question

(Collins, 2003; Willis, 2004). Cognitive interviewing has two techniques of verbal probing and think-aloud (Daugherty, Harris-Kojetin, Squire, Jaël, & Harris-Kojetin, 2001; Willis, 2004). The researcher used a concurrent verbal probing technique in this study. In this technique, participants were asked specific questions in order to elicit more information while she/he was answering the survey (Daugherty et al., 2001).

That is, the survey was completed with 4 bilingual refugees. While completing the survey, after giving a response for each question, the researcher asked the respondent specific questions to get her/his input in terms of the question's relevancy and accuracy to refugees' real experiences. The questions were: "how do you interpret this question?", "is this question relevant to your experience as a refugee?", and "is the question clear?". The researcher took notes on their feedback. Looking at the overall feedback, if there were items irrelevant to what the refugees experienced or there were missing or unclear items, those items and scales were addressed. This pre-testing study helped prevent some systemic errors and increased the validity of the study (Rubin & Babbie, 2014).

The second pre-testing study was after finalizing the translation. This time, the survey was completed with 4 other Arab-speaking refugees, whether bilingual or not. The purpose of the second pre-testing study was to ensure if the items were understandable and clear. This prevented random errors resulting from the translation process, and consequently improved the reliability of the scale (Rubin & Babbie, 2014). The participants were asked to respond to the questions and let the researcher know if there was anything unclear. The researcher, then, gathered their comments to address unclear points in the final version of the survey.

Results of Pre-Testing Studies

As a result of pre-testing, the researcher removed Gaza Strip from the list of countries, as it is not a country; rather it is a Palestinian territory. Respondents to pre-test mentioned that the question on marital status is personal and many people would not be interested to respond to this question. Thus, the question was removed. The question of how your English improved was deleted as some respondents mentioned this as a redundant.

Respondents pointed a couple of general issues regarding the questionnaire. They told the question, "After reviewing study information sheet of the study, would you agree to fill out this study?" is redundant as the researcher already asked them verbally and using SIS. Then, the researcher removed the question. Some questions/introductions were perceived as long, and thus, the researcher shortened them. For example, the researcher removed the parenthesis explanation from the question of "Since the time you arrived in the U.S., how much have you improved in English (i.e., understanding, speaking, reading, & writing)?" Some also recommended to use a fewer options for Likert-scale questions to decrease confusion. This was not addressed as it could change the measurement level.

In the translated version, the options of HTQ were stated in a question format; respondents recommended to remove this format for clarity. Thus, the researcher checked this with translators and after their approval, the format of options was modified. Further, one respondent highlighted that an option in HTQ, "Expelled from country based on ancestral origin, religion, or sect" was incomplete and asked to add "ethnicity" to the end of this option. The researcher incorporated this comment.

For the DIS, post-migration stressors, subscale of "not feeling home" was mentioned as confusing as all the items were negatively worded. In addition, one item in the subscale of discrimination was negatively worded, and respondents mentioned they are confused in responding to this item, "Americans do not think I really belong in their country". All negatively worded items were removed. Further, in the translated version, participants mentioned that two subscales of DIS should have different option choices. That is, for the items of discrimination, the response options should be "strongly disagree" to "strongly agree"; while for the subscale of loss, the options should be "not at all" to "very much". After confirming with the translators, the researcher modified the options.

The respondents complained about the scale of coping strategies and mentioned that as a burden and tiresome for each coping strategy is measured using two similar items. Respondents asked to keep only one item per each strategy. Thus, the researcher kept 14 items for this scale. In addition, for PTSD screening questions, at the beginning of each item, "in the past month", was added.

Data Collection

Prior to data gathering, institutional review board (IRB) approval was obtained from Indiana University to ensure protection for research participants. As mentioned above, one kind of survey was offered, which was paper-based. The survey was completed in person in a group setting in locations in Indianapolis that Arab citizens were more likely to visit. Conducting individual paper-based surveys was unpractical based on the researcher's resources in terms of time and budget.

In each session of data gathering, the study was introduced and the inclusion criteria was explained. Then, the SIS was shared with those who met the criteria and were interested in participating. The SIS was in Arabic and included basic information about the study alongside information on how to protect confidentiality and the compensation method. In this kind of data gathering, although the researcher did not gather any identification or traceable data from the participants, there were some threats for confidentiality because of administrating the survey in a group. The researcher tried to set the chairs in the space as far as possible to minimize the potential of violation of confidentiality. After the researcher introduced the study and went over the SIS, she stepped outside of the room and left an envelope where participants could put their completed questionnaire. The researcher also kept completed surveys in a locked folder after data gathering. Finally, a $10 gift card was provided to respondents as a token of appreciation.

Data Analysis

Univariate Analysis

Descriptive statistics was provided for each variable. Because of having nominal/categorical measurement level, gender, employment, and PTSD were reported using frequencies and percentage for each category. Education and health status were treated as an interval variable. Interval variables including war trauma, post-migration stress, age, the length of stay in the U.S., coping strategies, language improvement, and social connections were described using means, standard deviation (SD), maximum and minimum.

Multivariate Analysis

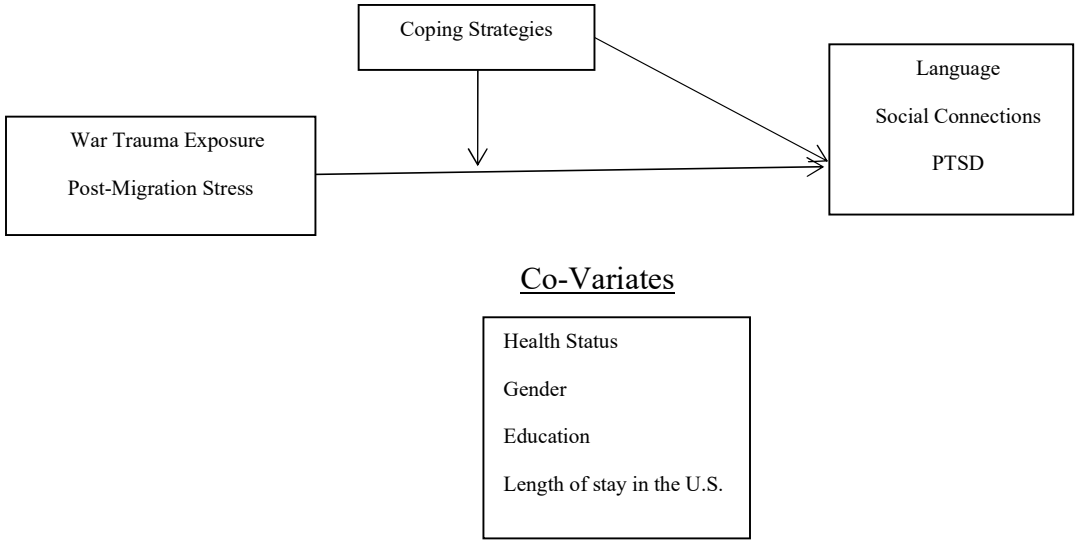
Statistical analysis was organized by each hypothesis. The first hypothesis was "higher levels of war trauma exposure and post-migration stressors are associated with decreased levels of language improvement and lower social connections in the host country as well as probable PTSD while controlling for gender, education, health status, and U.S. length of stay." For each outcome variable, a separate two-step hierarchical regression model was analyzed. Hierarchical multiple linear regression was used when outcome variables were language improvement and social connections, because they were measured at the interval level. To examine PTSD, hierarchical multiple logistic regression was applied because of its dichotomous level of measurement. In each hierarchical regression model, war-trauma, post-migration stressors, health status, length of stay, education, and gender were entered in the model as they were. In the first step, only demographic variables were included. The researcher added the stressors to the model for the second step of the hierarchical regression.

The second hypothesis was "unlike dysfunctional coping strategies, problem-focused and emotion-focused coping strategies will buffer negative effects of post-migration stressors and war trauma exposure on probable PTSD and against language improvement and social connections in the host country while controlling for gender, education, health status, and U.S. length of stay." In order to examine the moderating effects of coping strategies, an appropriate statistical test was hierarchical multiple regression. Figure 2 demonstrates all of the variables and their expected relationships. For dichotomous outcome variable (i.e., PTSD), hierarchical multiple logistic regression was used. Whereas, when the outcome variables were social connections and language

improvement, hierarchical multiple linear regression was an appropriate analysis. Hierarchical regression enables the researcher to examine the contribution of predictors by gradually adding them into the model across different steps (University of Virginia Library, 2016).

Figure 2

Hierarchical Regression Model



For the purpose of this research, the researcher considered four steps of analysis using hierarchical multiple regression. The first step included background variables (covariates) including gender, health status, education level, and the length of stay in the U.S. The second added stressors in association with each dependent variable. In the third model, moderator, each coping strategies category, was examined in addition to previously added variables. Finally, interaction terms including the interaction of each type of coping strategies and war trauma exposure, and interaction of coping strategies and post migration stressors were added and examined in the fourth model. This step answered the second hypothesis of the study. The interactions were calculated manually

with multiplying two variables of each interaction. These four models were run for each dependent variable. IBM Statistical Package for the Social Sciences (SPSS) is software used for statistical analysis in this study.

In terms of assumptions of hierarchical multiple linear regression, the outcome variables of social connections and language improvement are measured in an interval level. They also had normal distribution. For this purpose, skewness and kurtosis were used to check normality. Independent and control variables including post-migration stressors, war-trauma, length of stay, and health were measured at an interval level, which was appropriate for this statistical test. Dichotomous variable of gender was acceptable to be added to the regression model. Using Durbin-Watson statistics, the assumption of independence of observation was examined. Scatterplots were used to check the linear relationship between outcome and independent variables. Box plots were used to check outliers. Multicollinearity was examined using a variance inflation factor (VIF). The assumption of homoscedasticity was inspected using a residual plot. Bivariate correlation was also checked between study variables. Similarly, in hierarchical multiple logistic regression, all the assumptions, except normality and homoscedasticity, were examined.

Sample Size

Logistic regression and linear regression have different test family (i.e., Z test for logistic regression and F-test for linear regression; GPower, 2017). Thus, sample size was calculated separately for each kind of analysis, and the greater number was chosen for the study. GPower software was used to calculate sample size. Using test family of F-test, and statistical test of linear multiple regression (fixed model, R^2 increase) with 8

predictors and 4 tested predictors, 85 is the sample size required to achieve a study power of 0.80, a medium effect size of 0.15, and a significance level of <0.05. It is notable that an interaction term was included as another predictor in this calculation.

Likewise, the option of two probabilities was used to calculate sample size for logistic regression using GPower (Dave, 2015). For this purpose, one of the predictors should be considered as the main one. If it is assumed that the main predictor is war trauma exposure, then, the sample size was calculated as follows. If the expected mean of the main predictor is 25, and the expected SD is 5.0, the probability of PTSD, the outcome variable, when war trauma exposure is one SD unit above its mean (i.e., 30) is expected to be 0.30. Further, it is also expected the probability of PTSD when war-trauma exposure is at the mean to be 0.15. It is estimated the squared multiple correlation between war trauma exposure and all other covariates to be moderate. Therefore, given these probabilities, if Type I error rate is 0.05, study power is 0.80, test is two-tailed, and the main predictor's distribution is normal, a sample size of 114 is required. To sum it up, for this study, the larger sample size of 114 was considered. However, the researcher could recruit 130 participants.

Chapter 5: Results

This chapter is organized in four sections. The first section presents the descriptive statistics for all study variables. In this section, a descriptive profile of participants is presented followed by a description of the key study variables. The second section presents the statistical analysis related to Hypothesis 1 and the third section contains the analysis for Hypothesis 2. The second and third sections were organized based on the outcome variables. Lastly, the results of the open-ended questions are presented.

Descriptive Statistics

Participants

Of 200 distributed surveys, 130 individuals responded resulting in a response rate of 65%. The most frequently cited country of origin was Syria ($N = 35$, 26.9%) and Iraq ($N = 29$, 22.3%). Other most popular countries were Yemen, Palestine, Sudan, and Somalia. The majority (60%) of respondents were male. Approximately 21.8% had less than a high school diploma and nearly one-third (30.2%) had earned a high school diploma. Around 63% were employed full-time—with an average of 41 hours per week. Those who were not employed indicated having children at home, being retired, having health issues, and being enrolled in vocational training or attending school as the main reasons for their unemployment. Participants had an average age of 41 years, ranged from 18 to 72. Respondents' average length of stay in the U.S. was 8.6 years, ranged from 1 to 30 years. Participants reported good health status ($M = 4.1$). See Tables 1 and 2 for more details of participant demographics.

Table 1

Categorical Demographic Variables (*N* = 130)

Variable	Categories	*n(%)*
Country of birth		
	Syria	35(26.9%)
	Iraq	29(22.3%)
	Yemen	18(13.8%)
	Palestine	15(11.5%)
	Sudan	14(10.8%)
	Somalia	6(4.6%)
	Libya	5(3.8%)
	South Sudan	4(3.1%)
	Lebanon	2(1.5%)
	Other	2(1.5%)
Gender		
	Male	78(60.0%)
	Female	52(40.0%)
Education[a]		
	No school, but able to read and write	6(4.7%)
	Some years of elementary or middle schooling	22(17.1%)
	High school diploma	39(30.2%)
	Some college	24(18.6%)
	Undergraduate degree	23(17.8%)
	Master's degree	12(9.3%)
	PhD degree	3(2.3%)
Employment		
	Employed	82(63.1%)
	Unemployed	48(36.9%)

Note: [a] *N* = 129

Table 2

Continuous Demographic Variables (*N* = 130)

Variable	*n*	*Min*	*Max*	*M(SD)*
Hours working per week[a]	76	10	100	41.3(13.4)
Age	130	18	72	41.4(13.5)
Length of stay in the U.S.	119	1.0	30.0	8.6(6.3)
Health status	128	1	5	4.1(0.9)

Note: [a] This is for those who are employed.

Key Study Variables

War trauma. Seventeen participants did not respond to the section of the survey relating to war trauma. Participants were asked to check any of the 42 trauma-related events they experienced in the past. The number of checked items for each person

indicated their war trauma score. Table 3 demonstrates the frequency of each war trauma. The responses to war trauma ranged between 0 and 26 from a possible range of 0 to 42. The mean of summary scores was 10.16 (*SD* = 7.01), indicating not high level of war trauma experienced by participants.

Of possible 42 traumas, 9 types of trauma were reported by over 50% of respondents. These traumas can be categorized in six groups: forced displacement, war-like conditions, ethnic/religious discrimination, material deprivation, violent death of friend, and witnessing violence to others. The four most frequent war traumas reported by participants included: "Forced to flee your country" (80.5%), "Forced to leave your hometown and settle in a different part of the country with minimal services" (77.9%); "Witnessed shelling, burning, or razing of residential areas or marshlands" (66.4%), and "Oppressed because of ethnicity, religion, or sect" (58.4%).

The 10 types of trauma were reported by less than 10% of participants in the following categories: getting kidnapped (one or beloved ones), emotional harassment of those whose family member murdered, disappearance, used as a human shield, sexual violence (witnessed or experienced), and forced to harm others. Specifically, the least frequent reported war traumas were: "Sexually abused or raped" (2.7%), "Forced to inform on someone placing them at risk of injury or death" (1.8%), "Forced to destroy someone's property" (0.9%), "Forced to physically harm someone" (0.9%), and "Forced to pay for bullet used to kill family member" (0.9%).

Table 3 *War Trauma* (*N* = 113)	*n(%)*
Forced to flee your country	91(80.5%)
Forced to leave your hometown and settle in a different part of the country with minimal services	88(77.9%)
Witnessed shelling, burning, or razing of residential areas or marshlands	75(66.4%)
Oppressed because of ethnicity, religion, or sect	66(58.4%)
Suffered ill health without access to medical care or medicine	64(56.6%)
Murder or violent death of friend	64(56.6%)
Witnessed the desecration or destruction of religious shrines or places of religious instruction	61(54.0%)
Witnessed murder	61(54.0%)
Witnessed torture	57(50.4%)
Property looted, confiscated, or destroyed	49(43.4%)
Suffered from lack of food or clean water	46(40.7%)
Confined to home because of chaos and violence outside	45(39.8%)
Present while someone searched for people or things in your home	43(38.1%)
Witnessed someone being physically harmed (beating, knifing, etc.)	43(38.1%)
Serious physical injury of family member or friend from combat situation or landmine	41(36.3%)
Witnessed the arrest, torture, or execution of religious leaders or important members of tribe	39(34.5%)
Expelled from country based on ancestral origin, religion, sect or ethnicity	38(33.6%)
Witnessed rotting corpses	34(30.1%)
Lacked shelter	33(29.2%)
Disappearance of a friend	33(29.2%)
Witnessed mass execution of civilians	32(28.3%)
Exposed to combat situation (explosions, artillery fire, shelling) or landmine	29(25.7%)
Murder or violent death of family member (child, spouse, etc.)	26(23.0%)
Imprisoned	20(17.7%)
Physically harmed (beaten, knifed, etc.)	18(15.9%)
Searched	17(15.0%)
Witnessed chemical attacks on residential areas or marshlands	14(12.4%)
Someone informed on you placing you and your family at risk of injury or death	13(11.5%)
Torture (i.e., while in captivity you received deliberate and systematic infliction of physical and/or mental suffering.)	13(11.5%)
Serious physical injury from combat situation or landmine	12(10.6%)
Friend kidnapped or taken as a hostage	11(9.7%)
Witnessed sexual abuse or rape	9(8.0%)
Received the body of a family member (child, spouse, etc.) and prohibited from mourning them and performing burial rites	7(6.2%)
Disappearance of a family member (child, spouse, etc.)	7(6.2%)
Family member (child, spouse, etc.) kidnapped or taken as a hostage	6(5.3%)
Used as a human shield	4(3.5%)
Kidnapped or taken as a hostage	4(3.5%)
Sexually abused or raped (i.e., forced sexual activity)	3(2.7%)
Forced to inform on someone placing them at risk of injury or death	2(1.8%)
Forced to destroy someone's property	1(0.9%)

Forced to physically harm someone (beating, knifing, etc.)	1(0.9%)
Forced to pay for bullet used to kill family member (child, spouse, etc.)	1(0.9%)

Post-migration stressors (Loss). One dimension of post-migration stressors measured for this study was loss, which indicates people's unresolved attachments to places and individuals they left in their home country (Aroian et al., 2008). Table 4 presents the descriptive statistics for each item of the loss measure. Mean scores across items were very similar. Combined frequencies for "much" and "very much" categories were very high, indicating strong feelings of loss among participants. The possible response choice for this variable was between 4 and 24 with 24 indicating the most loss. The mean summary score of loss was 19.10, ranging from 8.0 to 24.0 (N = 123, SD = 4.08).

Table 4
Loss

	n(%)						*M(SD)*
	Not at all	Slightly	Somewhat	Moderately	Much	Very much	
I miss the people I left behind in my original country.[a]	---	6(4.8%)	6(4.8%)	29(23.4%)	34(27.4%)	49(39.5%)	4.9(1.1)
When I think of my past life, I feel emotional and sentimental.[a]	---	6(4.8%)	10(8.1%)	30(24.2%)	38(30.6%)	40(32.3%)	4.8(1.1)
When I think of my original country, I get teary.[b]	3(2.4%)	9(7.3%)	15(12.2%)	33(26.8%)	21(17.1%)	42(34.1%)	4.5(1.4)
I feel sad when I think of special places back home. [b]	1(0.8%)	6(4.9%)	9(7.3%)	26(21.1%)	34(27.6%)	47(38.2%)	4.9(1.2)

Notes: [a] $N = 124$; [b] $N = 123$

Post-migration stressors (Discrimination). Another dimension of post-migration stressors was discrimination. Table 5 shows descriptive information for each item of the discrimination scale. Items had very close mean scores. Looking at the response choices, each discrimination item is endorsed by more than 40 individuals (32.8%). For each item, mean score is below 3.0, indicating slightly disagree on the scale. That is, respondents do not strongly endorse discrimination. The possible range of discrimination was between 3 and 18. Participants reported a mean discrimination score of 8.3 (N = 122, SD = 4.4) ranging from 3.0 to 18.0.

Table 5
Discrimination

	n(%)						*M(SD)*
	Strongly disagree	Moderately Disagree	Slightly disagree	Slightly agree	Moderately Agree	Strongly agree	
As an immigrant, I am treated as a second-class citizen. [a]	32(26.0%)	28(22.8%)	22(17.9%)	24(19.5%)	12(9.8%)	5 (4.1%)	2.8(1.5)
Americans treat me as an outsider. [b]	36(29.5%)	28(23.0%)	13(10.7%)	23(18.9%)	13(10.7%)	9 (7.4%)	2.8(1.6)
People with foreign accents are treated with less respect. [b]	40(32.8%)	21(17.2%)	21(17.2%)	17(13.9%)	14(11.5%)	9 (7.4%)	2.8(1.6)

Notes: [a] $N = 123$; [b] $N = 122$

Coping strategies. All three categories of coping strategies are presented in Table 6. The most frequently used strategies were acceptance, active engagement, religion and spirituality, and thinking hard. These strategies belong to emotion-focused and problem-focused coping strategies. The mean score for emotion-focused, problem-focused, and dysfunctional coping strategies were 2.51, 2.78, and 2.00, respectively, indicating participants are using both emotion- and problem-focused coping more frequently than dysfunctional coping.

Emotion-focused coping strategies. Table 6 depicts the descriptive statistics for each item of emotion-focused coping strategies. Items were sorted in order from the highest mean score to the lowest. Based on mean scores, acceptance and religion and spirituality were the most frequently reported emotion-focused coping strategies. In contrast, humor was the least frequently used strategy. Nearly 84% reported using acceptance of reality sometimes or often as their coping strategy, while only 16.2% reported using humor sometimes or often. The possible score for this variable was 5 to 20 and the mean was 12.57 ($N = 107$, $SD = 2.56$), ranging from 5.0 to 19.0. This indicates a moderate level of application of emotion-focused coping strategies by participants.

Table 6
Coping Strategies

Emotion-Focused Coping Strategies	*n(%)*				*M(SD)*
	Never	Seldom	Sometimes	Often	
I've been accepting the reality of the fact that it has happened. [a]	1(0.9%)	17(15.2%)	48(42.9%)	46(41.1%)	3.2(0.7)
I've been trying to find comfort in my religion or spiritual beliefs. [b]	14(12.7%)	28(25.5%)	25(22.7%)	43(39.1%)	2.9(1.1)
I've been getting emotional support from others. [a]	10(8.9%)	45(40.2%)	42(37.5%)	15(13.4%)	2.6(0.8)
I've been looking for something good in what is happening. [c]	25(22.1%)	51(45.1%)	18(15.9%)	19(16.8%)	2.3(1.0)
I've been making fun of the situation. [d]	66(59.5%)	27(24.3%)	16(14.4%)	2(1.8%)	1.6(0.8)
Problem-Focused Coping Strategies (N=112)					
I've been taking action to try to make the situation better.	4(3.6%)	27(24.1%)	46(41.1%)	35(31.3%)	3.0(0.8)
I've been thinking hard about what steps to take.	5(4.5%)	35(31.3%)	43(38.4%)	29(25.9%)	2.9(0.9)
I've been trying to get advice or help from other people about what to do.	9(8.0%)	51(45.5%)	38(33.9%)	14(12.5%)	2.5(0.8)
Dysfunctional Coping Strategies					
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. [a]	15(13.4%)	25(22.3%)	37(33.0%)	35(31.3%)	2.8(1.0)
I've been expressing my negative feelings. [a]	20(17.9%)	37(33.0%)	35(31.3%)	20(17.9%)	2.5(1.0)
I've been refusing to believe that it has happened. [b]	49(44.5%)	26(23.6%)	23(20.9%)	12(10.9%)	2.0(1.0)
I've been giving up trying to deal with it. [a]	36(32.1%)	54(48.2%)	22(19.6%)	---	1.9(0.7)

I've been blaming myself for things that happened. [c]	67(59.3%)	22(19.5%)	15(13.3%)	9(8.0%)	1.7(1.0)
I've been using alcohol or other drugs to help me get through it. [a]	84(75.0%)	18(16.1%)	9(8.0%)	1(0.9%)	1.4(0.7)

Notes: [a] $N = 112$; [b] $N = 110$; [c] $N = 113$; [d] $N = 111$

Problem-focused coping strategies. Descriptive statistics for the problem-focused coping strategies are presented in Table 6. In this scale, based on the mean score, active engagement for making the situation better was the most frequently used strategy (sometimes or often) by 72.4% of respondents, followed by thinking hard about action steps. The least popular problem-focused coping strategy, but still considerable, was to seek advice or help from others (sometimes or often) by 46.4% of respondents. The possible range for this variable was between 3 and 12. Respondents (N = 110) reported an overall mean of 8.35 (SD = 1.99) for problem-focused coping, indicating a high degree of this type of coping among participants.

Dysfunctional coping strategies. Table 6 indicates responses to each item of dysfunctional coping strategies. Items are ordered in terms of mean score. Based on the mean score, the most frequent dysfunctional coping strategy reported by the respondents was distraction followed by venting. Using alcohol or other drugs, as well as blame, were the least frequently used dysfunctional strategies. About 64.3% of participants reported the use of distraction sometimes or often, while the use of alcohol or other drugs sometimes or often is endorsed by 8.9% of respondents. Possible scores for this variable ranged from 6 to 24. Respondents reported a mean score of 12.0 (N = 108, SD = 2.8), with a minimum of 6.0 and a maximum of 20.0, indicating moderate use of dysfunctional coping strategies by respondents.

Outcome variables: Social connections. Items used to measure social connections are presented in Table 7. The most popular type of social connection was to spend time with people from the same cultural background or ethnicity. Thirty-five respondents (28.7%) reported spending often or always with people who share the same

cultural background. One interesting finding was that the respondents were more likely to spend time with people from the same cultural background than with people from other ethnic groups. The possible range for this variable was between 4 and 20. Respondents reported a mean of 10.9 (N = 122, SD = 3.4), which ranged from 4.0 to 20.0. This mean indicates not strong social connections among the participants.

Table 7
Social Connections ($N = 122$)

	n(%)					*M(SD)*
	Not at all	A little	Sometimes	Often	Always	
How frequently do you spend time with people who share your culture, ethnic group, language, or religion here in the U.S.?	3(2.5%)	35(28.7%)	49(40.2%)	27(22.1%)	8(6.6%)	3.0(0.9)
Since coming to the U.S., how frequently have you attended a celebration or event of your culture, ethnic group, language, or religion (i.e., march, parade, or festival)?	21(17.2%)	38(31.1%)	39(32.0%)	16(13.1%)	8(6.6%)	2.6(1.1)
How frequently do you spend time with people of a culture, ethnic group, language, or religion different from your own?	15(12.3%)	33(27.0%)	49(40.2%)	20(16.4%)	5(4.1%)	2.7(1.0)
Since coming to the U.S., how frequently have you attended a celebration or event of a culture, ethnic group, language, or religion different than your own (i.e., march, parade, festival)?	29(23.8%)	25(20.5%)	43(35.2%)	21(17.2%)	4(3.3%)	2.6(1.1)

Outcome variables: English language status. English language status had a mean of 3.6 (N = 130, SD = 1.2) indicating a medium level of language proficiency. English competency status was reported with response choices as follows: very poor (N = 8, 6.2%); poor (N = 22, 16.9%); average (N = 24, 18.5%); good (N = 41, 31.5%); and excellent (N = 35, 26.9%). The majority (58.4%) of respondents reported good or excellent English language proficiency.

Outcome variables: PTSD screening. Table 8 presents the responses to PTSD screening symptoms. Twenty participants did not respond to these items. The most frequently reported symptom cited by participants was nightmares (54.5%) followed by being on guard and watchful (49.1%). Feeling guilty and self-blaming (16.4%) were the least frequently reported symptoms. The U.S. Department of Veterans Affairs (2018) recommended considering individuals with three or more PTSD screening symptoms as probable cases to refer for further examination. In this vein, the researcher labeled those with three or more symptoms as PTSD-probable and those with less than three symptoms as PTSD-improbable. Of 110 responses to these items, 38 individuals were recoded as PTSD-probable (34.5%) and 72 were considered as PTSD-improbable (65.5%). This rate of PTSD-probable is considered high (Javanbakht et al., 2019; Slewa-Younan, Guajardo, Heriseanu, & Hasan, 2015).

Table 8 *PTSD Screening* (*N* = 110)	*n(%)*	
	Yes	No
Have you had nightmares about the event(s) or thought about the event(s) when you did not want to?	60(54.5%)	50(45.5%)
Have you been constantly on guard, watchful, or easily startled?	54(49.1%)	56(50.9%)
Have you felt numb or detached from people, activities, or your surroundings?	49(44.5%)	61(55.5%)
Have you tried hard not to think about the event(s) or went out of your way to avoid situations that reminded you of the event(s)?	39(35.5%)	71(64.5%)
Have you felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?	18(16.4%)	92(83.6%)

Multivariate Analysis: Hypothesis 1

Hypothesis 1 posited that higher levels of war trauma exposure and post-migration stressors are associated with decreased levels of language improvement and lower social connections in the host country as well as probable PTSD while controlling for gender, education, health status, and U.S. length of stay. To examine this hypothesis, two-step hierarchical regression was conducted for each outcome variable. For social connections and English language competency, hierarchical multiple linear regression was used. For the outcome variable of PTSD, the researcher used hierarchical multiple logistic regression. For all outcome variables, at the first step, control variables were included in the model, and at the second step, loss, discrimination, and war trauma were added. The relevant test assumptions are discussed for each analysis.

Outcome Variable: Social Connections

Checking assumptions. This variable was measured at the continuous level and had a normal distribution (*Skewness* = 0.22, *Kurtosis* = -0.54). Independent and control variables including post-migration stressors, war-trauma, and length of stay were

measured at an interval level, which was appropriate for this statistical test. The dichotomous variable of gender was acceptable to be added to the regression model. Education and health status were treated as a continuous variable. Durbin-Watson score was 1.80, demonstrating no evidence of autocorrelation in residuals. VIF was between 1.04 and 1.35 indicating that there was no multicollinearity among independent variables. Box plots were used to check for outliers. No outlier was detected for social connections. The assumption of homoscedasticity was met based on inspecting a residual plot.

Pearson's correlation was used to examine the bivariate correlation between the independent variables and each outcome variable (see Table 9). None of correlations between predictors was higher than 0.70, indicating multicollinearity is not an issue. Social connection was significantly correlated with stressors including loss ($r(120) = -0.35$, $p < 0.01$), discrimination ($r(120) = 0.28$, $p < 0.01$), and war trauma ($r(122) = -0.26$, $p < 0.01$). That is, individuals with higher feelings of loss had lower social connections. Similarly, people who experienced more past trauma had lower social connections. However, higher levels of perceived discrimination were associated with more social connections. As this looks unusual, a deeper look is needed to examine why this is happening. It might be because people who experienced more discrimination had different kinds of social connections such as spending more time with people from the same cultural background. Social connection was also significantly correlated with health status ($r(120) = 0.26$, $p < 0.01$), education ($r(121) = 0.31$, $p < 0.01$), length of stay in the U.S. ($r(117) = 0.37$, $p < 0.01$), English status ($r(122) = 0.49$, $p < 0.01$), and PTSD ($r(110) = -0.23$, $p < 0.05$). People with higher educational levels, better health status, longer length of stay in the U.S., and stronger language competency had more social

connections. Further, people who have more social connections were less likely to have PTSD.

Table 9
Bivariate Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1-Gender[a]	1												
2-Health	-.15	1											
3-Education level	-.02	.14	1										
4-War trauma	-.27**	-.04	-.32**	1									
5-Discrimination	-.09	.12	.26**	-.19*	1								
6-Loss	.04	-.31**	-.28**	.16	-.18*	1							
7-Length of stay	.07	.06	.24**	-.06	.31**	-.32**	1						
8-EFC	.24*	-.02	.13	-.07	.03	.11	.08	1					
9-PFC	-.18	.01	.01	.07	.11	.19*	.02	.42**	1				
10-DFC	.20*	-.04	-.11	-.12	-.01	.05	.17	.35**	.25**	1			
11-English status	-.05	.45**	.65**	-.23*	.25**	-.40**	.36**	.13	.06	.03	1		
12-Social connections	.10	.26**	.31**	-.26**	.28**	-.35**	.37**	.04	.08	-.02	.49**	1	
13-PTSD[b]	.01	-.11	-.14	.26**	-.19*	.33**	-.15	-.01	.19	.27**	-.23*	-.23*	1

Notes: * $p < 0.05$, ** $p < 0.01$; [a] Gender: 1 (Female) and 0 (Male); [b] PTSD: 1 (PTSD) and 0 (No PTSD).

The first model of hierarchical regression analysis was significant and explained 27% of the variance in social connections ($F(4, 108) = 9.91$, $p < 0.01$, $R^2 = 0.27$). Health status ($\beta = 0.24$, $t = 2.75$, $p < 0.01$), U.S. length of stay ($\beta = 0.32$, $t = 3.82$, $p < 0.01$), and education level ($\beta = 0.23$, $t = 2.69$, $p < 0.01$) significantly predicted social connections. The second model was significant and explained 31% of the variance in social connections, $F(7, 105) = 6.64$, $p < 0.01$, $R^2 = 0.31$). Adding stressors to the second model did not significantly contribute to explaining the variance in social connections ($\Delta F = 1.93$, $p > 0.05$, $\Delta R^2 = 0.04$). While health status ($\beta = 0.19$, $t = 2.18$, $p < 0.05$) and length of stay ($\beta = 0.27$, $t = 2.96$, $p < 0.01$) remained significant predictors, no other variables were found to be significant. More details are in Table 10. People with better health status and those with longer U.S. residency had more social connections. For a one unit increase in health status, social connections improved 0.72 units and for a one unit increase in U.S. length of stay, social connections improved 0.15 units. Length of stay had a stronger impact than health on social connections.

Table 10
Predictors of Social Connections

	Model 1			*Model 2*		
	B	*SE*	*β*	*B*	*SE*	*β*
Health Status	0.89**	0.32	0.24	0.72*	0.33	0.19
Gender	0.80	0.59	0.11	0.58	0.63	0.08
Length of stay	0.18**	0.05	0.32	0.15**	0.05	0.27
Education level	0.56**	0.21	0.23	0.35	0.23	0.14
Loss				-0.13	0.08	-0.16
Discrimination				0.05	0.07	0.06
War Trauma				-0.06	0.05	-0.11
R^2		0.27			0.31	
ΔR^2		---			0.04	
F		9.91**			6.64**	
ΔF		---			1.93	

Notes: * $p < 0.05$, ** $p < 0.01$

Outcome Variable: English Status

Checking assumptions. English status was treated as a continuous variable and had a normal distribution (*Skewness* = -0.49, *Kurtosis* = -0.81). Independent and control variables including post-migration stressors, war trauma, and length of stay were measured at an interval level, which was appropriate for this statistical test. The dichotomous variable of gender was acceptable to be added to the regression model. The researcher treated education and health status as continuous variables. The Durbin-Watson score was 1.54, demonstrating no evidence of positive serial correlation in residuals. VIF was between 1.04 and 1.37 indicating that there is no multicollinearity among the independent variables. Using box plots, no outlier was detected for English language. The assumption of homoscedasticity was not met based on an inspection of the residual plot. Thus, interpreting the results needs caution.

As shown in Table 9, Pearson's correlation indicated that English language proficiency is significantly associated with loss ($r(123) = -0.40$, $p < 0.01$), war trauma ($r(130) = -0.23$, $p < 0.05$), and discrimination ($r(122) = 0.25$, $p < 0.01$). These correlations indicate that people who have high degrees of feelings of loss and those who experienced more war trauma have less English language competency. This might be because stressors may negatively influence individuals' language acquisition abilities (Iversen et al., 2014; Van Tubergen, 2010). However, people who reported higher degrees of perceived discrimination had higher language competency. This might be because those who have lower language competency may not perceive the discriminative conditions accurately. English language was also correlated with health status ($r(128) =$

0.45, $p < 0.01$), education ($r(129) = 0.65$, $p < 0.01$), length of stay ($r(119) = 0.36$, $p < 0.01$), and social connections ($r(122) = 0.49$, $p < 0.01$). All these correlations were positive, indicating that respondents with better health status, more education, longer residency, and more social connections were more proficient in the English language. English language was also significantly associated with PTSD ($r(110) = -0.23$, $p < 0.05$), indicating that people who have better English status are less likely to have PTSD.

The first model in hierarchical analysis was significant ($F(4, 109) = 55.48$, $p < 0.01$, $R^2 = 0.67$). Health status ($\beta = 0.32$, $t = 5.60$, $p < 0.01$), U.S. length of stay ($\beta = 0.23$, $t = 4.04$, $p < 0.01$), and education ($\beta = 0.62$, $t = 10.89$, $p < 0.01$) were significantly associated with English language proficiency. The second model was also significant ($F(7, 106) = 31.51$, $p < 0.01$, $R^2 = 0.68$). Adding stressors and war trauma did not significantly contribute to enhancing the model beyond and above the first model ($\Delta F = 0.52$, $p > 0.05$, $\Delta R^2 = 0.01$).

In the second model, health status ($\beta = 0.31$, $t = 5.18$, $p < 0.01$), U.S. length of stay ($\beta = 0.22$, $t = 3.65$, $p < 0.01$), and education ($\beta = 0.61$, $t = 9.63$, $p < 0.01$) remained significant predictors of language competency. More details are in Table 11. Comparing these variables, education had a stronger impact on English language proficiency compared to health and length of stay. The three variables of health, length of stay, and education positively predicted the level of language proficiency. For a one unit increase in health status, English competency improved 0.41 units; for a one unit increase in U.S. length of stay, English language improved 0.05 units; and for a one unit increment in education, English language proficiency increased 0.53 units.

Table 11
Predictors of English Language Proficiency

	Model 1			*Model 2*		
	B	*SE*	*β*	*B*	*SE*	*β*
Health Status	0.43**	0.08	0.32	0.41**	0.08	0.31
Gender	-0.03	0.14	-0.01	-0.05	0.15	-0.02
Length of stay	0.05**	0.01	0.23	0.05**	0.01	0.22
Education level	0.54**	0.05	0.62	0.53**	0.06	0.61
Loss				-0.02	0.02	-0.06
Discrimination				-0.01	0.02	-0.05
War Trauma				0.00	0.01	-0.02
R^2		0.67			0.68	
ΔR^2		---			0.01	
F		55.48**			31.51**	
ΔF		---			0.52	

Notes: * $p < 0.05$, ** $p < 0.01$

Outcome Variable: PTSD

Checking assumptions. PTSD was measured as dichotomous levels. Independent and control variables including war trauma, post-migration stressors, and length of stay were measured at an interval level, which was appropriate for logistic regression testing. Gender was a dichotomous variable, acceptable to be added to the regression model. Education and health status were treated as an interval variable. VIF was between 1.15 and 1.37 indicating that there was no multicollinearity among the independent variables. No outlier was detected for PTSD.

According to the Pearson's correlation analysis (Table 9), PTSD was significantly correlated with loss ($r(108) = 0.33$, $p < 0.01$), discrimination ($r(108) = -0.19$, $p < 0.05$), and war trauma ($r(110) = 0.26$, $p < 0.01$). Higher feelings of loss and more war trauma experiences were positively associated with the potential of PTSD. A negative correlation between perceived discrimination with PTSD demonstrated that respondents

who reported more perceived discrimination were less likely to report PTSD. This finding needs deeper examination. Further, English language proficiency ($r(110) = -0.23$, $p < 0.05$) and social connections ($r(110) = -0.23$, $p < 0.05$) were negatively associated with PTSD. That is, people with higher language competency and those with more social connections were less likely to have PTSD.

Conducting a hierarchical logistic regression, the first model was not significant. Adding stressors and war trauma, the second model was significant ($\chi^2(7) = 20.78$, $p < 0.01$). The model explained 26% (Nagelkerke R^2) of the variance in PTSD. The Hosmer-Lemeshow test indicated the model's goodness of fit ($\chi^2(8) = 10.4$, $p > 0.05$). War trauma (*Exp(B)* = 1.10, *Wald*(1) = 5.03, $p < 0.05$) and loss (*Exp(B)* = 1.21, *Wald*(1) = 6.24, $p < 0.05$) significantly and positively predicted PTSD. More details are in Table 12. Respondents who experienced more feelings of loss and those who experienced more past trauma were more likely to show signs of PTSD. Feelings of loss demonstrated a stronger impact than past trauma on PTSD. For a one unit increase in loss, a person is 1.21 times (21%) more likely to have PTSD and for a one unit increment in experienced war trauma, a person is 1.10 times (10%) more likely to report PTSD.

Table 12
Predictors of PTSD

	Model 1			*Model 2*		
	B	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*
Length of stay	-0.05	0.05	0.95	0.00	0.05	1.00
Gender	0.28	0.46	1.32	0.20	0.54	1.22
Education level	-0.26	0.17	0.78	0.05	0.21	1.05
Health Status	-0.04	0.23	0.96	0.18	0.26	1.19
War Trauma				0.09*	0.04	1.10
Discrimination				-0.08	0.06	0.92
Loss				0.19*	0.08	1.21
$R^{2\,a}$		0.06			0.26	

χ^2	4.40	20.78**
$\Delta\chi^2$	---	16.38**

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Negelkerke

Hypothesis 2

Hypothesis 2 postulated that unlike dysfunctional coping strategies, problem-focused and emotion-focused coping strategies will buffer negative effects of post-migration stressors and war trauma exposure on probable PTSD and against language improvement and social connections in the host country while controlling for gender, education, health status, and U.S. length of stay. To examine this hypothesis, a four-step hierarchical regression analysis was conducted for each outcome variable and for each category of coping strategies. In the last step, interaction terms were added to the model. Interaction items were mean-centered as mean-centering of independent variables helps to reduce collinearities (Dalal & Zickar, 2012).

Outcome Variable: Social Connections

Checking assumptions. Three hierarchical linear regression tests were conducted to examine the moderation effects of each coping strategy on the relationship of stressors and social connections. As indicated for Hypothesis 1, the assumptions of normality, no outlier, measurement levels, and homoscedasticity were met. The Durbin-Watson score ranged between 1.69 and 1.80 in these three tests, demonstrating no evidence of positive serial correlation. That is, the data was not autocorrelated and the assumption of independence of observations was met. For the first 3 steps, all the tests had a VIF between 1.03 and 1.38, indicating that there was no multicollinearity among the independent variables. The assumption of multicollinearity was not met for the last step in all three tests. Therefore, caution is needed in interpreting the results. A Pearson's

correlation was conducted to examine the bivariate correlation between each independent and outcome variable (see Table 9).

Emotion-focused coping. All four models of hierarchical regression analysis were significant. As presented in Table 13, the first model including background variables was significant and explained 24% of the variance in social connections ($F(4, 98) = 7.92$; $p < 0.01$, $R^2 = 0.24$); however, adding other variables in the next three steps did not significantly improve the model in explaining the outcome variable. According to the first model, health status, education, and length of stay significantly and positively predicted social connections. In the second model, post-migration stressors and war trauma were added to the model. By 3% increase, the second model explained 27% of the variance in social connections ($F(7, 95) = 4.88$, $p < 0.01$, $R^2 = 0.27$). The third model with emotion-focused coping strategies as another independent variable explained 27% of variance, no additional variance in social connections ($F(8, 94) = 4.24$, $p < 0.01$, $R^2 = 0.27$). Both the second and third models demonstrated health status and U.S. length of stay as significant predictors of social connections, while education became non-significant. Emotion-focused coping was not a significant predictor.

The last model included three interaction items and by 5% increase, explained 32% of the variance in social connections ($F(11, 91) = 3.92$, $p < 0.01$, $R^2 = 0.32$). In addition to health status ($\beta = 0.21$, $t = 2.27$, $p < 0.05$) and length of stay ($\beta = 0.29$, $t = 3.06$, $p < 0.01$), war trauma ($\beta = -1.18$, $t = -2.43$, $p < 0.05$) and the interaction of emotion-focused coping strategies with war trauma ($\beta = 1.15$, $t = 2.34$, $p < 0.05$) were found to be statistically significant. That is, respondents with better health status and longer stays had more social connections. Length of stay had a stronger impact compared to health status.

This analysis indicates that for a one unit increase in health status, social connections improved 0.79 units and for a one unit increase in U.S. length of stay, social connections improved 0.17 units. In contrast, people exposed to more past trauma had lower social connections. The analysis indicated that for a one unit increase in war trauma, social connection decreased 0.64 units.

Further, emotion-focused coping strategies had a moderation effect on the relationship between war trauma and social connections. To interpret this association, an interaction plot was created (Figure 3). The researcher used Microsoft Office Excel to draw the plot. For this purpose, three different values of war trauma and emotion-focused coping strategies including mean and mean ± 1SD were entered into the regression equation to calculate social connections, producing three sets of data. Each set was related to one of three categories of low, average, and high emotion-focused coping strategies. For each of these categories, one line was drawn. According to the chart, as a person experiences higher degrees of war trauma, social connections decrease more for those who use lower levels of emotion-focused coping strategies compared to those who use higher levels of emotion-focused coping strategies. Thus, emotion-focused coping strategies buffer the negative effects of war trauma on social connections. Social connections of people who apply higher degrees of emotion-focused coping strategies are not hugely affected when the war trauma exposure increases.

Table 13

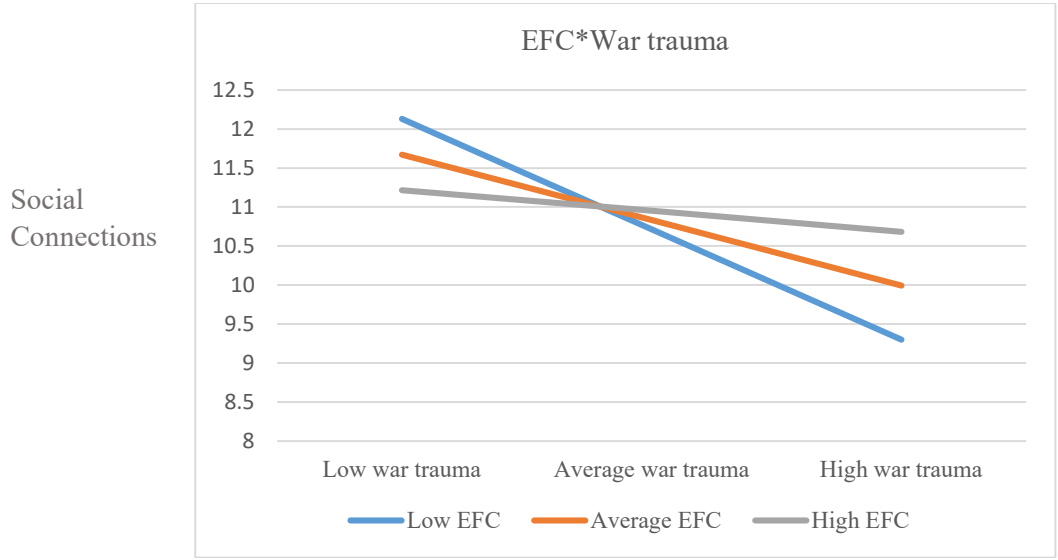
Moderation Analysis of Emotion-Focused Coping Strategies; Outcome Variable: Social Connections

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Gender	0.57	0.63	0.08	0.46	0.68	0.07	0.52	0.71	0.07	0.27	0.70	0.04
Health status	0.92**	0.34	0.25	0.80*	0.35	0.21	0.80*	0.35	0.21	0.79*	0.35	0.21
Education level	0.60*	0.23	0.24	0.43	0.26	0.17	0.45	0.26	0.18	0.40	0.26	0.15
Length of stay	0.17**	0.05	0.28	0.15**	0.06	0.25	0.15**	0.06	0.26	0.17**	0.06	0.29
War Trauma				-0.04	0.05	-0.08	-0.04	0.05	-0.08	-0.64*	0.26	-1.18
Discrimination				0.03	0.08	0.04	0.03	0.08	0.04	-0.01	0.35	-0.01
Loss				-0.10	0.08	-0.12	-0.09	0.09	-0.11	0.20	0.34	0.24
EFC[a]							-0.04	0.13	-0.03	-0.02	0.61	-0.02
EFC*War Trauma										4.30*	1.84	1.15
EFC*Loss										-1.89	1.89	-0.55
EFC*Disc.[b]										0.05	1.66	0.01
R^2		0.24			0.27			0.27			0.32	
ΔR^2		---			0.02			0.00			0.06	
F		7.92**			4.88**			4.24**			3.92**	
ΔF		---			0.87			0.10			2.51	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Emotion-focused coping strategies (EFC); [b] Discrimination (Disc.)

Figure 3

Moderation Effects of Emotion-Focused Coping Strategies and War Trauma



Problem-focused coping strategies. Conducting a hierarchical regression analysis, all four models were significant. As presented in Table 14, the first model including independent variables of length of stay, gender, health status, and education was significant and explained 26% of the variance ($F(4, 98) = 8.56$, $p < 0.01$, $R^2 = 0.26$). Adding other variables in the next two steps did not significantly improve the model in explaining social connections. In the first model, health status, education level, and length of stay significantly predicted social connections. In the second model, post-migration stressors and war trauma were added. By 3% increase, this model explained 29% of the variance in social connections ($F(7, 95) = 5.55$, $p < 0.01$, $R^2 = 0.29$). In this model, education and length of stay were significant factors. The third model included problem-focused coping strategies and by 1% increase, it explained 30% of the variance ($F(8, 94) = 5.13$, $p < 0.01$, $R^2 = 0.30$). In the third model, in addition to education and length of stay, feelings of loss were a significant factor predicting social connections.

In the last model, adding interaction terms improved the model significantly beyond and above other models ($\Delta R^2 = 0.13$, $\Delta F(3, 91) = 6.71$, $p < 0.01$). The last model included three interaction items. By 13% increase in R^2, this model explained 43% of the variance in social connections ($F(11, 91) = 6.24$, $p < 0.01$, $R^2 = 0.43$). In this model, health status ($\beta = 0.17$, $t = 2.01$, $p < 0.05$), education ($\beta = 0.24$, $t = 2.55$, $p < 0.05$), length of stay ($\beta = 0.25$, $t = 2.97$, $p < 0.01$), war trauma ($\beta = -1.16$, $t = -3.21$, $p < 0.05$), loss ($\beta = 0.78$, $t = 2.10$, $p < 0.05$), interaction of war trauma and problem-focused coping strategies ($\beta = -1.28$, $t = 3.33$, $p < 0.01$), and interaction of loss and problem-focused coping strategies ($\beta = -1.66$, $t = -2.78$, $p < 0.01$) were significant factors.

In summary, people with better health status, higher levels of education, and longer residency in the U.S. had more social connections. Among these three background variables, length of stay had a stronger impact on social connections. Regarding the stressors, war trauma negatively predicted social connections. That is, respondents with more war trauma exposure had fewer social connections. Feeling of loss positively predicted social connections, i.e., respondents who experienced more feelings of loss reported more social connections. These might be because those with more feelings of loss seek more social connections to address their feelings of loss. Comparing these two stressors, war trauma had a stronger impact on social connections than feelings of loss.

Having significant interaction terms indicated the moderation effect of problem-focused coping strategies on the relationship of war trauma and social connections, as well as on the relationship of loss and social connections. To interpret interaction effects, plots were drawn (Figures 4 and 5). For this purpose, three different values of war trauma (or loss) and problem-focused coping strategies including mean and mean ± 1SD were

entered into the regression equation to calculate social connections, producing three sets of data. Each was related to one of three categories of low, average, and high problem-focused coping strategies. For each of these categories, one line was drawn.

Figure 4 indicates that experiencing higher levels of war trauma, respondents with high problem-focused coping strategies had more social connections than others. In other words, in the time of higher levels of war trauma, only those who used high problem-focused coping strategies will benefit from the buffering effect of these strategies. For those with low or average problem-focused coping strategies, their change in social connections seemed to be more radical and negative when they faced a higher level of war trauma.

According to Figure 5, the interaction of loss and problem-focused coping strategies shows that respondents using more problem-focused coping strategies had better social connections. In particular, in lower levels of loss, people with a higher level of problem-focused coping strategies reported more social connections. Further, for those experiencing higher levels of loss, the social connections decreased, but those with higher problem-focused coping strategies still do slightly better than those with lower problem-focused coping strategies. At higher levels of loss, social connections decrease 3.38 units among those who use higher level of problem-focused coping strategies, while for those who use problem-focused coping strategies at lower levels, social connections decrease 1.72 units. However, social connections are still greater for those who use higher degrees of problem-focused coping strategies (9.71) than those who use lower levels of these types of strategies (9.27). This indicates that problem-focused strategies weaken the negative effects of loss on social connections, demonstrating a buffering effect.

Table 14

Moderation Analysis of Problem-Focused Coping Strategies; Outcome Variable: Social Connections

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Gender	0.71	0.61	0.10	0.81	0.65	0.12	0.99	0.66	0.14	0.95	0.63	0.14
Health Status	0.81*	0.33	0.22	0.63	0.34	0.17	0.59	0.34	0.16	0.63*	0.31	0.17
Education level	0.69**	0.23	0.28	0.53*	0.25	0.21	0.51*	0.25	0.20	0.59*	0.23	0.24
Length of stay	0.16**	0.05	0.28	0.13*	0.05	0.23	0.13*	0.05	0.22	0.15**	0.05	0.25
War Trauma				-0.00	0.05	-0.01	-0.01	0.05	-0.01	-0.62**	0.19	-1.16
Discrimination				0.07	0.07	0.09	0.07	0.07	0.08	0.06	0.28	0.08
Loss				-0.14	0.08	-0.17	-0.17*	0.08	-0.21	0.64*	0.31	0.78
PFC[a]							0.21	0.16	0.12	1.58	0.84	0.92
PFC*War Trauma										4.66**	1.40	1.28
PFC*Loss										-5.70**	2.05	-1.66
PFC*Disc.[b]										-0.29	1.38	-0.08
R^2		0.26			0.29			0.30			0.43	
ΔR^2		---			0.03			0.01			0.13	
F		8.56**			5.55**			5.13**			6.24**	
ΔF		---			1.39			1.88			6.71**	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Problem-focused coping strategies (PFC); [b] Discrimination (Disc.)

Figure 4

Moderation Effects of Problem-Focused Coping Strategies and War Trauma

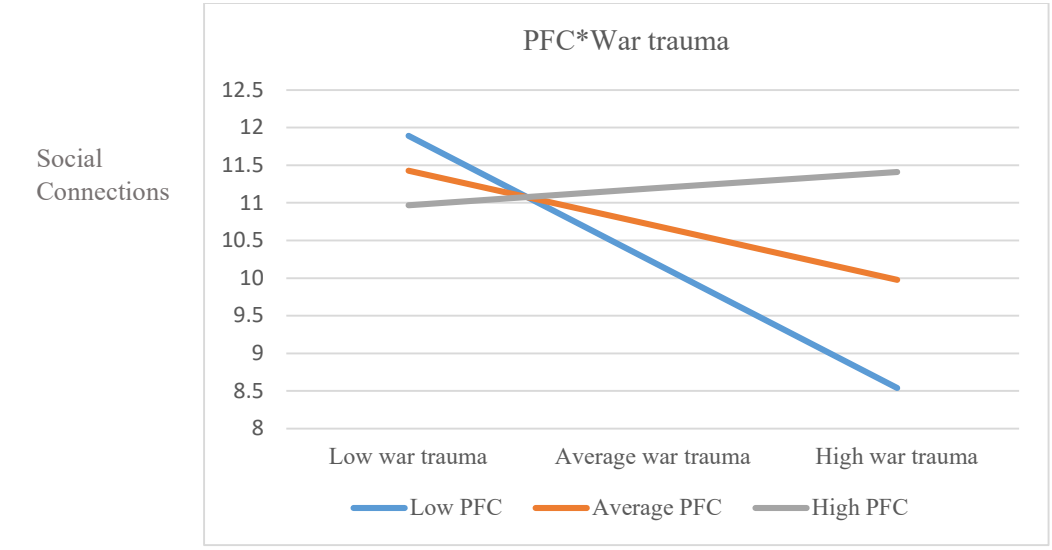
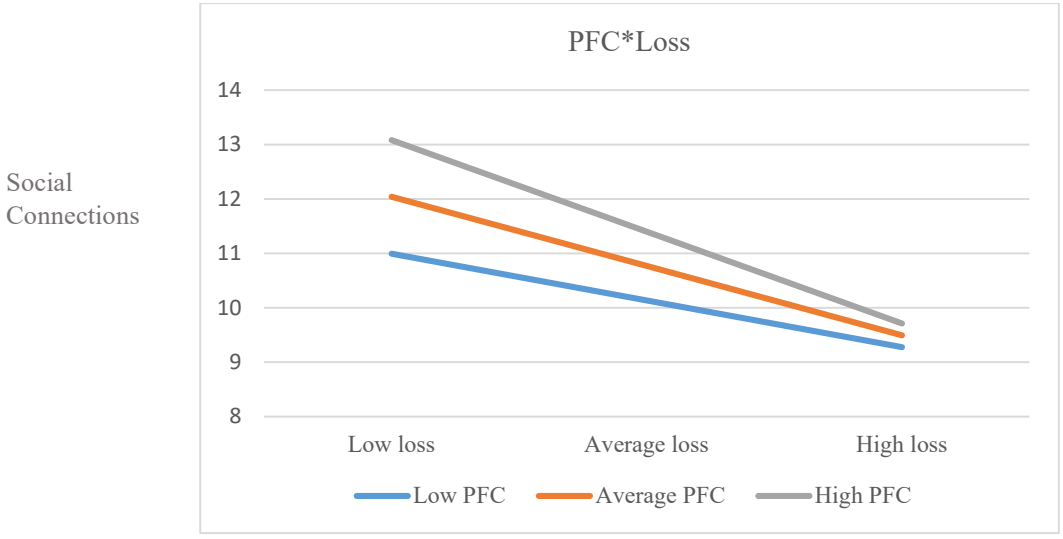


Figure 5

Moderation Effects of Problem-Focused Coping Strategies and Loss



Dysfunctional coping strategies. In a four-step hierarchical analysis, all four models were significant. As presented in Table 15, the first model including independent variables of length of stay, gender, health status, and education was significant and able to explain 27% of the variance ($F(4, 97) = 8.74$, $p < 0.01$, $R^2 = 0.27$); however, adding

other variables in the next three steps did not significantly improve the model in explaining social connections. In the second model, post-migration stressors and war trauma were added and by 2% increase, the model explained 29% of the variance ($F(7, 94) = 5.39$, $p < 0.01$, $R^2 = 0.29$). In the first two models, health, education, and length of stay were significant factors predicting social connections. The third model included dysfunctional coping strategies and explained 29% of variance in social connections, no additional variance from the previous model ($F(8, 93) = 4.75$, $p < 0.01$, $R^2 = 0.29$). The last model included three interaction items and explained 32% of the variance, indicating 3% increase compared to the previous model ($F(11, 90) = 3.89$, $p < 0.01$, $R^2 = 0.32$). In the last two models, health ($\beta = 0.23$, $t = 2.41$, $p < 0.05$) and length of stay ($\beta = 0.23$, $t = 2.44$, $p < 0.05$) were significant predictors. These findings demonstrated that people with better health and longer stay in the U.S. had more social connections. For a one unit increment in health status, it is expected social connections would improve 0.83 units and for a one unit increase in length of stay, social connections will be enhanced 0.14 units. No moderation effects were found as a result of using dysfunctional coping strategies.

Table 15

Moderation Analysis of Dysfunctional Coping Strategies
Outcome Variable: Social Connections

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Gender	0.52	0.62	0.07	0.37	0.67	0.05	0.45	0.68	0.06	0.37	0.69	0.05
Health Status	0.94**	0.33	0.26	0.85*	0.34	0.23	0.86*	0.34	0.24	0.83*	0.34	0.23
Education level	0.71**	0.24	0.27	0.53*	0.26	0.20	0.52	0.26	0.19	0.47	0.26	0.18
Length of stay	0.16**	0.05	0.26	0.14*	0.06	0.24	0.15*	0.06	0.25	0.14*	0.06	0.23
War trauma				-0.06	0.05	-0.11	-0.06	0.05	-0.11	-0.26	0.23	-0.48
Discrimination				0.05	0.08	0.06	0.05	0.08	0.06	0.32	0.34	0.39
Loss				-0.06	0.09	-0.07	-0.06	0.09	-0.07	0.37	0.34	0.43
DFC[a]							-0.08	0.11	-0.07	0.60	0.60	0.48
DFC*War trauma										1.58	1.62	0.41
DFC*Loss										-2.74	2.01	-0.79
DFC*Disc.[b]										-1.34	1.55	-0.37
R^2		0.27			0.29			0.29			0.32	
ΔR^2		---			0.02			0.00			0.03	
F		8.74**			5.39**			4.75**			3.88**	
ΔF		---			0.94			0.51			1.39	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Dysfunctional coping strategies (DFC); [b] Discrimination (Disc.)

Outcome Variable: English Status

Checking assumptions. Three hierarchical linear regression tests were conducted to investigate the moderation effects of each category of coping strategies on the relationship of stressors and English language proficiency. As mentioned for the Hypothesis 1, the assumptions of normality, no outlier, and measurement levels were met. In all three tests, the Durbin-Watson score ranged from 1.48 to 1.52 demonstrating no evidence of positive serial correlation. That is, data was not autocorrelated and the assumption of independence of observations was met. For the first 3 models of each test, VIF was between 1.03 and 1.37 indicating that there was no multicollinearity among the independent variables. The assumption of multicollinearity was not met for the last model. In addition, the assumption of homoscedasticity was inspected using a residual plot and not met. Therefore, caution is needed in interpreting this data. Pearson's correlation was conducted to check the correlations between variables (Table 9).

Emotion-focused coping. In the hierarchical regression analysis, all four models were significant. As presented in Table 16, the first model including independent variables of length of stay, gender, health status, and education was significant and able to explain 68% of the variance in English language proficiency ($F(4, 98) = 51.37$, $p < 0.01$, $R^2 = 0.68$). However, adding other variables in the next three steps did not significantly improve the model in explaining English language proficiency. The second model, adding post-migration stressors and war trauma, explained 69% of the variance in English language proficiency, meaning 1% increase compared to the previous model ($F(7, 95) = 30.10$, $p < 0.01$, $R^2 = 0.69$). The third model included emotion-focused coping strategies and explained 69% of the variance, no additional variance in English

language proficiency ($F(8, 94) = 26.20$, $p < 0.01$, $R^2 = 0.69$). The last model included three interaction items and by 1% increase, it explained 70% of variance ($F(11, 91) = 19.15$; $p < 0.01$, $R^2 = 0.70$).

In all of the models, health status ($\beta = 0.29$, $t = 4.67$, $p < 0.01$), education ($\beta = 0.57$, $t = 8.41$, $p < 0.01$), and length of stay ($\beta = 0.23$, $t = 3.72$, $p < 0.01$) were significant factors predicting English language proficiency. Among these three variables, education had the strongest impact on the outcome variable. Individuals with better health status, higher education, and longer length of stay had better English language competency. For a one unit increase in health status, education level, and length of stay, English language competency will improve by 0.39, 0.52, and 0.05 units, respectively. No moderation effect of emotion-focused coping strategies was identified.

Table 16

Moderation Analysis of Emotion-Focused Coping Strategies
Outcome Variable: English Language Proficiency

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Gender	0.02	0.15	0.01	0.02	0.16	0.01	-0.00	0.16	-0.00	-0.02	0.17	-0.01
Health Status	0.43**	0.08	0.33	0.40**	0.08	0.30	0.39**	0.08	0.30	0.39**	0.08	0.29
Education level	0.55**	0.05	0.61	0.53**	0.06	0.59	0.52**	0.06	0.58	0.52**	0.06	0.57
Length of stay	0.05**	0.01	0.24	0.05**	0.01	0.22	0.05**	0.01	0.22	0.05**	0.01	0.23
War trauma				0.00	0.01	0.01	0.00	0.01	0.00	-0.09	0.06	-0.45
Discrimination				-0.00	0.02	-0.01	-0.00	0.02	-0.01	-0.01	0.08	-0.03
Loss				-0.04	0.02	-0.12	-0.04	0.02	-0.13	-0.06	0.08	-0.20
EFC[a]							0.02	0.03	0.04	-0.07	0.14	-0.15
EFC*War trauma										0.63	0.44	0.48
EFC*Loss										0.09	0.45	0.07
EFC*Disc.[b]										0.01	0.39	0.01
R^2		0.68			0.69			0.69			0.70	
ΔR^2		---			0.01			0.00			0.01	
F		51.37**			30.10**			26.20**			19.15**	
ΔF		---			1.23			0.37			0.80	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Emotion-focused coping strategies (EFC); [b] Discrimination (Disc.)

Problem-focused coping strategies. A four-step hierarchical regression was conducted to examine moderation effects of problem-focused coping strategies on the relationships between stressors and English language. All four models were significant. As presented in Table 17, the first model including independent variables of length of stay, gender, health status, and education was significant and explained 66% of the variance ($F(4, 98) = 48.52$, $p < 0.01$, $R^2 = 0.66$); however, adding other variables in the next three steps did not significantly improve the model. In the second model, post-migration stressors and war trauma were added. By 1% increase, this model explained 67% of the variance in English language proficiency ($F(7, 95) = 28.00$ $p < 0.01$, $R^2 = 0.67$). The third model included problem-focused coping strategies and explained 68% of the variance, indicating 1% increase compared to the previous model ($F(8, 94) = 24.72$, $p < 0.01$, $R^2 = 0.68$). The last model included three interaction items and by 1% increase, it explained 69% of the variance ($F(11, 91) = 17.97$, $p < 0.01$, $R^2 = 0.69$).

In all four models, health status ($\beta = 0.32$, $t = 5.02$, $p < 0.01$), education ($\beta = 0.58$, $t = 8.45$, $p < 0.01$), and length of stay ($\beta = 0.22$, $t = 3.53$, $p < 0.01$) were significant factors predicting English language proficiency. Education had the strongest impact on the outcome variable. Individuals with better health status, higher education, and longer length of stay had better English language competency. For a one unit increase in health status, education level, and length of stay, English language competency will improve by 0.42, 0.53, and 0.05 units respectively. The analysis of problem-focused coping strategies did not verify any moderation effects.

Table 17

Moderation Analysis of Problem-Focused Coping Strategies
Outcome Variable: English Language Proficiency

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Gender	-0.01	0.15	-0.00	-0.03	0.16	-0.01	0.01	0.16	0.00	0.01	0.17	0.00
Health Status	0.45**	0.08	0.34	0.42**	0.08	0.32	0.42**	0.08	0.31	0.42**	0.08	0.32
Education level	0.55**	0.06	0.60	0.53**	0.06	0.58	0.52**	0.06	0.57	0.53**	0.06	0.58
Length of stay	0.05**	0.01	0.23	0.05**	0.01	0.22	0.05**	0.01	0.22	0.05**	0.01	0.22
War trauma				-0.00	0.01	-0.02	-0.01	0.01	-0.02	-0.00	0.05	-0.01
Discrimination				-0.01	0.02	-0.03	-0.01	0.02	-0.03	0.04	0.08	0.15
Loss				-0.03	0.02	-0.10	-0.03	0.02	-0.11	0.06	0.08	0.21
PFC[a]							0.04	0.04	0.07	0.34	0.23	0.54
PFC*War trauma										-0.01	0.38	-0.01
PFC*Loss										-0.68	0.56	-0.54
PFC*Disc.[b]										-0.28	0.37	-0.21
R^2		0.66			0.67			0.68			0.69	
ΔR^2		---			0.01			0.00			0.01	
F		48.52**			28.00**			24.72**			17.97**	
ΔF		---			0.88			1.25			0.66	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Problem-focused coping strategies (PFC); [b] Discrimination (Disc.)

Dysfunctional coping strategies. All four models that included dysfunctional coping strategies using hierarchical regression analysis were significant. As presented in Table 18, the first model including background variables was significant and explained 67% of the variance in English language proficiency ($F(4, 97) = 50.19$, $p < 0.01$, $R^2 = 0.67$). Adding additional variables in the next three steps did not significantly improve the model in explaining the outcome variable. In the second model, post-migration stressors and war trauma were added and by 2% increase, it explained 69% of the variance in English language proficiency ($F(7, 94) = 29.49$, $p < 0.01$, $R^2 = 0.69$). The third model included dysfunctional coping strategies and explained 69% of the variance, no additional variance in English language proficiency ($F(8, 93) = 25.99$, $p < 0.01$, $R^2 = 0.69$). The last model included three interaction items and explained 70% of the variance in language proficiency, indicating 1% increase ($F(11, 90) = 19.15$, $p < 0.01$, $R^2 = 0.70$).

Health status ($\beta = 0.30$, $t = 4.87$, $p < 0.01$), education ($\beta = 0.57$, $t = 8.58$, $p < 0.01$), and length of stay ($\beta = 0.21$, $t = 3.34$, $p < 0.01$) were found significant in all four models, predicting English language proficiency. Among these three variables, education had the strongest impact on the outcome variable. Individuals with better health status, higher education, and longer length of stay had better English language competency. For a one unit increase in health status, education level, and length of stay, English language competency will enhance by 0.39, 0.53, and 0.04 units, respectively. Dysfunctional coping strategies did not show any moderation effects.

Table 18

Moderation Analysis of Dysfunctional Coping Strategies
Outcome Variable: English Language Proficiency

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Gender	0.02	0.15	0.01	0.03	0.16	0.01	0.00	0.16	0.00	0.04	0.16	0.02
Health Status	0.43**	0.08	0.33	0.39**	0.08	0.30	0.38**	0.08	0.30	0.39**	0.08	0.30
Education level	0.57**	0.06	0.61	0.54**	0.06	0.58	0.55**	0.06	0.58	0.53**	0.06	0.57
Length of stay	0.05**	0.01	0.24	0.05**	0.01	0.22	0.04**	0.01	0.20	0.04**	0.01	0.21
War trauma				0.00	0.01	0.01	0.00	0.01	0.02	-0.06	0.05	-0.28
Discrimination				-0.00	0.02	-0.01	-0.00	0.02	-0.00	0.02	0.08	0.07
Loss				-0.04	0.02	-0.13	-0.04*	0.02	-0.14	-0.12	0.08	-0.41
DFC[a]							0.03	0.03	0.07	-0.13	0.14	-0.30
DFC*War trauma										0.43	0.38	0.32
DFC*Loss										0.48	0.47	0.39
DFC*Disc.[b]										-0.13	0.37	-0.10
R^2		0.67			0.69			0.69			0.70	
ΔR^2		---			0.01			0.00			0.01	
F		50.19**			29.49**			25.99**			19.15**	
ΔF		---			1.29			1.15			0.98	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Dysfunctional coping strategies (DFC); [b] Discrimination (Disc.)

Outcome Variable: PTSD

Checking assumptions. Three hierarchical logistic regression tests were implemented to study the moderation effects of three different categories of coping strategies on the association between stressors and the likelihood of PTSD. Assumptions of measurement level and no outlier were met as mentioned for Hypothesis 1. For the first 3 models in all three tests, the VIF was between 1.03 and 1.38 indicating that there was no multicollinearity among the independent variables. The assumption of multicollinearity was not met for the last model. Therefore, caution is needed in interpreting the data. Pearson's correlation was conducted to check correlations among variables.

Emotion-focused coping. The researcher conducted a hierarchical regression analysis in four steps to investigate moderator effects of emotion-focused coping on the relationships of stressors (war trauma, discrimination, and loss) and PTSD (see Table 19). The first model including background variables was not significant ($\chi^2(4) = 4.13$, $p > 0.05$) and explained 0.06 (Negelkerke R^2) of variance in PTSD. The other three models were significant. Adding post-migration stressors and war trauma enhanced the model significantly beyond and above the first model ($\chi^2(7) = 21.02$, $p < 0.01$, $\Delta\chi^2(3) = 16.89$, $p < 0.01$). By 21% increase, this model explained 27% (Negelkerke R^2) of the variance in PTSD. Loss and war trauma were significant factors in predicting PTSD according to this model.

Adding more independent variables in the third and fourth steps did not significantly contribute to the model. In the third model, emotion-focused coping strategies were added ($\chi^2(8) = 21.03$, $p < 0.01$, $\Delta\chi^2(1) = 0.01$, $p > 0.05$) and explained

27% (Negelkerke R^2) of the variance, no additional variance in PTSD. In the third model, war trauma (*Exp(B)* = 1.12, *Wald(1)* = 6.39, $p < 0.05$) and loss (*Exp(B)* = 1.22, *Wald(1)* = 5.70, $p < 0.05$) were significant predictors. That is, people who experienced more past trauma or feelings of loss were more likely to report PTSD. For a one unit increase in exposed war trauma, the person is 1.12 times more likely to have PTSD. Similarly, for a one unit increment in loss, the likelihood of PTSD increases 1.22 times.

The last model included three interaction items ($\chi^2(11) = 24.05$, $p < 0.05$, $\Delta\chi^2(3) = 3.02$, $p > 0.05$) and by 3% increase, it explained 30% (Negelkerke R^2) of the variance in PTSD. None of the variables was found to be significant in this model. In all four models, the Hosmer and Lemeshow test indicated the goodness of fit for the models. No moderation effect of emotion-focused coping strategies was detected.

Table 19

Moderation Analysis of Emotion-Focused Coping Strategies
Outcome Variable: PTSD

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*
Length of stay	-0.03	0.04	0.97	0.01	0.05	1.01	0.01	0.05	1.01	0.03	0.05	1.03
Gender	0.26	0.47	1.30	0.08	0.55	1.09	0.07	0.57	1.07	0.23	0.61	1.26
Health Status	-0.04	0.24	0.97	0.19	0.28	1.21	0.19	0.28	1.21	0.15	0.29	1.16
Education level	-0.29	0.18	0.75	-0.03	0.22	0.97	-0.02	0.22	0.98	-0.03	0.22	0.97
War trauma				0.11*	0.05	1.12	0.11*	0.05	1.12	-0.12	0.25	0.89
Discrimination				-0.05	0.06	0.95	-0.05	0.06	0.95	-0.43	0.37	0.65
Loss				0.19*	0.08	1.21	0.19*	0.08	1.22	-0.35	0.43	0.71
EFC[a]							-0.01	0.11	0.99	-1.37	0.89	0.25
EFC*War trauma										1.71	1.80	5.55
EFC*Loss										3.40	2.71	29.95
EFC*Disc.[b]										1.92	1.82	6.81
$R^{2\,c}$		0.06			0.27			0.27			0.30	
χ^2		4.13			21.02**			21.03**			24.05*	
$\Delta\chi^2$		---			16.89**			0.01			3.02	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Emotion-focused coping strategies (EFC); [b] Discrimination (Disc.); [c] Negelkerke R^2

Problem-focused coping. Problem-focused coping and its interaction with discrimination, loss, and war trauma were added to the statistical model in four steps (see Table 20). The first model including background variables was not significant ($\chi^2(4) = 4.89$, $p > 0.05$) and explained 7% of variance in PTSD. The other three models were significant. Adding post-migration stressors and war trauma improved the model significantly beyond and above the first model ($\chi^2(7) = 22.41$, $p < 0.01$, $\Delta\chi^2(3) = 17.51$, $p < 0.01$). This model explained 28% (Negelkerke R^2) of the variance in PTSD, indicating 21% increase compared to the first model. War trauma and loss were significant predictors in this model.

Adding more independent variables in the third and fourth steps did not significantly contribute to the model. In the third model, problem-focused coping strategies were added ($\chi^2(8) = 23.92$, $p < 0.01$, $\Delta\chi^2(1) = 1.51$, $p > 0.05$). By 2% increase, this model explained 30% (Negelkerke R^2) of the variance in PTSD. In the third model, war trauma (*Exp(B)* = 1.10, *Wald(1)* = 4.49, $p < 0.05$) and loss (*Exp(B)* = 1.22, *Wald(1)* = 6.01, $p < 0.05$) were significant. That is, people who experienced more past trauma or feelings of loss were more likely to report PTSD. For a one unit increase in exposure to war trauma, the likelihood of PTSD increases 1.10 times. Similarly, for a one unit increment in loss, the likelihood of PTSD increases 1.22 times.

The last model included three interaction items ($\chi^2(11) = 28.35$, $p < 0.05$, $\Delta\chi^2(3) = 4.43$, $p > 0.05$). The model explained 35% (Negelkerke R^2) of the variance in PTSD, meaning 5% increase. No significant predictor and/or moderation effects of problem-focused coping strategies were found. In all four models, the Hosmer and Lemeshow test indicated the goodness of fit for the models.

Table 20

Moderation Analysis of Problem-Focused Coping Strategies
Outcome Variable: PTSD

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*
Length of stay	-0.04	0.04	0.97	0.02	0.05	1.02	0.02	0.05	1.02	0.01	0.05	1.01
Gender	0.34	0.47	1.40	0.27	0.56	1.31	0.05	0.59	1.05	-0.25	0.64	0.78
Health Status	0.01	0.24	1.01	0.27	0.28	1.31	0.24	0.29	1.28	0.26	0.31	1.30
Education level	-0.32	0.18	0.72	-0.06	0.22	0.94	-0.09	0.23	0.91	-0.17	0.23	0.84
War trauma				0.09*	0.04	1.10	0.10*	0.05	1.10	0.35	0.23	1.42
Discrimination				-0.07	0.06	0.93	-0.07	0.06	0.93	-0.05	0.34	0.95
Loss				0.22**	0.08	1.25	0.20*	0.08	1.22	-0.47	0.39	0.63
PFC[a]							0.18	0.15	1.19	-1.06	1.12	0.35
PFC*War trauma										-1.65	1.58	0.19
PFC*Loss										4.37	2.61	79.14
PFC*Disc.[b]										-0.03	1.61	0.97
$R^{2\,c}$		0.07			0.28			0.30			0.35	
χ^2		4.89			22.41**			23.92**			28.35**	
$\Delta\chi^2$		---			17.51**			1.51			4.43	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Problem-focused coping strategies (PFC); [b] Discrimination (Disc.); [c] Negelkerke R^2

Dysfunctional coping strategies. Hierarchical logistic regression was conducted in four steps to examine the moderation effects of dysfunctional coping strategies on the relationships of stressors and PTSD (see Table 21). The first model including background variables was not significant ($\chi^2(4) = 5.46$, $p > 0.05$). The model explained 7% of variance in PTSD. The other three models were significant. Including post-migration stressors and war trauma strengthened the model significantly beyond and above the first model ($\chi^2(7) = 23.31$, $p < 0.01$, $\Delta\chi^2(3) = 17.85$, $p < 0.01$). This model explained 29% (Negelkerke R^2) of the variance in PTSD, indicating 22% increase compared to the previous model. In the second model, war trauma was the only significant factor.

In the third model, dysfunctional coping strategies were added and improved the model significantly beyond and above the second model ($\chi^2(8) = 35.48$, $p < 0.01$, $\Delta\chi^2(1) = 12.18$, $p < 0.01$). By 13% increase, this model explained 42% (Negelkerke R^2) of the variance in PTSD. In this model, in addition to war trauma (*Exp(B)* = 1.20, *Wald(1)* = 9.98, $p < 0.01$), dysfunctional coping strategies was a significant factor (*Exp(B)* = 1.46, *Wald(1)* = 9.57, $p < 0.01$). People who experienced more past trauma or used more dysfunctional coping strategies were more likely to report PTSD. That is, for a one unit increase in war trauma, the likelihood of PTSD increases 1.20 times and for a one unit increase in dysfunctional coping strategies, a person is 1.46 times more likely to report PTSD. Interestingly, dysfunctional coping strategies had a stronger impact on PTSD than war trauma.

Adding more independent variables in the fourth step did not significantly contribute to the model. The last model included three interaction items ($\chi^2(11) = 37.88$, $p < 0.01$, $\Delta\chi^2(3) = 2.40$, $p > 0.05$). This model explained 45% (Negelkerke R^2) of the

variance in PTSD, indicating 3% increase. Dysfunctional coping strategies did not demonstrate any moderator role. In all four models, the Hosmer and Lemeshow test indicated the goodness of fit for the model.

Table 21

Moderation Analysis of Dysfunctional Coping Strategies
Outcome Variable: PTSD

	Model 1			*Model 2*			*Model 3*			*Model 4*		
	B	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*	*B*	*SE*	*Exp(B)*
Length of stay	-0.03	0.04	0.97	0.02	0.05	1.01	-0.03	0.05	0.98	-0.01	0.05	0.99
Gender	0.19	0.47	1.21	-0.08	0.57	0.92	0.05	0.61	1.05	-0.08	0.64	0.93
Health Status	-0.11	0.23	0.90	0.11	0.28	1.12	0.04	0.31	1.04	0.12	0.33	1.13
Education level	-0.36	0.19	0.70	-0.11	0.23	0.90	-0.09	0.26	0.91	-0.12	0.26	0.89
War trauma				0.13**	0.05	1.14	0.18**	0.06	1.20	0.17	0.27	1.18
Discrimination				-0.08	0.07	0.93	-0.08	0.07	0.92	-0.15	0.41	0.86
Loss				0.16	0.08	1.17	0.14	0.09	1.15	-0.46	0.42	0.63
DFC[a]							0.38**	0.12	1.46	-0.63	0.82	0.53
DFC*War trauma										0.20	1.85	1.23
DFC*Loss										3.67	2.54	39.07
DFC*Disc.[b]										0.25	1.90	1.29
$R^{2\,c}$		0.07			0.29			0.42			0.45	
χ^2		5.46			23.31**			35.48**			37.88**	
$\Delta\chi^2$		---			17.85**			12.18**			2.40	

Notes: * $p < 0.05$; ** $p < 0.01$; [a] Dysfunctional coping strategies (DFC); [b] Discrimination (Disc.); [c] Negelkerke R^2

Results from Open-Ended Questions

Seventy-one people responded to the open-ended questions. For the first question, participants were asked, "Since arrival in the U.S., what have you accomplished successfully in your job, personal life and family, which make you feel happy or proud?" Respondents highlighted education (n = 33), employment (n = 27), purchase of house or car (n = 22), and starting a family and/or taking care of family here (n = 15) as the most frequent accomplishments. The participants also cited helping the family outside the U.S. (n = 9), volunteering and community involvement (n = 7), and starting a business (e.g., car body shop, rental property, and gas station) (n = 7) as other fulfillments. Other accomplishments reported were learning English (n = 6), obtaining licensure including a driving license (n = 5), supporting children's education (n = 4), and getting citizenship and permanent residency (n = 4). Following some personal dreams like writing a weblog or going to the gym (n = 2) and getting health treatment (n = 2) were other items mentioned by the respondents.

These accomplishments can be categorized in five major groups: means and markers; family-related achievements; personal growth; community contribution; and legal recognition. As indicated by Ager and Strang (2004), means and markers include housing, employment, education, and health. Family-related achievements include initiating a family, children's success, and protection of family out of the U.S. Learning about culture and language of the host country, gaining a licensure, and following personal dreams can be categorized under personal growth. Community contribution contains civic engagement and volunteering, which will benefit both refugees and the host community (Makki Alamdari, 2017; 2020a). Finally, legal recognition is to get

permanent residency or citizenship, which provides equal opportunities for refugees as nationals.

For the second question, respondents were asked, “Thinking back on the experiences you have had since your arrival in the U.S., how do you think the social and political climates of the cities/communities in which you have lived have affected your life?” Respondents highlighted both negative and positive themes of the social and political climate in the U.S. on their lives. For the negative theme, discrimination, dissatisfaction with their employment, anti-immigration policies, and barrier to reunite with family members out of the U.S. were highlighted. For the positive theme, welcoming environment, country’s stability, and enabling environment for personal growth were articulated with participants.

As one negative aspect, some participants mentioned discrimination, whether at work or in general because of being Muslim or wearing Hijab (i.e., covering head used by Muslim women). For example, a 65-year old retired male from Sudan wrote:

> “In my job, everyone was racist. They hated me because I am not from here. They never tried to improve my position or my condition at my work. People from here when hate someone, they never forgive and accept him to be their friend. They never become friend with them again and treat them as much as they could in a very bad way.”

A 50-year old man from Iraq:

> “From the government to regular people, everybody is racist.”

Some respondents articulated dissatisfaction with their employment including difficult work conditions or irrelevant jobs to their education or expertise as negative effects of the social and political climate. A 33 year-old Iraqi man mentioned:

> "I am not happy about [what] they make it so hard for getting a job in your major if you are not a special color or not knowing somebody inside the companies to get you on the job."

A 61-year old man from Sudan:

> "I suffered a lot from difficult jobs."

Some participants pointed to anti-immigrant policies, which stops the entrance of refugees to the U.S., and some mentioned the difficulties in reuniting with family members out of the U.S. as negative aspects of the current climate. A 53-year old Iraqi female:

> "There are some discriminations against refugees from our countries. Recent refugee entrance polices are unfair and anti foreigners."

A 49-year old female from Syria:

> "I am so far from my children and family. I hope to reunite with my family soon."

In contrast, participants highlighted some positive aspects of the social and political climate in the U.S. A welcoming environment was mentioned by some participants. That is, diversity, respect, social support, and new social connections were some of these positive points. For example, a 52 year-old Syrian man wrote:

> "As a result of living in my city, I made a lot of friends from university/college/school and job and I learned a lot of positive things […] regardless differences in nationality, religion, culture through exchanging the experience and conversation between us."

A 59-year old man from Iraq:

> "People respect each other regardless color, gender and religion"

One important positive aspect of climate mentioned by several participants was the government's stability, peace, security, and freedom in the U.S. A 45-year old Syrian female wrote:

"Positive influence to live in peace and freedom"

A 28-year old Somalian female:

"the US has a stable government"

An enabling environment for personal growth was another sub-theme mentioned by respondents. That is, some highlighted the positive effects of the social and political climate on their thinking, personality, and insights. A 39 year-old man from Syria mentioned:

> "Since I arrived in America, I feel that I am improving and approving myself, and certainly this is not without many difficulties."

Further, a 31- year old man from Yemen wrote:

> "My personality changed a lot. Think now differently. Now I am more experienced and understanding about myself and my environment."

Chapter 6: Discussion

The study examined the association of war trauma, post-migration stressors, coping strategies, and refugees' integration outcomes in the new society. One hundred and thirty Arab refugees participated in the study. In this chapter, at the beginning, study's key findings are discussed. Next, the predictors of the outcome variables and moderation effects of coping strategies are discussed. Discussion of the narrative results is presented later. Finally, implications, study limitations, and recommendations for future studies will be highlighted.

Variables Description

One or more of possible 42 war trauma events were reported by 113 (87%) participants with the most frequent items: "Forced to flee your country" and "Forced to leave your hometown and settle in a different part of the country with minimal services". Other frequent events were "Witnessed shelling, burning, or razing of residential areas or marshlands", "Oppressed because of ethnicity, religion, or sect", "Suffered ill health without access to medical care or medicine", and "Murder or violent death of friend". These traumas can be categorized as forced displacement, war-like conditions, ethnic/religious discrimination, material deprivation, and violent death of friend. The least frequent reported war traumas in this study included getting kidnapped, emotional harassment of those whose family member murdered, disappearance, used as a human shield, sexual violence, and forced to harm others. These findings are consistent with other studies on refugees (Arnetz et al., 2014; Ibrahim & Hassan, 2017). For example, Arnetz et al. (2014) studied 298 recently arrived Iraqi refugees in the U.S. and found war-like conditions like witnessing combat as one of the most common experienced war

trauma events and sexual violence and being forced to harm others as some of the least frequently reported war traumas. Similarly, in a study with 91 Syrian refugees living in an Iraqi camp, Ibrahim and Hassan (2017) found forced to flee the country and war-like conditions as the most frequent war traumas.

The average number of war trauma participants experienced was 10.2 on the 42-point HTQ scale, not suggesting high level of war trauma. Using the same measure of war trauma scale (HTQ), other studies found similar level of trauma among Arab refugees. In a study of Iraqi refugees in the U.S., a mean of 12.5 was reported (LeMaster et al., 2018). In a study with 335 war-affected refugees in the Netherlands including Arab refugees, an average of 11.2 was found (Huijts, Kleijn, van Emmerik, Noordhof, & Smith, 2012). Ibrahim and Hassan (2017) also reported the mean score of 11.1 as experienced war trauma among 91 Syrian Kurdish refugees in Iraq. It is notable that studies with other groups of refugees indicated different, more or less, mean score of war trauma exposure. For example, in a study of 226 African, Asian, and Middle Eastern refugees and asylum seekers in Serbia, Vukčević, Momirović, and Purić (2016) found a greater average of trauma exposure (Adjusted $M = 15.4$). In contrast, Klarić, Klarić, Stevanović, Grković, and Jonovska (2007) studied trauma among 187 war-affected women in Bosnia and Herzegovina and found the adjusted average war trauma of 9.2, which is less than the number reported in the current study.

In terms of post-migration stressors, loss (i.e., unresolved attachment to people and places in one's home country) was reported with a high average of 19.10 on a scale with possible range between 4 and 24. This is a strong stressor that can have devastating impacts on Arab refugees' integration in the new community. Using the same scale,

Aroian et al. (1998) studied 857 immigrants from the former Soviet Union and found the similar score of loss 19.56 among those who are in the U.S. for five years or less. Victorino Beechinor and Fitzpatrick (2008) studied immigrants from Canada and Philippine in the U.S. and reported the loss score of 22.32 among 71 Canadians and the loss score of 17.88 among 176 Philippines. The amounts were similar to the finding of the current study. Further, each item of the measure of loss in this study was strongly endorsed by at least 51% of respondents. Similar with this finding, in a study of about 2,400 refugees (including Arabs) in Australia, nearly 50% reported post-migration stress of worrying about their beloved people back home (Chen, Hall, Ling, & Renzaho, 2017).

Further, in this study, each discrimination item was endorsed by at least 32.8% of participants. Discrimination was reported with the mean score of 8.3 on a scale with possible range of 3 to 18, indicating not strong perceived discrimination. This rate was close to the rate (0.7 on a 4-point scale) reported by Alemi and Stempel (2018) in a study of 259 Afghan refugees in Northern California. Discrimination is a negative factor exacerbating psychological distress, reducing happiness, hindering integration in the new society, and exposing individuals to health problems (Alemi & Stempel, 2018; Dhalimi, Wright, Yamin, Jamil, & Arnetz, 2018; Kira, Amer, & Wrobel, 2014).

Among three categories of coping strategies, based on the mean score, participants reported the use of problem-focused coping strategies (M = 2.78) more frequently than emotion-focused strategies (M = 2.51), while dysfunctional coping strategies (M = 2.00) were the least frequently used. This is consistent with the study of Huijts et al. (2012) with 335 war-traumatized refugees in the Netherlands, as well as the study of Woltin, Sassenberg, and Albayrak (2018) with 169 Syrian refugees in Germany

in both of which used the COPE Scale. Different from the study of Woltin et al. (2018), the current study found slightly lower mean scores for each coping category.

Social connections were reported at not strong level. Thirty-five respondents (28.7%) mentioned spending often or always with people form the same background and 25 (20.5%) participants endorsed spending often or always with people from a different culture. The summary score of social connections was 10.9, where the possible range of scale was between 4 and 20. This finding is consistent with other studies. In a study with Iraqi refugees in Australia, Almohamed, Vyas, and Zhang (2018) found that challenges in connecting to members of host community was one of this group's three main resettlement challenges. Strang and Quinn (2019) studied single refugees from Afghanistan and Iran in Glasgow and reported very low levels of social connection with local friends, family, and local agencies. They also found few opportunities for intimate and reciprocal relationships, as well as difficulties establishing trust in relationships (Strang & Quinn, 2019). In another study, approximately one-fifth of 2,400 refugees in Australia reported loneliness (Chen et al., 2017). This finding is invaluable as social connections are directly associated with refugees' well-being and integration in the new community (Drolet & Moorthi, 2018; Kira et al., 2014).

English language proficiency as another integration outcome variable was reported at a mediocre level. This finding is in line with the study of LeMaster et al. (2018) with nearly 300 Iraqi refugees in the U.S. revealing low to moderate English fluency. In the current study, nearly 42% reported average or less English language proficiency. This number is less than the percentages reported by Bernstein and DuBois

(2018) and Hanley et al. (2018) who studied refugees in the U.S. and Syrian refugees in Canada, respectively.

In terms of PTSD, around one-third were PTSD-probable, which is a high number compared to community samples in the host countries (Javanbakht et al., 2019; Slewa-Younan et al., 2015). This finding is consistent with the study of Javanbakht et al. (2019) with Syrian refugees in the U.S. who used PTSD Checklist and revealed 32.2% prevalence of possible PTSD. Similarly, Tinghög et al. (2017) studied more than 1,200 Syrian refugees in Sweden using HTQ and reported a PTSD prevalence of 29.9%. In another study in Australia, Chen et al. (2017) studied 2,400 refugees in terms of mental health and reported 32% had PTSD.

Predictors of Outcome Variables

Hypothesis 1 posited that higher levels of war trauma exposure and post-migration stressors are associated with decreased levels of language improvement and lower social connections in the host country as well as probable PTSD while controlling for gender, education, health status, and U.S. length of stay. Examining this hypothesis, in contrast with other studies with immigrants and refugees, this study did not find that gender, education, war trauma, and post-migration stressors to be significant predictors of social connections (Cardozo et al., 2004; Cheung & Phillimore, 2017; Fozdar & Hartley, 2013); however, health status and U.S. length of stay were significant factors. This finding partially supports the first hypothesis. Better health and longer U.S. stay predicted higher levels of social connections. People who are healthier are more likely to have time and motivation to spend time with others, become involved in the community, and attend social events (Makki Alamdari, 2020a). Further, individuals who have lived for a longer

time in the host country have more cultural understanding of the nationals and other ethnicities living in the host country, which can facilitate building and maintaining social relationships (Cachia & Jariego, 2018; Makki Alamdari & Kim, 2020). Established immigrants and refugees also have more time free of early resettlement pressures that can be invested in social interactions. These findings are consistent with the existing literature that indicated positive effects of health and length of stay on social connections and networks among war-affected individuals, immigrants, and refugees (Cardozo et al., 2004; Cheung & Phillimore, 2017; Hanley et al., 2018; Hegan, 1998).

Likewise, health status, education, and the U.S. length of stay positively predicted English language competency. This finding is in line with the existing literature. Studying refugees in Europe, Iversen et al. (2014) and Van Tubergen (2010) indicated a direct association between health and language acquisition. People with health issues may have different priorities than improving their local language proficiency. Some health issues such as mental health concerns may also hinder the learning process through affecting cognitive abilities (Iversen et al., 2014; Van Tubergen, 2010). In addition, education was the strongest predictor for English language proficiency, indicating people who are more educated are more likely to be prepared for learning a new language. People with more education may also have previous background in learning English as many Arab countries offer English language classes during elementary, secondary, and/or high school years (Doski, 2020). Many studies demonstrated the significance of education on refugees' and immigrants' local language learning (Adamuti-Trache, 2013; Bernstein & DuBois, 2018; Cheung & Phillimore, 2017; Van Tubergen, 2010). Length of stay is also a critical factor for acquiring new language skills. People living for a longer time in the

host country have more potential to get exposed to environmental learning opportunities such as exposure to media and communication with nationals or international individuals. The importance of length of stay in language acquisition is underlined in studies with this population (Adamuti-Trache, 2013; Beiser & Hou, 2001; Bernstein & DuBois, 2018; Kristen et al., 2016). In contrast to the existing literature (Adamuti-Trache, 2013; Cheung & Phillimore, 2017), the current study did not show any significant effect of gender on language acquisition. Further, war trauma exposure and post-migration stressors were not predictors of English proficiency. Thus, the first hypothesis was partially supported.

Many expected predictors of social connections and English language proficiency were found insignificant. This might be attributed to the specific characteristics of the target population or methodological limitations of the current study in terms of sampling or measurement. More studies with Arab war-affected refugees are needed to address why the findings are not as expected. One reason for not having war trauma as a significant predictor of social connections and language proficiency might be the low level of reported war trauma exposure by respondents. The lack of significant findings also might be because some other predictors should be included in the analysis. For example, how Arab refugees perceive social and political climate may influence their level of social connections.

Finally, loss as a post migration stressor and war trauma were the only factors impacting the possibility of PTSD; however, gender, education, health status, length of stay, and discrimination were not found as significant predictors. This indicates partial support for the first research hypothesis. The findings of the current study are consistent with the studies of Kulwicki and Ballout (2015) with 312 Arab refugee and immigrant

women, Javanbakht et al. (2019) with 157 Syrian refugees in the U.S., and LeMaster et al. (2018) with about 300 Iraqi refugees in the U.S. indicating war trauma as a predictor of PTSD. Further, Tinghög et al. (2017) studied 1,215 Syrian refugees in Sweden and revealed that post-migration stress is associated with higher risks of PTSD. Studying around 2,400 refugees in Australia, Chen et al. (2017) also reported pre-migration traumatic events and post-migration stressors as associated with PTSD.

Moderation Effects of Coping Strategies

Hypothesis 2 postulated that unlike dysfunctional coping strategies, problem-focused and emotion-focused coping strategies will buffer negative effects of post-migration stressors and war trauma exposure on probable PTSD and against language improvement and social connections in the host country while controlling for gender, education, health status, and U.S. length of stay. The current study indicated moderating effects of coping strategies between stressors and social connections. No moderation effects were found for outcome variables of English language proficiency and PTSD. The moderation analysis revealed that in addition to health status and length of stay, war trauma and interaction of emotion-focused coping strategies and war trauma significantly predicted social connections. This verified the buffering effects of emotion-focused coping strategies on the relationship between war trauma and social connections. That is, as a person experiences higher degrees of war trauma, social connections decrease more for those who use lower levels of emotion-focused coping strategies than for those who use higher levels of these strategies. In the conditions of high war trauma exposure, social connections for people who use less emotion-focused coping are more negatively affected than for those who use higher degrees of emotion-focused coping strategies.

That means higher use of emotion-focused strategies such as acceptance, religion and spirituality, emotional support seeking, positive reframing, and sense of humor weaken the negative effects of war trauma on social connections. Employing regulative efforts, these types of strategies can help diminish the negative effects such as fear, depression, and anxiety emerged from events like oppression, forced displacement, torture, family member's murder, and basic needs' deprivation (Folkman et al., 1986; Pakenham, 1999). Some parts of these negative feelings are out of individuals' control and thus, emotion-focused coping can help regulate these negative feelings (Folkman et al., 1986).

Likewise, the moderation analysis of problem-focused coping strategies demonstrated that alongside health status and length of stay, education, war trauma, and loss were significant factors in predicting social connections. This analysis also revealed the moderating effects of problem-focused strategies on the relationship of both war trauma and loss with social connections. That is, problem-focused strategies lessened the negative effects of war trauma and feelings of loss on social connections, indicating a buffering effect. Experiencing higher levels of war trauma, those with higher problem-focused coping strategies had more social connections. In higher degrees of war trauma, social connections decrease; however, for respondents who use higher degrees of problem-focused coping, social connections are not affected negatively. Whereas, for those who use lower levels of problem-focused coping strategies, the decrease in social connections is radical.

Further, as feelings of loss increased, social connections decreased. In lower levels of loss, people with higher use of problem-focused coping strategies had considerably more social connections. Although in higher levels of loss, the social

connections decrease; those with higher problem-focused coping strategies still do slightly better than those who use these strategies less. Problem-focused coping strategies such as social support seeking, action taking, and planning are beneficial to deal with past traumas and negative feelings as their focus is on problem-solving and altering the source of stress (Lazarus & Folkman, 1984b; Pakenham, 1999). For example, when individuals seek asylee or try to get integrated in a new country through getting advice or planning, they apply problem-focused coping to resolve the stressful event.

For social connection and language proficiency, the current study did not find any direct/main effect of coping strategies. This is not consistent with the previous literature. The lack of significant findings might be for several reasons. The measurement of coping strategies or the way the items are categorized across three categories of emotion-focused, problem-focused, and dysfunctional coping might be challenging. Regardless these three categories, more studies should examine an individual coping strategy such as acceptance or avoidance in relation to outcome variables. The lack of significant main effect of coping strategies might also be attributed to the timeframes through which each variable is measured. For example, respondents were asked regarding their social connections since coming to the U.S.; however, they responded to coping strategies questions in general. In other words, participants were not asked specifically what strategies they used in coping with war trauma or post-migration stressor.

Most existing literature that studied coping strategies' moderation effects among refugees focused on these strategies' moderating effects on the relationship between stressors and mental disorders such as PTSD and depression (Hooberman et al., 2010; Leaman & Gee, 2012; Noh & Kaspar, 2003; Sanchez et al., 2015). To the knowledge of

this researcher, only a few studies examined these moderation effects on the relationship between stressors and positive outcomes among the target group. For example, the studies of Jibeen (2011) and Jibeen and Khalid (2010) with 308 Pakistani immigrants in Canada did not find any buffering effects of problem-focused or emotion-focused coping strategies on the relationship between acculturative stress and psychological well-being such as positive relationships with others. However, they found that the utilization of problem-focused coping strategies was associated with higher positive functioning.

There were more studies regarding main effects, instead of moderation/interaction effect, of coping strategies on positive outcomes among the conflict-affected refugees and immigrants. For example, the positive effects of religion, as an emotion-focused coping strategy, were underlined in many studies with the target population (Dako-Gyeke & Adu, 2017; Thomas et al., 2011) as individuals can find comfort and meaning in their religion or spirituality. Studying 444 Liberian war-affected refugees, Acquaye, Sivo, and Jones (2018) found that religious commitment was positively and significantly associated with posttraumatic growth. In a review conducted by Chan, Young, and Sharif (2016) on posttraumatic growth among refugees, problem-focused coping strategies such as planning and acting were reported as a positive factor in improving well-being after trauma. Walsh and Tuval-Mashiach (2012) examined Ethiopian immigrants in Israel and found positive effects of problem-focused strategies through active confrontation on better integration, more positive internal feelings, and stronger sense of belonging to the host community. Studying 590 Arab immigrants and refugees a year after their arrival to the U.S., Elsouhag et al. (2015) reported that refugees who apply problem-focused strategies to deal with stress were less likely to use psychological services. In another

study, Cherewick, Doocy, Tol, Burnham, and Glass (2016) studied the association of coping strategies and well-being among 434 conflict-affected youth from the Democratic Republic of Congo and found that emotion-focused coping acts as an adaptive strategy and is positively associated with participants' self-esteem. Similarly, emotion-focused strategies were reported as helpful among refugees for reducing negative thoughts and feelings through positive reframing of immigration challenges (Rantanen et al., 2011; Schweitzer et al., 2007).

As mentioned previously, no moderation effects of coping strategies were found on the relationship between stressors and English language proficiency and PTSD. One interesting point was that the study found dysfunctional coping as positive and significant predictor of PTSD; however, when interaction terms entered into the moderation analysis, the direct effect of dysfunctional coping disappeared. This finding is consistent with studies of Woltin et al. (2018), Hooberman et al. (2010) and Liu-Barbaro and Stein (2015) with refugees in the U.S. and Germany revealing dysfunctional coping strategies as a risk factor for increased vulnerability and developing PTSD and other mental disorders.

The current study's findings are consistent with the theoretical frameworks mentioned in Chapter 2. The theory of psychological stress and coping views the relationship between stressors and outcomes through two mediation processes including coping strategies (Folkman et al., 1986; Lazarus et al., 1980; Lazarus & Folkman, 1984a). In this framework, social support and coping are sometimes conceptualized as moderators. The current study looked at the moderation effects of coping strategies and verified the buffering effects of problem-focused and emotion-focused coping strategies

on relationships between war trauma and post-migration stressors with social connections, one of resilience-related outcomes. However, the study could not find any moderation effects of coping on the relationship of stressors and language proficiency. The researcher also applied trauma theory and resilience theory to examine both negative and positive outcomes; however, in contrast with stress and coping theory, no moderation effects of coping strategies were found between stressors with PTSD.

Discussion of the Narrative Results

Responses to an open-ended question regarding major life achievements since Arab war-affected refugees came to the U.S. can be grouped in five categories: means and markers; family-related achievements; personal growth; community contribution; and legal recognition. Interestingly, many of these categories are domains of refugee integration outcomes (Ager & Strang, 2004; Lichtenstein et al., 2016). Means and markers refer to housing, employment, education, and health, which are the main areas of refugee integration (Ager & Strang, 2004). Family-related achievements indicated the importance and value of family, whether in the U.S. or outside. In this case, children's education, a domain of refugee integration (Lichtenstein et al., 2016), as well as transnational caregiving were specifically reported by participants (Baldassar, Baldock, & Wilding, 2006). Community contribution, as a form of civic engagement, and legal recognition are also other domains of refugee integration emerged from this open-ended question (Ager & Strang, 2004; Lichtenstein et al., 2016). Activities such as civic engagement and start of one's own business indicate this group's strong desire to succeed in the U.S. and contribute to the community's economic and social well-being (Makki Alamdari, 2020a; Makki Alamdari & Bishop, 2020).

Regarding the second open-ended question, the effects of the social and political climate on their lives, respondents mentioned two themes of positive and negative aspects. Under the negative theme, discrimination (i.e., whether at work or in general against Muslims), dissatisfaction with their employment (i.e., difficult work conditions, irrelevant jobs to their credentials), anti-immigration policies, and barrier to reunite with family members out of the U.S. were emerged. These negative expressions are likewise highlighted in the existing literature (Betancourt et al., 2015; Drolet & Moorthi, 2018). For example, in in-depth interviews with Somali families in the U.S., refugees discussed the lack of opportunity to have an employment relevant to their credentials gained in their home country as a barrier to their well-being (Betancourt et al., 2015). It is also notable that discrimination against Arab refugees and immigrants increased in the aftermath of September 11, 2001 (Kira et al. 2014; Pampati, Alattar, Cordoba, Tariq, & de Leon, 2018).

Under the positive theme, participants articulated a welcoming environment, country's stability, and enabling environment for personal growth. Diversity, respect, social support, and new social relationships were examples of the welcoming environment. Given their previous war experience in the home country, not surprisingly, participants found the U.S. stable country with peace and freedom, which is a crucial positive aspect. Not many studies have focused on refugees' perspectives on positive aspects of the new community.

Implications for Social Work

In social work practice with refugees, it is crucial to pay attention to several points: Nash, Wong, and Trlin (2006) and Ostrander, Melville, and Berthold (2017)

recommended delivering social work practice using ecological perspective and at multiple levels to improve refugees' well-being. Inter-professional collaboration among social workers, health service providers, other agencies, as well as interpreters is also recommended to address refugees' multifaceted challenges with integration and adaptation process (Dubus & Davis, 2018; Hill, Gray, Stroud, & Chiripanyanga, 2009). Potocky-Tripodi (2002) pointed that good practitioners in the field of immigrants and refugees should be armed with knowledge in the areas of human rights, citizenship legislations, international law, social justice, language, and cultural diversity, and should be culturally competent. George (2002) and Valtonen (2001) indicated the effectiveness of self-help, support from established ethnic individuals, and community development approach for successful resettlement of refugees and immigrants.

Improving this population's social connections is critical to their successful integration (Drolet & Moorthi, 2018) as social isolation is associated with negative mental health (Kira et al., 2014). For this purpose, providing meso-level services such as peer mentoring programs, creating relationships between recently arrived and established refugees, as well as engaging Arab refugees in volunteering or community activities can be beneficial (Strang & Quinn, 2019; Webber & Fendt-Newlin, 2017). The use of language courses for the purpose of developing social opportunities is also recommended (Strang & Quinn, 2019). At a micro level, some studies recommended social skills training (Webber & Fendt-Newlin, 2017).

The current study found that for improving social connections, health status is a significant factor. Improving access to health care among Arab war-affected refugees is essential. In the U.S., health care access is usually related to employment. As indicated in

the qualitative part of this study, refugees often take the job that is not relevant to their qualification or experience discrimination at work. This may limit their access to their health care to maintain health status or improve health. It is also important to have some specific strategies to involve refugees with lower health status in social interactions. For example, group-based community activities such as gardening and participatory arts have shown effective social participation among people struggling with health issues (Hacking, Secker, Spandler, Kent, & Shenton, 2008; Webber & Fendt-Newlin, 2017). Further, according to this study's findings, as the length of stay in the U.S. increases, it is more likely this group's social connections will increase. It is important to be cautious about this statement as refugees' social connections may improve over time due to other factors. For example, recently arrived refugees may struggle with basic needs of resettlement and may be unable to create and maintain social relationships at earlier times of their arrival. Further, as refugees' understandings of the host country's culture improves, they may experience increased social connections over time. Regarding the implication of this finding, it is critical to have some additional assistance such as community social support for those who are in the U.S. for shorter times.

At a micro level, assessing Arab refugees' coping strategies and helping them develop more effective problem-focused and emotion-focused coping strategies is essential for improvement of this group's social connections. For example, enhancing their problem-solving skills or positive thinking is highly recommended (Nash et al., 2006). These findings regarding coping strategies should help in designing the most appropriate interventions with Arab conflict-affected refugees in the U.S. To have effective interventions with this group, social workers should take into account their

cultural and ethnic differences, as well as multidimensionality of their challenges, and therefore, to provide interventions that are individualized, durable, and growth-oriented (Woltin et al., 2018). Conflict-affected individuals should use a variety of emotion- and problem-focused coping strategies to improve their well-being (Cherewick et al., 2016).

Social connections should also be supported through policy. The stated goal of the U.S. refugee resettlement program, which is governed by the Refugee Act of 1980, is to assist refugees to reach economic self-sufficiency quickly (Office of Refugee Resettlement, 2019). According to this act, many integration and resettlement services are focused on employment and avoiding cash assistance (Fix, Hooper, & Zong, 2017). At the early stages of arrival, refugees receive services regarding food, children's school, affordable housing, clothing, ESL classes, legal documents, and employment (Fix et al., 2017). Refugees may also be eligible to receive services from federal public assistance programs such as temporary assistance for needy families, supplemental security income, Medicaid, and supplemental nutrition assistance program (Fix et al., 2017). None of these services have focused on improving social connections among refugees. Considering the benefits of social connections for successful integration of refugees, their economic self-sufficiency, as well as their health, it is crucial to consider social connections in resettlement programs and policies. As a macro-level intervention, social workers can advocate for policy changes regarding social inclusion and social engagement of refugees in the new society.

In addition, there is a lot of room for strengthening this group's language competency. Problems including inadequate facilities, limited funding, poor teaching quality, lack of transportation to classes, and no durability have been articulated

regrading ESL classes for refugees (U.S. Government Accountability Office, 2011). Providing more ESL classes for Arab refugees is recommended. Further, it is important to improve the design and quality of ESL classes for the best possible results. Going beyond resettlement agencies, offering English language trainings through informal and cultural programs delivered by community agencies and religious institutes could be beneficial. As the study demonstrated, health, education, and length of stay were factors associated with English language proficiency. Therefore, in providing language training or services, it is critical to give priority to those Arab refugees with lower health status, limited education, and shorter residency duration.

The high likelihood of PTSD among Arab war-affected refugees needs considerations for social work practice. Through resettlement agencies, interventions such as management of chronic disorders should assist this group of refugees by providing psychological symptoms assessment and mental health services soon after migration (Drozdek, 2007; LeMaster et al., 2018). The association of PTSD with war trauma and loss has also implications. Social workers should be aware of Arab refugees' war trauma exposure and its negative effects on their well-being and integration outcomes (Ostrander et al., 2017). In practice, assessment of trauma history is necessary, which is regularly implemented at the earlier stages of resettlement as part of the onboarding process (LeMaster et al., 2018). Using effective trauma-focused and trauma-informed interventions such as narrative exposure therapy, cognitive-behavioral therapy, and community gardens can help this group to overcome their past trauma (Hartwig & Mason, 2016; Slobodin & De Jong, 2015). In addition, it is critical to discourage Arab

war-affected refugees from applying dysfunctional coping strategies due to their negative effects on PTSD.

It is important to keep in mind that the nature of Arab refugees' experienced trauma is collective and intergroup, which is different than individual single trauma, and thus, it requires different types of interventions such as multi-systemic models derived from the social-ecological perspective (Kira et al., 2014). That is, trauma interventions with Arab refugees should go beyond individualistic and biomedical trauma interventions and address cultural, resettlement, and acculturation challenges simultaneously (Kira et al., 2014). Some studies also recommend emotion regulation interventions before trauma-focused therapies as emotion dysregulation is a risk factor for trauma survivors in the presence of post-migration stressors (Nickerson et al., 2014). Further, it is critical to help refugees address their feeling of loss in the new community. For this purpose, providing interventions to promote acculturation such as social support is crucial (LeMaster et al., 2018).

Strengths and Limitations of the Study

The study had both strengths and limitations. As a strength, a big number of variables was examined. The researcher studied four control variables, three types of stressors, and three categories of coping strategies in association with both positive and negative outcome variables. Examining coping strategies in three categories was also a strength as looking at only two categories of emotion- and problem-focused coping is problematic. Sample size of 130 was a decent number. Using hierarchical regression was beneficial to investigate the effects of different sets of variables on outcomes. Despite of these strengths, the study had multiple limitations.

Although the sample was diverse in terms of country of origin and education, it was not representative of the Arab war-affected community in the U.S. The results are not generalizable as the data was collected from a non-representative sample in only one state. One of the war-affected Arab countries (Kuwait) did not have any representative in the sample. Participants did not represent countries equally; some countries such as Syria and Iraq had more participants. The majority of respondents were male. One limitation of the sample was the lack of variability in health status—this sample had a majority of respondents with good or excellent health status. Recruitment mainly from mosques was a limitation as well. Further, having participants from ESL classes offered by a resettlement agency was a limitation as they might have reported higher scores for outcome variable of English language proficiency.

The other limitation of the study was related to the measurement. Regarding past trauma, people from different countries did not have the same war trauma experiences. Further, the HTQ was not a perfect tool for measurement of past trauma. If a person did not respond to items of this scale, it did not mean that the person did not experience that item as this scale is designed in a way that a person can skip any upsetting item. In addition, different items of this scale were equally weighted; however, they were considerably different in terms of the degree of painfulness. For example, “oppressed because of ethnicity, religion, or sect” is not equally painful as “torture” or “sexually abused or raped.” The HTQ is also limited as it has above 40 items, which made some respondents skip this part of the survey because of response burden. To the knowledge of this researcher, there is not a shorter validated version of this scale. Further, other measures for other predictors and/or outcomes had some challenges. For example, instead

of asking language proficiency using one question, it would be better to use a scale/multiple items. Similarly, to measure health, it could also be beneficial to have multiple questions asking both mental and physical health. Another limitation was to have health, PTSD, and language proficiency items in a self-report fashion, which could pose some inaccuracy. Low internal consistency of the scales measuring emotion-focused and dysfunctional coping strategies was another limitation.

The study did not examine some important factors including economic hardships in the host country, social network size, loss in social status, and family size (Kira et al., 2014). These factors can impact refugees' integration outcomes. Further, pre-migration language capital is a factor that the researcher did not include to examine predictors of English language proficiency. It is a possibility that some respondents already knew English when they arrived in the U.S. whereas some may learn English after being in the U.S. As the current study was cross-sectional, this is a limitation, hindering interpretation of causality. For example, if one had English language competency before entering the U.S., examining the predictors such as length of stay or post-migration stressors is questionable. The other limitation of the study could be if some people responded from the same family, it might be challenging. Although depending on their status in family, their experience may be quite different, there may still be similar experiences. It is not easy to say how many of the respondents were from the same family. Finally, causal relationships between variables were unclear. For example, health was considered as an independent variable; however, it could be an outcome variable. Similarly, English language could be an independent variable influencing social connections or PTSD.

Recommendations for Future Studies

In this study, two positive integration domains and one negative indicator were included as outcome variables. Having more comprehensive indicators of both positive and negative integration domains can be beneficial. Going beyond social connections and language proficiency, other refugee integration outcome areas can be studied. For example, children's education, civic engagement, housing, and employment are other integration domains less studied among Arab war-affected refugees in the U.S. Examining other factors that may influence these outcomes is crucial. For example, factors such as income, social support, social network, family size, and marital status can be examined. It is also recommended to study specific coping strategies more in-depth. For example, as respondents highlighted a strong use of religious and spiritual coping strategies, it might be beneficial to further examine the effects of this specific strategy on Arab refugees' outcomes. Developing a brief scale to measure past war trauma is important as most of the existing scales are very long.

Given not strong degree of social connections among the target group, more studies should be conducted to examine the cause of this and to learn about this group's preferred ways of social connections. For this purpose, studies exploring barriers and facilitators to social connections among this group is necessary. This study found health status as a significant predictor of social connections, and thus, for future studies, it is recommended understanding factors affecting health condition among this population. This can have important implications for further program/policy development (not only to improve social connections). Studies regarding design and evaluation of culturally appropriate interventions to improve this group's social connections are also imperative.

Given the focus of the U.S. refugee resettlement program on getting refugees into economic self-sufficiency and employment as quickly as possible (Fix et al., 2017), it is important to study how social connections can impact employment and economic self-sufficiency of refugees. Examining the relationship of social connections and other integration/well-being domains can also be an interesting topic of study. In addition, one relevant sociological concept that can be examined further with Arab refugees in the U.S. is social anomie developed by Durkheim. Social anomie occurs when previously established values and norms in the society disappear or disintegrate, and consequently it leads to the feeling of disconnection (Marks, 1974).

Studying English language competency as a mediator between stressors and social connection is also recommended. In addition, research to assess effectiveness of ESL classes for Arab refugees should be considered as it can enhance their language proficiency. Other variables such as social support can be examined as a moderator between stressors and refugee integration areas in the future studies. A qualitative study as a follow up of this study can provide a basis for a sequential mixed method study, assisting the researcher not only to deepen understanding around Arab refugees' experience in relation to both positive and negatives indicators of integration and well-being, but also to develop ideas/items for scale (e.g., trauma) and then, test it with another follow-up quantitative study.

Future studies involving social work interventions with war-affected Arab refugees should take into account the uniqueness of this group's past trauma and post-migration experience and individualize interventions for the best results. Studies should also be conducted to examine how and what specific problem-focused and/or emotion-

focused coping strategies can be enhanced/emphasized among war-affected Arab refugees. In addition, the lack of attention to climate and political environment in this study was a challenge. Given the current anti-immigrant climate in the U.S. (Wells, 2017; Wray-Lake et al., 2018), examining the effects of social and political atmosphere on refugees' integration is recommended. Further, studying how Arab refugees construct such climate using symbolic interactionist theory is an interesting topic for a future study.

In terms of methodology, using longitudinal studies can help address limitations regarding causal relationships. For example, if English language proficiency is measured in a few points of time, a researcher can investigate the improvement in this domain over time, which will be more accurate than a one-time self-report measurement. In a cross-sectional study, English language may be considered as an independent variable, rather than a dependent variable. Further, researchers should recruit war-affected refugees from a variety of locations including resettlement agencies, religious organizations, health centers, and grocery stores to improve the representativeness of the sample in future studies. It is also crucial to put more efforts in recruiting Arab women as due to traditional cultural norms, they are less likely than men to get involved in research or social activities (Read, 2004).

Chapter 7: Conclusion

This study examined the association of war trauma, post-migration stressors, coping strategies, and resilience-related outcomes among Arab war-affected refugees in the U.S. Given the considerable number of Arab refugees in the U.S., this current study has three significant contributions. First, unlike a lot of existing literature in the field of refugees, this study applied a strength-based approach and highlighted positive outcomes rather than needs and pathological aspects of refugee resettlement. Second, using the refugee integration literature, the researcher developed a conceptualization of resilience-related outcomes among refugees. That is, ten domains of refugee integration such as housing, employment, health, education, social connections, language, civic engagement, and children's education were discussed as areas one can examine in relation to past trauma or other stressors as resilience-related outcomes. These domains may be investigated at the individual, family, or community levels. Third, to the knowledge of this researcher, no study examined the moderation effects of coping strategies between stressors and positive outcomes among refugees in the U.S. This study addressed this gap through examining the moderation effects of three categories of emotion-, problem-focused, and dysfunctional coping strategies.

Regarding the future of Arab refugees in the U.S., it is important to make the U.S. a more welcoming place for newcomers. It is critical for social workers to raise awareness in the public regarding discriminatory and oppressive situations against Arab refugees, as well as regarding their stories, challenges, and strengths through a variety of activities such as holding festivals and creating campaigns focused on human rights and

social justice (Teloni & Mantanika, 2015). These strategies can improve relationships between Americans and Arab refugees.

This study is also useful for the social work education and practice. In working with refugees, social work practitioners should be able to work at multiple levels and involve in inter-professional collaboration (Hill et al., 2009; Nash et al., 2006). They also need knowledge in subject matters related to refugees such as human rights, social justice, social exclusion, citizenship legislations, cross-cultural values, and language differences (Hill et al., 2009; Potocky-Tripodi, 2002). Gaining cultural competence is also critical in working with refugees, as learning about refugees' history, cultural norms, and linguistic needs leads to stronger engagement with them that improves the effectiveness of interventions (Dubus & Davis, 2018; Potocky-Tripodi, 2002). Therefore, social work education should be offered in a way to enhance students' refugee-related knowledge, ethical practice, cultural competence, and specialized skills through offering internship within resettlement agencies, inviting refugee guest speakers to the class, and providing reading, discussion, and critical reflection opportunities around refugees' experiences (Luca Sugawara et al., 2020; Morley & Briskman, 2019; Nash et al., 2006; Price et al., 2019). It is also necessary to increase social work students' knowledge regarding past war trauma experienced by many Arab refugees, as well as discrimination against them in the U.S. and how these may influence this group's integration outcomes negatively (Hill et al., 2009; Luca Sugawara, Carlson, Makki Alamdari, & Vukoviæ-Èoviæ, 2017; Ostrander et al., 2017). Learning how to work inter-professionally in practice with refugees is also critical to get embedded in social work curricula (Hill et al., 2009; Makki Alamdari, Walton, & Moynihan, 2020).

Appendix A - Source of Measures and Changes by This Researcher

Type	*Variable Name*	*Source of Items*	*Changes*
Independent Variables	War Trauma Exposure	Harvard Trauma Questionnaire	Same
	Post-migration Stress	Demands of Immigration Scales (Aroian et al., 2008)	-Of six subscales, three subscales (Loss, discrimination and not at home) will be used. -The original scale asks questions about participants' experiences in the last three months. For this research, the questions will be about their experiences since arrival to the US.
Control Variables	Health Status	Developed from Literature Review	---
	Education		
	Length of stay in the U.S.		
	Gender		
Moderating Variable	Coping Strategies	Brief COPE (Carver, 1997)	Same
Outcome Variables	Language	Developed from literature review	
	Social connections	The RISE survey (Lichtenstein et al., 2016)	-One item from each sub-scale, which was about access to information about one's own or different cultures and ethnic groups, was removed. -Both sub-scales' items were called as "social connections". -Frequency was asked rather than yes-no questions.
	PTSD Screening	The Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) (Prins et al., 2015)	Same

Appendix B - Details of Measures

Variable Type	*Variable Name*	*Response Choices per Item*	*#of items used*
Stressors	War Trauma Exposure	Yes/No	41
	Post-migration Stress	Five-point Likert Scale	11
Control variables	Health Status	Five-point Likert Scale	1
	Education	Nine options	1
	Length of stay in the US	Open-ended	1
	Gender	Three options	1
Moderator	Coping Strategies	Four-point Likert Scale	28
Resilience-Related Outcomes	Language	Five-point Likert Scale	2
	Social connections	Five-point Likert Scale	4
Mental Health	PTSD Screening	Yes/No	5
	Total		95

Appendix C - Survey

Resilience-Related Outcomes among War-Affected Arab Refugees in the US

All information collected will be anonymous. The survey will take around 30 minutes. There are no right or wrong answers AND the researcher cannot connect any responses to a specific person. All responses will be aggregated to preserve anonymity. Your input will be greatly important! Thanks in advance for your participation!

1-What is your country of birth?

◯ Iraq ◯ Kuwait ◯ Lebanon ◯ Libya ◯ Palestine ◯ Somalia ◯ South Sudan ◯ Sudan ◯ Syria ◯ Yemen
Other:…….

(If you are not from any of these countries, you are not eligible for this study, and disregard completing the survey.)

2-Have you experienced war? Yes ….. No …..

(If you have not, you are not eligible for this study, and disregard completing the survey.)

3-Did you enter the U.S. as a refugee? Yes ….. No …..

4-What is your age (in years)? …….

(If you are under 18, you are not eligible for this study, and disregard completing the survey.)

5-Are you able to read and write Arabic? Yes ….. No……

(If you answered "no", you are not eligible for this study, and disregard completing the survey.)

We would like to ask you some questions about yourself. For each question, please choose a response that describes you best.

6-When did you enter the U.S.? Year: …… Month: ……

7-What is your gender? ◯ Male ◯ Female ◯ Other

8-What is your highest education level?

◯No school, but able to read and write

◯Some years of elementary or middle schooling

◯High school diploma

◯Some college

◯Undergraduate degree

◯Master degree

◯PhD degree

◯Other professional degree (please describe) _____

9-How do you rate your current health?

◯Very poor ◯Poor ◯Average ◯Good ◯Excellent

10-How do you rate your current English language proficiency?

◯Very poor ◯Poor ◯Average ◯Good ◯Excellent

11-Since the time you arrived in the U.S., how much have you improved in English?

◯Not at all ◯Very little ◯Somewhat ◯Moderately ◯A great deal

12-Are you currently employed? ◯Yes ◯No

If yes, hours employed per week: -------

If no, what are the barriers to your employment?

◯ No decision to work

◯ Children at home

◯ Working as volunteer

◯ Could not find job

◯ Enrolled in vocational training

◯ Health issues

◯ Too old

◯ Attending school

◯ Other (please specify) ----------

13-In this section, we will ask you about your previous experience after the start of the war in your home country. Please check all items that you have experienced in the past in your home country or after leaving that. If you find some questions upsetting, please feel free not to answer:

- ◯ Oppressed because of ethnicity, religion, or sect
- ◯ Present while someone searched for people or things in your home.
- ◯ Searched
- ◯ Property looted, confiscated, or destroyed
- ◯ Forced to leave your hometown and settle in a different part of the country with minimal services
- ◯ Imprisoned
- ◯ Suffered ill health without access to medical care or medicine
- ◯ Suffered from lack of food or clean water
- ◯ Forced to flee your country
- ◯ Expelled from country based on ancestral origin, religion, sect or ethnicity
- ◯ Lacked shelter
- ◯ Witnessed the desecration or destruction of religious shrines or places of religious instruction
- ◯ Witnessed the arrest, torture, or execution of religious leaders or important members of tribe
- ◯ Witnessed mass execution of civilians
- ◯ Witnessed shelling, burning, or razing of residential areas or marshlands
- ◯ Witnessed chemical attacks on residential areas or marshlands
- ◯ Exposed to combat situation (explosions, artillery fire, shelling) or landmine
- ◯ Serious physical injury from combat situation or landmine
- ◯ Used as a human shield
- ◯ Serious physical injury of family member or friend from combat situation or landmine
- ◯ Witnessed rotting corpses
- ◯ Confined to home because of chaos and violence outside
- ◯ Witnessed someone being physically harmed (beating, knifing, etc.)
- ◯ Witnessed sexual abuse or rape
- ◯ Witnessed torture
- ◯ Witnessed murder
- ◯ Forced to inform on someone placing them at risk of injury or death

◯ Forced to destroy someone's property

◯ Forced to physically harm someone (beating, knifing, etc.)

◯ Murder or violent death of family member (child, spouse, etc.)

◯ Murder or violent death of friend

◯ Forced to pay for bullet used to kill family member (child, spouse, etc.)

◯ Received the body of a family member (child, spouse, etc.) and prohibited from mourning them and performing burial rites

◯ Disappearance of a family member (child, spouse, etc.)

◯ Disappearance of a friend

◯ Family member (child, spouse, etc.) kidnapped or taken as a hostage

◯ Friend kidnapped or taken as a hostage

◯ Someone informed on you placing you and your family at risk of injury or death

◯ Physically harmed (beaten, knifed, etc.)

◯ Kidnapped or taken as a hostage

◯ Sexually abused or raped (i.e., forced sexual activity)

◯ Torture (i.e., while in captivity you received deliberate and systematic infliction of physical and/or mental suffering.)

Please specify any other situation that was very frightening or in which you felt your life was in danger. _____

14-The questions below are about feeling and perception you have experienced here in the U.S. as a refugee/immigrant. Please indicate to what extent you feel distressed by each item below as it relates to your experiences of being in the US.

	Not at all	Slightly	Somewhat	Moderately	Much	Very much
I miss the people I left behind in my original country.	◯	◯	◯	◯	◯	◯
When I think of my past life, I feel emotional and sentimental.	◯	◯	◯	◯	◯	◯
When I think of my original country, I get teary.	◯	◯	◯	◯	◯	◯
I feel sad when I think of special places back home.	◯	◯	◯	◯	◯	◯
	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
As an immigrant, I am treated as a second-class citizen.	◯	◯	◯	◯	◯	◯

Americans treat me as an outsider.	○	○	○	○	○	○
People with foreign accents are treated with less respect.	○	○	○	○	○	○

15-We would like to ask you about what you do when you have difficulties or experience stress. For each statement, please check how often you use the strategy.

	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
I've been getting emotional support from others.	○	○	○	○
I've been giving up trying to deal with it.	○	○	○	○
I've been taking action to try to make the situation better.	○	○	○	○
I've been refusing to believe that it has happened.	○	○	○	○
I've been using alcohol or other drugs to help me get through it.	○	○	○	○
I've been looking for something good in what is happening.	○	○	○	○
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	○	○	○	○
I've been accepting the reality of the fact that it has happened.	○	○	○	○
I've been expressing my negative feelings.	○	○	○	○
I've been trying to find comfort in my religion or spiritual beliefs.	○	○	○	○
I've been trying to get advice or help from other people about what to do.	○	○	○	○
I've been thinking hard about what steps to take.	○	○	○	○
I've been blaming myself for things that happened.	○	○	○	○
I've been making fun of the situation.	○	○	○	○

16-We would like to ask you about your social connections such as spending time with others and attending events.

	Not at all	A little	Sometimes	Often	Always
How frequently do you spend time with people who share your culture, ethnic group, language, or religion here in the U.S.?	○	○	○	○	○
Since coming to the U.S., how frequently have you attended a celebration or event of your culture, ethnic group, language, or religion (i.e., march, parade, or festival)?	○	○	○	○	○
How frequently do you spend time with people of a culture, ethnic group, language, or religion different from your own?	○	○	○	○	○
Since coming to the U.S., how frequently have you attended a celebration or event of a culture, ethnic group, language, or religion different than your own (i.e., march, parade, festival)?	○	○	○	○	○

17-The next questions are about problems and complaints that people sometimes have in response to stressful life experiences. Please indicate if you have been bothered by each problem.

	Yes	No
In the past month, have you had nightmares about the event(s) or thought about the event(s) when you did not want to?	○	○
In the past month, have you tried hard not to think about the event(s) or went out of your way to avoid situations that reminded you of the event(s)?	○	○
In the past month, have you been constantly on guard, watchful, or easily startled?	○	○
In the past month, have you felt numb or detached from people, activities, or your surroundings?	○	○
In the past month, have you felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?	○	○

18-Since arrival in the U.S., what have you accomplished successfully in your job, personal life or family, which makes you feel happy or proud of? (e.g., buying a property or a car, owning a business, doing voluntary work, donating money, helping your family members out of the U.S., completing courses in college or school, receiving certificate, license, award or pursuing your dreams.)

19-Thinking back the experiences you have had since your arrival in the U.S., how do you think the social and political climates of the cities/communities in which you have lived have affected your life?

Appendix D – Study Information Sheet

INDIANA UNIVERSITY STUDY INFORMATION SHEET FOR RESEARCH

[Resilience-Related Outcomes among War-Affected Arab Refugees in the US]

About this research

You are being asked to participate in a research study. Scientists do research to answer important questions which might help change or improve the way we do things in the future.

This form will give you information about the study to help you decide whether you want to participate. Please read this form, and ask any questions you have, before agreeing to be in the study.

Taking part in this study is voluntary.
You may choose not to take part or may leave the study at any time. Leaving the study will not result in any penalty or loss of benefits to which you are entitled. Your decision whether or not to participate in this study will not affect your current or future relations with IUPUI.

This research is intended for individual 18 years of age or older. If you are under age 18, do not complete the survey.

This research is for residents of the United States. If you are not a U.S. resident, do not complete the survey.

Why is this study being done?

The purpose of this study is to [understand refugees' past trauma experiences and to help them successfully integrated in the US].

You were selected as a possible participant because [you are attending ESL classes or religious events of mosque or church].
The study is being conducted by [Sara Makki Alamdari and IUPUI/School of Social Work].

What will happen during the study?

If you agree to be in the study, you will do the following things:

Completing a survey in the agency of ESL classes, mosque or church. It will take no more than 15 minutes. This is a one-time study.

What are the risks and benefits of taking part in this study?

There are no risks of participating in this research. You may feel sad in answering some questions. Please disregard answering any questions that make you unhappy.

The benefits to participation in the study include learning things which will help scientists in the future.

How will my information be protected?

All research includes at least a small risk of loss of confidentiality. Efforts will be made to keep your personal information confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Your identity will be held in confidence in reports in which the study may be published and databases in which results may be stored.

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, the Indiana University Institutional Review Board or its designees, and any state or federal agencies who may need to access your research records (as allowed by law).

Will I be paid for participation?

You will receive $10 token of appreciate as a gift card upon completing the survey.

Who should I call with questions or problems?

For questions about the study, contact the researcher Sara Makki Alamdari at XXX-XXX-XXXX.

For questions about your rights as a research participant or to discuss problems, complaints or concerns about a research study, or to obtain information, or offer input, please contact the IU Human Subjects Office at 800-696-2949 or at irb@iu.edu.

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Curriculum Vitae

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Education

- **Indiana University,** *PhD, Social Work, Minor in Sociology,* 2020
- **Indiana University,** *Master of Social Work, Concentration in Advanced Generalist Practice,* 2019
- **University of Tehran**, Tehran, Iran, *Master of Arts in Social Science Research*, 2011
- **Iran University of Science and Technology**, Tehran, Iran, *Bachelor of Science in Civil Engineering*, 2008

Professional Experience

- *Research Assistant,* **Indiana University School of Social Work**, 2019-May 2020
- *Service Learning Associate Graduate Assistant,* **IUPUI Center for Service and Learning,** 2017-2019
- *Statistical Data Analyst,* **Indiana University School of Social Work**, 2019
- *Research Assistant,* **Indiana University School of Social Work,** 2014-2017
- *Primary Investigator and Project Director,* **KuritKara Consulting Engineering CO.**, Tehran, Iran, 2009-2010

Publications

- Makki Alamdari, S. (2020). Civic attitudes and civic engagement among Middle Eastern and North African refugees and immigrants in the US. *Advances in Social Work, 20*(1).
- Makki Alamdari, S. & Bishop, C. (2020). Civic engagement among Iranians in the United States. *Journal of Muslim Philanthropy & Civil Society, 4*(1), 27-54.
- Makki Alamdari, S., Walton, B., & Moynihan, S. (2020). Addressing specialization and time to enhance adult learning: Workshop participants' perceptions. *Professional Development: The International Journal of Continuing Social Work Education, 23*(1), 15-26.
- Mohaqeqi Kamal., S. H., Basakha, M., Ghaedamini Harouni, G., Makki Alamdari, S., Sajjadi, S. (2019). Alcohol use among homeless men in Tehran, Iran: Risk and protective factors. *Iranian Journal of Psychiatry and Behavioral Sciences, 13*(3), e81346. doi: 10.5812/ijpbs.81346.
- Makki Alamdari, S., Hahn, T. W., Price, M. F., & Studer, M. L. (2019). Perceptions of IUPUI faculty and staff regarding the Center for Service and Learning faculty/staff development programs. *IUPUI ScholarWorks*. https://doi.org/10.7912/48w3-r931
- Mohaqeqi Kamal., S. H., Ghaedamini Harouni, G., Basakha, M., & Makki Alamdari, S. (2019). Multidimensional child poverty index in Iran: Distribution of deprivations across provinces. *Journal of Poverty, 4*(23), 353-364. https://doi.org/10.1080/10875549.2019.1596195
- Bishop, C. & Makki Alamdari, S. (2018). The impact of paternal involvement and United States stay length on Latino youth's depressive symptoms. *Perspectives on Social Work Journal, 14*(2), 2-16. https://doi.org/10.7912/ja6w-em36

- Makki Alamdari, S., & Jalaiepour, H. R. (2014). Analysis of operation of NGOs in the field of fighting against drug addiction with agency-structure perspective. *Social Welfare Quarterly, 14*(52), 227-251. [in Persian]
- Makki Alamdari, S., & Jalaiepour, H. R. (2012). A comparative content analysis of 2nd and 3rd grades of elementary school's Persian literature course books of 1967 and 2008 with regard to civil behavior elements. *Journal of Curriculum Studies, 6*(23), 36-55. [in Persian]

Conference Presentations

- Luca Sugawara, C., Basic, S., Krasniqi, V., Caha, D., Makki Alamdari, S., Kim, H., & Stanke, K. (2020, June-July). *Higher education and community-engaged programs: A strategy for building local capacity for community development in post-communist countries*. Paper presented at 2020 Social Work Education and Social Development Conference, Rimini, Italy, 2020.
- Makki Alamdari, S. (2020, May). *Effects of self-employment on income and spousal collaboration*. Poster presented at 24th Annual PhD Spring Symposium, Indianapolis, IN, 2020. Indianapolis, IN: Indiana University School of Social Work.
- Makki Alamdari, S. (2020, May). *Public concern regarding the environment in the U.S.* Poster presented at 24th Annual PhD Spring Symposium, Indianapolis, IN, 2020. Indianapolis, IN: Indiana University School of Social Work.
- Price, M. F., Makki Alamdari, S., Luca Sugawara, C., Steele, J., Leslie, S., & Aquirre, O. (2019, November). *Building our capacity for relational program planning in GSL: Lessons from an institution -community partner action research project.* Paper presented at 6th Global Service Learning Summit, Clemson, SC, 2019.
- Makki Alamdari, S., Walton, B., & Moynihan, S. (2017, November). *Specialization and time: Two core principles for adult learning.* Paper presented at 2017 International Conference: Waves of Change, Oceans of Opportunity, San Diego, CA, 2017. Chicago, IL: Council for Adult and Experiential Learning (CAEL).
- Makki Alamdari, S., & Sullivan, P. (2017, October). *Improving students' engagement through policy-making.* Paper presented at 107th Annual Conference, Indianapolis, IN, 2017. Knoxville, TN: International Association for Truancy & Dropout Prevention.
- Luca Sugawara, C., Carlson, J., Makki Alamdari, S., & Vukoviæ-Èoviæ, S. (2017, July). International service learning in post-war Croatia: Capacity building for social work profession. Oral presentation at *20th Biennale International Consortium for Social Development (ICSD) Symposium*, Zagreb, Croatia.
- Makki Alamdari, S. (2017, April). *Best practices for economic empowering of the homeless*. Poster presented at 21st Annual PhD Spring Symposium, Indianapolis, IN, 2017. Indianapolis, IN: Indiana University School of Social Work.
- Makki Alamdari, S. (2017, March). *Improving civic engagement: A strength-based strategy to address post-resettlement challenges.* Paper presented at Refugee Provider Conference, Canyon, 2017. Canyon, TX: West Texas A&M University.

- Makki Alamdari, S., Alhajri, W., & Kim, H., (2016, November). Civic engagement among Middle Eastern and North African refugees and immigrants. *CSWE 2016 Annual Program Meeting*, Atlanta, Georgia.
- Makki Alamdari, S., & Sullivan, W., P. (2016, April). *Analyzing high school dropouts as a social problem: Policy considerations*. Poster presented at 20th Annual PhD Spring Symposium, Indianapolis, IN, 2016. Indianapolis, IN: Indiana University School of Social Work.
- Makki Alamdari, S. (2013). Analysis of Iran NGOs operations in preventing drug addiction. *National Conference of Social Harm Prevention: Emerging Social Harms, Theories and Strategies*, State Welfare Organization, Tehran, Iran. [in Persian]
- Makki Alamdari, S. (2012). How can we improve research in evaluating a social problem of begging? *Second National Social Pathology Congress*, Tehran, Iran. [in Persian]
- Makki Alamdari, S., Emami, K., Pourshahidi, S. (2011). Enhancement of accuracy of climate forecasting models by using of historical wet and drought years in Iran. *4th Iran's Water Resources Management Conference,* Tehran, Iran. [in Persian]
- Makki Alamdari, S., & Alikhani, A. (2010, April). Effect of ENSO climate indices in prediction of drought, case study: River of KashafRud in the northeast of Iran. *First National Water Challenge Symposium*, Qom, Iran. [in Persian]

Honors and Awards

- Awarded the 2020 IUPUI Elite 50