

ASSESSING AND INVESTIGATING MIGRATION-MORBIDITY AMONG
CHILDREN OF MEXICAN ORIGIN AND MEXICAN AMERICAN MOTHERS

A Dissertation

by

ERICA PÉREZ BONURA

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2011

Major Subject: School Psychology

Assessing and Investigating Migration-Morbidity Among Children of Mexican Origin
and Mexican American Mothers

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ABSTRACT

Assessing and Investigating Migration-Morbidity Among Children of Mexican Origin
and Mexican American Mothers. (August 2011)

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The migration morbidity hypothesis suggests that stress events inherent in immigration contribute to an increase in psychopathology. Assessing and investigating migration-morbidity among children of Mexican origin and Mexican American mothers living in the United States is the focus of the current study. Participants in the study were 133 students in 3rd, 4th, and 5th grades residing in the U.S.

A replication of the ASEBA Teacher Report Form (TRF) Post-Traumatic Stress Problems (PTSP) scale factor structure was conducted to determine its utility for children of Mexican and Mexican American mothers. Item-level confirmatory factor analysis (CFA) was used to evaluate the adequacy of the PTSP scale model. Three models were evaluated using a CFI, RMSEA, and WRMR to determine fit. Results using dichotomous TRF responses and omitting item 8, which includes information about a child's ability to concentrate, yielded a CFI = 0.956, RMSEA = 0.071, and WRMR = 0.862. Standardized factor loadings ranged from 0.484 to 0.976.

The ASEBA TRF was used to gather information about a teacher's perception of problem behaviors in the classroom. Information was gathered for two groups: children of Mexican and children of Mexican American mothers residing in south Texas. An ANOVA determined that teachers observed a statistically significant difference ($p = .04$, $d = 0.37$) in happiness between groups with children born of Mexican origin mothers and rated as less happy than their peers born to Mexican American mothers. Children did not differ in other measures of behavior.

The students resided in a primarily Mexican American/Mexican community, which could have impacted the results. In addition, the sensitive nature of the study may have impacted the low return rate. Implications of the study and their impact on education and immigrant mental health are discussed.

DEDICATION

This dissertation is dedicated to Dr. Gary Whitworth who guided, challenged, and motivated me into the profession. It is also dedicated to my grandparents and parents who worked in the fields so that their children wouldn't have to work there. They taught me that education was a powerful tool in overcoming poverty.

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Finally, thanks to my family for their encouragement, to my husband for his patience, faith in me, and love, and to my daughter who made me smile through the final steps of this process.

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CHAPTER I
INTRODUCTION AND
LITERATURE REVIEW

Immigrants have been central to the American fabric and foundation since the United States' early beginnings (Barkan, Diner, & Kraut, 2008). The Pew Hispanic Center reported that 12.5% of the United States population in 2006 was foreign born (Fry & Passel, 2009). This population of immigrants, although large in number, is not unique. During the mid to late 19th century, Irish and German immigrants constituted a similar portion of the U.S. population (Pew Hispanic Center, 2009). In the year 2010, 32% of the foreign born American population was projected to come from Mexico; as such, Mexicans constitute the largest population of immigrants residing within the U.S. (Passel & Cohen, 2009). In addition, as part of the 2010 census, nearly 51 million people in the U.S. identified as Hispanic (Passel, Cohen, & Lopez, 2011). The number of immigrants and their decedents residing within the U.S. makes this population crucial to the progress of American society, therefore, warranting further study. Although the population of Latin American immigrants to the U.S. represents a significant portion of the country's population, there is a paucity of scientific research that investigates the impact of the immigration experience on children and their families when compared with the international literature on immigrant children.

This dissertation follows the style of *Journal of Traumatic Stress*.

Often illuminated in pictures, editorials, and qualitative studies, the plight and its effects on Latin American immigrants into the U.S. is a difficult one (Aguilera-Guzmán, Salgado de Snyder, Romero, & Medina-Mora, 2004; Bowen & Marshall, 2008; Massey & Sanchez R., 2007; McGuire, 1993; Moynihan, Gaboury, & Onken, 2008; Ngo, 2008; Paris, 2008; Viruell-Fuentes, 2007). One woman interviewed described the actual passage from Mexico into the U.S. as “having to walk for three days without food...having to find water...the trip was really sad” (Paris, 2008; pg. 145). As such, the influx of Latin American immigrant families and their children, presents the interesting challenge of providing services to a population plagued with a combination of risk factors including poverty, traumatic experiences, cultural differences, and second language acquisition. These circumstances leave mental health professionals and the educational system struggling to assess and treat these families in an effective and ethical manner.

Qualitative studies document the struggles and traumatic events associated with the experiences of Latino immigrants, but quantitative studies looking at the effects of immigration on children are few, inconsistent, and fail to reach a consensus about the social and emotional impact of the immigration process (Aguilera-Guzman et al., 2004; Bowen & Marshall, 2007; Massey & Sanchez, 2007; McGuire 1993; Moynihan et al., 2008; Ngo, 2008; Paris, 2008; Partida, 1996; Viruell-Fuentes, 2007). Qualitative studies are necessary but insufficient in aiding the development of assessment measures and interventions for immigrant families, specifically children.

The purpose of the current studies is two-fold. First, an evaluation of the construct validity of an assessment tool used to measure trauma symptoms in immigrant children will be conducted. This is necessary in order to accurately assess migration-morbidity. Secondly, it is important to investigate migration-morbidity in children of Mexican origin and Mexican-American mothers using teacher input. Specifically, an investigation of the trauma experienced by a family and problem behaviors in the classroom will be examined.

Mexican Origin/Latino Populations in the U.S.

People immigrate to the U.S. for a variety of reasons including search for employment, to join family members (Paris, 2008). For children, the decision to immigrate is involuntary, often made by their parents or caregivers (Darwish Murad, Joung, Verhulst, Mackenbach, & Crijnen, 2004). This lack of control over the decision to immigrate further compounds stress associated with the immigration process (Birman, Weinstein, Chan, & Beehler, 2007).

The data on psychological outcomes of immigrants residing in the U.S. appears inconsistent. Some data appear to support the fact that they have better psychological outcomes than their U.S. born peers; however, conflicting data has been seen in prevalence of depression among Mexican women immigrants (Breslau, et al., 2007; Jensen, 2007; McNaughton, Cowell, Gross, Fogg, & Ailey, 2004). Other studies have demonstrated an increase in negative psychological outcomes, with at least one third of immigrant children and immigrant mothers experiencing mental health problems (McNaughton et al., 2004). Furthermore, research has suggested that immigrant children

and children of immigrants are more likely to be at risk for depression, anxiety disorders, substance abuse, and other psychological problems (Lamberg, 2008).

Cumulative Risk Hypothesis

Bronfenbrenner (1977) ecological systems theory posits that an individual's response to their environment and the ability to cope in that environment is determined by a combination of individual characteristics and the ecosystems that surround them. The microsystem, macrosystem, and exosystem have a unique contribution to the lives of immigrant families. It is the disturbance of the interaction between these ecological systems that often results in the cumulative effect of stress.

Microsystem

Bronfenbrenner described the microsystem as a combination of interactions between an individual and the setting in which that person is contained. Within the microsystem, the child of immigrants may take the role of student, English language learner, daughter or son, and familial link to the dominant culture. Moreover, the roles of an American child or teenager are often incompatible with traditional values and cultural expectations. For example, children encounter parental demands that suggest they stay "true" to their home culture and reject that of the new host culture (Mazzetti, 1997).

The battle within the microsystem between assimilation and acculturation impacts the child uniquely depending on their age, as well as individual risk and resiliency factors. Research suggests that adolescence, specifically, can be a difficult time for an immigrant child and the child of immigrants. During adolescence, children

struggle with peer acceptance and developing their own identities; within the microsystem, the role and influence of peers becomes even stronger (Fulgini, 1997).

Macrosystem

Cultural values and customs comprise the macrosystem. These include factors such as unfamiliarity with the dominant culture and language, violent and low-income neighborhoods, fear of deportation by government officials, poverty, and unemployment. All contribute to the immigrant's experience of their macrosystem. Discrimination at the systems level (i.e., the macrosystem) is a pattern of embedded factors within the educational, social, and political system that influences how immigrant families are treated within a culture and can affect their functioning within a society (Atzaba-Poria, Pike, & Deater-Deckard, 2004; Bronfenbrenner, 1977).

Exosystem

The larger exosystem, their new country, can minimize an immigrant's culture and encourage assimilation instead of acculturation (Mazzetti, 1997). Since many immigrants tend to live in neighborhoods with other immigrant families of similar culture, the neighborhood exosystem may seek to counteract the move toward acculturation and assimilation. Places such as Chinatown are found throughout the U.S. as areas in which immigrants have found solace and some protection from acculturation. As a result, these conflicting forces generate additional stress to children already exposed to heightened risk factors.

It is through a culmination of stressors, risk factors, and disruption of ecological systems that results in an increase in psychosocial dysfunction. This is especially true for immigrant families.

Migration-Morbidity Hypothesis

The migration-morbidity hypothesis refers to the culmination of stressors immigrants encounter that lead to difficulties with mental health (Klimidis, Stuart, Minas, & Ata, 1994; Mirsky, Kohn, Phil, Levav, Grinshpoon, & Ponizovsky, 2008). Factors such as reduced social support, social exclusion, and the struggle to adapt to a new culture and environment have all been suggested as impacting migration-morbidity (Mirsky et al., 2008). In addition, separation from caregivers, acculturation, maternal depression, trauma, and stress all contribute to the migration-morbidity hypothesis.

Several studies have refuted the migration-morbidity hypothesis indicating no difference in psychiatric disorders among children who emigrate from another country and native born children (Munroe-Blum, Boyle, Offord, & Kates, 1989; Roebbers & Schneider, 1999; Zwirs et al., 2007). Interestingly, some researchers have concluded that immigrant children actually had lower scores on problem behavior inventories than their native born peers (Davies, 1998, Georgiades, Boyle, & Duku, 2007; Neto, 2009). This conflicting literature lends support to the need for additional investigation of the migration-morbidity hypothesis.

Migration-Morbidity in Children

Countries around the world have explored the issue of immigration, stress symptoms, and their effect on children. Consequently, much of the literature related to

immigrant children has focused on children outside of the U.S. (Cheung, 1995; Tartakovsky, 2009). As early as 1979, researchers were investigating the functioning and adjustment of Finnish and Southern European immigrant children (Aurelius, 1979).

Internationally, there has been a wealth of information learned about how immigrant children function. Countries such as Australia, Canada, Germany, Israel, Russia, Sweden, and Turkey have explored the transition and impact of immigration on children (Atzaba-Poria et al., 2004; Beiser, Hou, Hyman, & Tousignant, 2002; Bengi-Arslan, Verhulst, van der Ende, & Erol, 1997; Davies & McKelvey, 1998; Roebbers & Schneider, 1999; Tartakovsky, 2009). Russia, second only to the U.S. in the number of foreign born immigrants, has supported this population trend and sociological transition with commensurate research of immigrants and how they fare in their new home country (Markus, 1980; Pew Hispanic Center, 2009; Ponizovsky, Ritsner, & Modal, 1999). Turkey, as a result of conflict within the country, has reacted to an increase in a foreign-born population by investigating the effects of immigration; specifically as seen in children (Aksel, Gün, Irmak, & Çengelci, 2007). Once more, they, like Russia and Sweden, have sought to learn more about the transition from one country into their own with research that reflects this sociological change. In addition, Sweden has conducted studies of immigrants reflecting their current population growth (Bengi-Arslan et al., 1997; Crijnen, Bengi-Arslan, & Verhulst, 2000; Darwish Murad, Joung, van Lenthe, Bengi-Arslan, & Crijnen, 2003; Reijneveld et al., 2005; Stevens, Vollebergh, Pels, & Crijnen, 2005; Stevens, Pels, Bengi-Arslan, Verhulst, Vollebergh, & Crijnen, 2003; Zwirs, et al., 2007).

A review of the literature suggests that immigrant children have an increased propensity toward general psychological disorder as a result of their immigrant status, supporting the migration-morbidity hypothesis (Bankston & Zhou, 2002; Derluyn, Broekaert, & Schuyten, 2008; Lien, Haavet, Thoresen, Heyerdahl, & Bjertness, 2007; Mirsky et al., 2008; Oppedal, Røysamb, & Heyerdahl, 2005; Reijneveld et al., 2005).

Internalizing and externalizing effects of migration-morbidity. Internalizing mental health difficulties were seen in many of the immigrant children populations assessed. In particular, the literature implies an increase in anxious and depressive symptoms (Bengi-Arslan et al., 1997; Crijnen et al., 2000; Diler, Avci, & Seydaoglu, 2003; Goldin, Hägglöf, Levin, & Persson, 2008; Mirsky, et al., 2008; Palaiologou, 2007). Risk factors such as living in a single parent home, family dysfunction, health problems, a family history of poor mental health, and repeating a grade were associated with an increase in emotional and behavioral disorders in immigrants when compared with their native-born peers (Darwish Murad et al., 2004).

Immigrants also appeared to suffer from a reduced sense of self-esteem (Aurelius, 1979; Davies, 1998; Diler et al., 2003; Klimidis et al., 1994). Limitations in language and feelings of exclusion have been observed as contributing to this reduced self-esteem by immigrant children (Roebbers & Schneider, 1999). If children are experiencing stress, related to or as a result of immigration, they are more likely to have feelings of low self-esteem (Aurelius, 1979; Diler et al., 2003; Klimidis et al., 1994). Self-esteem can affect children by limiting their motivation, academic success, and increase association with negative peers (Rumbaut, 1994).

Furthermore, an increase in suicidal ideation and parental reported depression are noted in immigrant children when compared with their same age peers (Ponizovsky et al., 1999; Rousseau, Drapeau, & Corin, 1997). Furthermore, immigrant children displayed a propensity for externalizing maladaptive behavior such as aggressive behaviors and rule-breaking behavior (Stevens et al., 2005). Severe stress reactions have been cited as a reason for problem behaviors exhibited by immigrant children in the schools (O'Shea, Hodes, Down, & Bramley, 2000).

Internalizing and externalizing effects in an educational setting. Teachers reported that immigrant students were more likely to display behavioral difficulties and symptoms of anxiety and withdrawal (Markus, 1980; O'Shea et al., 2000; Palaiologou, 2007; Stevens et al., 2003). For example, one study found Turkish immigrants had higher self-reported internalizing symptoms consistent with depression and anxiety, but teachers reported no differences in externalizing behavior when compared with non-immigrants (Diler et al., 2003). This negative view of self could potentially be attributed to insecurities about residing in a different country and acculturative issues. These externalizing problems were more often reported in males, which appears consistent with previous literature (Neto, 2009; Stevens et al., 2005; Zwirs et al., 2007). Academic difficulties can lead to an increase in externalizing behavior in immigrant children (Darwish Murad et al., 2004; Stevens et al., 2005).

Separation. The separation associated with immigration is conceptualized by many as a traumatic event (Rousseau & Drapeau, 2000; Rousseau et al., 1997). Through the process of emigration, foreign-born individuals are often separated from their nuclear

family. This separation can cause a disruption in well-established relationships (Roebbers & Schneider, 1999). One family member may arrive in the new country to secure employment and housing before sending for the remaining family members. The loss of extended family members and a social support group can exacerbate an already stressful situation (Pumariega et al., 2005). Separation leads to feelings of neglect, depression, and isolation by both the newly arrived immigrant and those left behind (Paris, 2008).

Furthermore, a child may experience feelings of separation when relatives are unable to emigrate with the remaining family unit. This sense of loss and separation from key attachment figures is often a by-product of trauma (Rousseau, et al., 1997). In addition, separation from primary caregivers or attachment figures has been documented as a traumatic experience for children (Rousseau & Drapeau, 2000; Rousseau et al., 1997). The culmination of these conditions can result in feelings of isolation from family, culture, and stability (Eisenbruch, 1990; Vega, Kolody, Valle, & Weir, 1991). This occurs when a family may send a child to live with other family members currently residing in the new host country. Parents, typically fathers, may leave the family behind in the native country while earning enough money to secure the transport of the remaining family unit. This leaves children, many times, without their parents or secure attachment figures.

Acculturation. Although acculturation is not the primary focus of this investigation, it is important to acknowledge its role in the migration- morbidity hypothesis. It appears that acculturation, as least partially, may affect the ability of individuals to cope with the transition and changes that come along with immigration.

Adults who were the least acculturated demonstrated the highest rate of psychological problems (Cheung, 1995; Zwirs et al., 2007). This was most prevalent among women aged 31 to 50 (Cheung, 1995).

Further, grief associated with the loss of a culture or country can produce stressful symptoms in immigrant children (Eisenbruch, 1988). Cultural bereavement can lead to the inability to form new attachments which could increase negative mental health outcomes (Eisenbruch, 1988, 1990). More specifically, acculturation levels have been reported as a contributing factor to the discrepant findings within the international immigrant research and migration-morbidity (Stevens, et al., 2003). Immigrant children who fell within the marginalization stage of acculturation were more likely to exhibit behavior problems (Neto, 2009). Marginalization occurs when immigrating individuals fail to maintain their native culture and reject interaction with the dominant culture (Berry, Phinney, Sam, & Vedder, 2006).

Maternal depression. Acculturation appears to contribute to the effects of depression in mothers and children within immigrant families. Data have suggested that Mexican immigrants living in the U.S. are at an increased risk of depression in women when compared with U.S. born women (McNaughton et al., 2004). The immigration experience leads to feelings of sadness, loss, and helplessness. The cause of depression in immigrant women appears related to perceived and actual familial support. Countless studies have looked at the effects of maternal depression on children (Aisenberg, Trickett, Mennen, Saltzman, & Zayas, 2007; Dumka, Roosa, & Jackson, 1997; Fortuna, Porche, & Alegria, 2008; McCloskey & Southwick, 1996; McNaughton et al., 2004;

Paris, 2008). Depressed mothers are less likely to have a support system (Beiser et al., 2002). In addition, they are more likely to display characteristics of inconsistent parenting, increase in the amount of time children spend unsupervised, have children who also display depressive symptoms, and a lack of adaptive coping strategies (Beiser et al., 2002; Dumka et al., 1997; Georgiades et al., 2007; McNaughton et al., 2004; If immigrants leave family members in their country of origin and now reside in a region with reduced social support systems, depression symptoms may increase.

Poor maternal mental health, specifically depression, is related to an increase in stress in Mexican immigrant children (McNaughton et al., 2004). Immigrant women are at a greater risk for maternal depression, impacting their U.S. born children (Vega et al., 1991). In addition, children who came from single-parent homes were more likely to experience a lower level of psychological well-being than those immigrants who had both parents at home (Beiser et al., 2002; Leung, 2001; Darwish Murad et al., 2004). Although less likely than those who are U.S.-born to reside in a single-parent home, their psychological well-being remains a concern for all immigrants, specifically Latin American immigrants where approximately 35% of children reside in single-parent homes (Pew Hispanic Center, 2009).

Parents who have themselves developed physical or mental health impairments as a result of immigration or acculturation are less likely to be engaged and in an emotional position to support their children (O'Shea et al., 2000; Pumariega et al., 2005). Furthermore, mothers with a high prevalence of depression may struggle to

establish secure attachments with their children thus creating children who are aloof and insecure (van Ecke, 2005).

Trauma and stress. Immigrants experience stress and trauma as a result of the pre-immigration, immigration, and post immigration processes (Birman et al., 2007; Pathak, 2003). Conditions such as a lack of food, water, high temperatures, and dangerous criminals can plague the path to a new country (Bowen & Marshall, 2008; Lamberg, 2008; Paris, 2008). Moreover, immigrants may be escaping war and terrorism, experiencing poverty, neighborhood violence, political persecution, and threats to their survival (Birman et al., 2007; Clark & King, 2008; O'Shea et al., 2000; Paris, 2008; Paulson, 2003; Pumariega, et al., 2005). Research has shown that trauma, more specifically, post-traumatic stress disorder (PTSD), poses significant long term mental health outcomes among immigrants (Cheung, 1995; Klimidis et al., 1994; Lamberg, 2008; Mirsky et al., 2008). Fortuna et al. (2008) research revealed that 11% of immigrant Latino adults reported some exposure to political violence and 76% described lifetime traumas. These traumas included personal assault, personal loss, and witnessing violence (Fortuna, et al., 2008; Jaycox et al., 2002).

A link between post-traumatic stress symptoms and immigrant adolescents has been reported across cultures and situations (Goldin et al., 2008). In addition, immigrant adolescents experienced more traumatic events than their non-immigrant peers and showed higher levels of peer problems and avoidance symptoms (Derluyn et al., 2008). These events often include exposure to violence by family members or the child themselves (Rousseau & Drapeau, 2000). In addition, Jaycox, et al. (2002) reported high

rates of post-traumatic stress symptoms, depression, suicidal behavior, sleep disturbance, and behavior problems in Central American and Southeast Asian immigrant children.

Parent-reported stressors of post immigration events, such as death of a relative and/or friend, serious health problems of family members, and employment stress, are associated with an increase in poor mental health in immigrant children (Darwish Murad et al., 2004). This experience of traumatic events may be associated with an increase in family conflicts (Rousseau et al., 1997). Family destabilization can serve as an additional stressor for an immigrating family. It appears to be the cumulative nature of stressful events in the life of an immigrant and their families that leads to negative consequences and an increase in psychopathology within children (Atzaba-Poria et al., 2004; Dumka, Roosa, & Jackson, 1997).

Educational implications of stress and trauma. An increase in academic difficulties appeared related to an elevated number of traumatic events experienced by the family (Rousseau & Drapeau, 2000). Other research looking at children who were exposed to trauma as residents of the country in which the precipitating event occurred, revealed deficits in memory, attention, and visual-spatial performance (Scrimin, Moscardino, Capello, & Axia, 2009). Immigrant children are more likely to be exposed to a variety of factors that may increase their vulnerability to the effects of trauma affecting their educational performance.

Gender and stress and trauma. There appears to be a strong gender bias toward the experience of psychological and stress symptoms in immigrant girls (Darwish Murad et al., 2003; Jaycox, 2002; Oppedal et al., 2005; Ponizovsky et al., 1999). Specifically,

immigrant girls demonstrate higher self-reported levels of withdraw, anxiety/depression, suicidal ideation, social problems, somatic complaints, post traumatic stress symptoms and internalizing problems (Darwish Murad et al., 2003). This coincides with the literature that suggests that girls may suffer more internalizing negative symptoms as a result of exposure to trauma and immigration. In addition, immigrant girls were almost twice as likely as their non-immigrant peers to report suicidal ideation (Ponizovsky et al., 1999).

Boys were seen as having an increase in behavioral problems (Neto, 2009; Stevens et al., 2005; Zwirs et al., 2007). Furthermore, more immigrant boys than girls reported elevated depressive symptoms and exposure to community violence in their native country (Diler et al., 2003). These results were in contrast to other findings that suggest no gender difference in the display of distress symptoms as a result of trauma exposure and immigrant status (Broberg et al., 2005; Klimidis et al., 1994). Immigrant women also experienced increase elevations in anxious symptoms when compared with men (Mirsky et al., 2008).

Girls appear to struggle initially with the mental health effects of immigration, such as peer difficulties, hyperactivity, and internalizing symptoms, whereas males are more likely to become vulnerable to internalizing and externalizing psychological problems the more time spent in the new host country (Oppedal et al., 2005). Girls reported higher post traumatic stress symptoms than boys (Jaycox et al., 2002). Furthermore, although girls experienced more PTSD symptoms, boys were more likely to have been exposed to community violence in their native country (Jaycox, et al.,

2002). One study indicated that more immigrant boys than girls reported elevated depressive symptoms (Diler et al., 2003). This was in contrast to other findings that suggest no gender difference in the display of distress symptoms as a result of trauma exposure and immigrant status (Broberg et al., 2005; Klimidis et al., 1994).

Enduring effects. Even after the actual immigration process children can be more susceptible to the negative consequences affecting their long term psychological development. Broberg, et al. (2005) documented the adverse reactions of immigrant teenagers to a discotheque fire in Sweden long after their immigration. The fire resulted in the death of 63 adolescents and injured over 200 people. Results of these measures indicated that stress was high and highest among children that had an immigrant background. As a result, nearly 23% of the survivors reported that they had either dropped out of school because of the fire or they were required to repeat a class. The authors concluded that victims who suffer from high level of PTSD, specifically immigrants, need special support over longer periods of time to minimize the effects on academics.

Developmental implications. Although only a few researchers have cited benefits of the immigration process, it does appear that the age of child immigration, specifically adolescences, can make them especially vulnerable to the consequences of immigration (Mahoney, 2002). Breslau et al. (2007) suggested that immigrant children who arrived in the U.S. before age 13 had an increase in depressive and anxiety psychiatric disorders when compared with their U.S.-born peers. In contrast, other studies have suggested that as children grow older they are at an increased risk for

psychological disorders and negative educational outcomes (Munroe-Blum et al., 1989; Stevens et al., 2003; Zwirs et al., 2007). Specifically, older adolescents were twice as likely to report suicidal ideation (Ponizovsky et al., 1999). These adolescents reported an increase in poor physical health and language difficulties as reasons for thoughts of suicide. Immigrant adolescents are often split between cultures; wanting to be accepted by peers of the dominant culture and living up to parental expectations (Stevens et al., 2003).

Poverty. Immigrant children not only face the immediate stressors of the immigration process and acculturation, but are more likely than their U.S. born counterparts to live in poverty (Fry & Passel, 2009). As a result, they are more likely to reside in areas with substandard living conditions, violent neighborhoods, inadequate mental and physical health services, in fear of deportation of self or family members, and attend high-need/low-resource schools (Beiser et al., 2002; Crosnoe, 2005; Lamberg, 2008; Thronson, 2008). Compounding these circumstances is the fact that nearly 10 million Mexican immigrants lack American citizenship (Pew Hispanic Center, 2009). Consequently, this limits an immigrant and their family's educational and employment opportunities.

Resiliency. Alternatively, although immigration is ripe with struggle, stress, and trauma, it can also be instrumental in aiding in the development of resiliency and coping skills (Chavkin & Gonzalez, 2000). The decision to emigrate is one made by those individuals with strong individuals that possess internal characteristics such as perseverance, strong will, diligence, and courage that motivate them to leave the

comforts of that which is known and venture into the unknown to search for something better. Immigrants often come to their new country with a firm work ethic and strong family bonds.

Building resiliency in immigrants includes educational, personal, and familial factors. Educational personnel can build resiliency in immigrant children by nurturing a supportive relationship (Eisenbruch, 1988) teaching pro-social skills, and encouraging participation in extracurricular activities. For example, high levels of parental support appeared to result in lower levels of depression in Mexican immigrants and reduced the degree of child conduct disorder (Dumka, et al., 1997). The school is an essential component of resiliency building because it is a central location where children are found and serves as an early representation of the dominant culture for immigrant children (Aurelius, 1979). In addition, immigrant children who are motivated, have a healthy self-esteem, and take personal responsibility are more likely to persevere (Eisenbruch, 1988). Familial qualities such as supportive and encouraging parents can also support resiliency (Eisenbruch, 1988).

Immigrant Children and Children of Immigrants and Education

There are over 2.2 million school-aged newly immigrant children in the U.S. (Schmidley, 2001). This accounts for about 10% of children enrolled in U.S. schools (Birman et al., 2007). Approximately 1.2 million of these children were born in Mexico (Pew Hispanic Center, 2009). 84% of Mexican immigrants living in the U.S. age 25 to 40 received a high school education or less with only 16% obtaining some college or more. This represents lower educational attainment when compared with 54% of all

immigrants to the U.S. achieving a high school education or less and 46% of those immigrants acquiring some college or more (DeParle, 2009). The children of Mexican immigrants do not fare any better, lagging behind the percentage of children of immigrants enrolling in college by more than 15% (DeParle, 2009).

The state of immigrant children within the educational system appears grim. Factors including acculturation, gender, discrimination, and socio-economic status can influence the educational experience of immigrants. Teachers and schools are often a child's first contact with the dominant culture. The availability of a knowledgeable bicultural and/or bilingual staff and educational programming can greatly influence the experience of an immigrant child. International studies, as well as those within the U.S., have painted a gloomy picture for immigrant children.

Only one study reviewed suggested that immigrant children fared better than non-immigrants on measures of academic performance (Georgiades et al. 2007). Others have reported no difference between immigrant children and their non-immigrant peers with regard to academic performance (Munroe-Blum et al., 1989; Rousseau & Drapeau, 2000).

Immigrant children were seen as having problems adjusting to a new culture. These difficulties are often exhibited through extended absenteeism (Aurelius, 1979; Markus, 1980). Adjusting to a new culture, language, and educational system, compounded with excessive absences, is a formula for educational failure.

If children are demonstrating problem behaviors or symptoms associated with stress, educational professionals are less likely to view these children as engaging and

therefore, they are less likely to seek a supportive relationship with immigrant children (Stanton-Salazar & Spina, 2003). After years of receiving negative responses, immigrant children are more likely to reduce their help seeking behavior from peers, parents, teachers, and/or members of the community as their time in the U.S. increases (Suárez-Orozco & Todorova, 2006). These two forces, a reduction in immigrant help-seeking behavior and an increase in intentional or unintentional avoidance by teachers and other educational professionals, propel children into a gray area where help is neither sought nor given. As previously noted, establishing an engaging and mentoring relationship with an adult can serve to protect children, emotionally and physically from the effects of negative circumstances (Suárez-Orozco & Todorova, 2006).

Many studies have examined teacher perspectives of immigrant children to those already residing in country (Anderson & Jimerson, 2007; Crosnoe, 2005; Georgiades, et al., 2007; Molins & Clopton, 2002; Rubio-Stipec, Bird, Canino, & Gould, 1990; Rudan, Begovac, Szivovicza, Filipovic, & Skočić, 2005; Vega et al., 1995; Zimmerman et al., 1995). Polo (2002) is one of the few researchers to look at Mexican immigrant children and the effects of that the immigration process on psychological and behavioral symptoms as reported by the child and their parents.

A review of international literature suggests that the migration-morbidity hypothesis is supported internationally. The lack of information within the U.S. suggests the need for additional investigation and assessment techniques to identify problems associated with the migration-morbidity hypothesis.

Assessing Migration-Morbidity

The *Achenbach System of Empirically Based Assessment* (ASEBA; Achenbach & Rescorla, 2001) has been used extensively in the examination of psychological symptoms in immigrant children (Achenbach, et al., 1990; Achenbach, et al., 2008; Bengi-Arslan et al., 1997; Crijnen et al., 2000; Crijnen, Achenbach, & Verhulst, 1999; Crijnen, Achenbach, & Verhulst, 1997; Darwish Murad et al., 2004; Darwish Murad et al., 2003; Davies & McKelvey, 1998; Goldin et al., 2008; Munroe-Blum et al., 1989; Ponizovsky et al., 1999; Reijneveld et al., 2005; Rousseau & Drapeau, 2000; Stevens et al., 2003; Stevens et al., 2005; Zimmerman, et al., 1995). It has been widely used cross culturally and as a result, has been translated into countless languages. The use of evidence based instruments, such as the ASEBA, are encouraged by mental health professionals to assist in obtaining an accurate psychological diagnosis to aid in the determination of psychological services, educational placements, and critical forensic decisions (Jenson-Doss, 2004).

Since screening for symptoms of anxiety, depression, and PTSD may be especially relevant for immigrants, an appropriate way to assess these symptoms is necessary (Center for Health and Health Care in Schools, 2008). Many of the domains assessed by the ASEBA have been documented as occurring in immigrant children. These domains include anxiety, depression, withdrawn, somatic complaints, rule-breaking behavior, and aggressive behavior (Achenbach & Rescorla, 2001). Therefore, the ASEBA appears to be an appropriate measure of symptoms related to the migration-morbidity hypothesis. Interestingly, a review of the literature suggests that the majority

of the research related to immigrant children and the ASEBA scales has been done by a select group of researchers. Although not implying impropriety, it is important for an external individual to use the ASEBA scales as an investigative tool assessing the mental health of immigrant children.

Post Traumatic Stress Problems (PTSP) Scale

In 2007, Achenbach and Rescorla (2007) added additional scales to the ASEBA system including the Post Traumatic Stress Problems (PTSP) scale. The PTSP scale assesses several domains related to the *Diagnostic and Statistical Manual of Mental Disorders –Fourth Edition Text Revision, DSM-IV-TR* (APA, 2000) diagnostic criteria for PTSD. Although the PTSP scale appears an ideal measure of migration-morbidity, several methodological issues are evident. For example, the norming process for the ASEBA system, specifically the Teacher Report Form (TRF), was done with a 7% Latino sample. The problem emerges that many cultural groups consider themselves “Latino.” The lack of specificity with the term “Latino” compromises the ability to confidently generalize to Mexican immigrants and children of those immigrants. In addition, the PTSP scale was developed using items of the existing ASEBA that parents of child victims endorsed more than others. These items were related to inattention, depression, obsessions, irritability and other behaviors associated with trauma. The very specific nature of sexual trauma calls into question the utility of the PTSP scale with other populations who have experienced trauma.

An analysis of the factor structure of the PTSP scale is needed to determine the appropriateness of its use to assess migration-morbidity. More specifically, because of

the ubiquitous nature of the educational system, using teacher reports appears a suitable setting in which to investigate these behaviors. Currently, there is no research indicating the factor structure of the use of the ASEBA TRF PTSP scales with immigrant children. Because they represent a significant portion of the U.S. population, investigating the factor structure of the ASEBA TRF PTSP scale for a Mexican immigrant population is crucial to its appropriate use.

One of the issues to be addressed in this study is how to measure immigrant morbidity in Mexican immigrant children. It is proposed that before using the ASEBA TRF to assess psychological adaptive and maladaptive behaviors within the classroom to test the migration-morbidity hypothesis, that a confirmatory factor analysis (CFA) be conducted to determine whether the factor loadings for Mexican immigrant children residing in the U. S. is statistically similar to those proposed by Achenbach and Rescorla (2007) for the TRF PTSP.

Statement of the Problem

The literature related to immigrant children and psychiatric disorders appears inconsistent; however, the majority appears to support the migration-morbidity hypothesis. Reasons for differences in the outcomes among immigrant children suggest cultural differences, reasons for immigrating, acculturative levels, socio-economic factors potentially impacting the manifestation of the migration-morbidity hypothesis. Immigrant children appear to fair far worse on assessments of psychological health suggesting increased levels of maladjustment than those born within a country. Because much of the literature related to immigrant children focuses on those living outside the

U.S., additional research is needed in the area of psychopathology to address the needs of immigrant families residing in the U.S. (Chilton et al., 2009; Neault, et al, 2007, Singh et al, 2009; Smith, Bogin, Varela-Silva, Orden, & Loucky, 2002).

It has been suggested that immigration stress factors as reported by teachers be investigated to determine the validity of the migration-morbidity hypothesis (Klimidis et al., 1994; Polo, 2002) and determine whether the ASEBA TRF PTSP scale appropriately measures the psychological distress that accompanies migration-morbidity. That is the purpose of these studies. Specifically, the intention of these studies is to address these questions:

- Does the model proposed for the ASEBA: Achenbach Teacher Report Form (TRF) Post-traumatic Stress Problems (PTSP) scale fit the data for children of Mexican origin and Mexican American mothers residing in the U.S.?
- Do problem behaviors as rated by teachers differ between children of Mexican origin and Mexican American mothers living in the U.S.?

The existing literature acknowledges that there appears to be an association between immigrant status and the experience of post-traumatic stress symptoms (Broberg, et al., 2005; Peguero, 2008). Furthermore, the literature suggests that immigrant children are more likely to exhibit mental health difficulties as a result of the immigrant status, resulting in migration morbidity (Derluyn et al., 2008; Klimidis et al., 1994). The present studies attempt to connect these two bodies of research and determine if there is indeed a contribution of immigrant status on problem behaviors children of Mexican origin and Mexican American mothers residing in the U.S. In

addition, this investigation attempts to fill the gap within the literature on children of Mexican origin mothers and Mexican American children residing within the U.S. and the assessment instruments designed to assess problem behaviors associate with migration-morbidity in these children.

CHAPTER II

MEASURING MIGRANT MORBIDITY: REPLICATION OF THE ASEBA PTSP

FACTOR STRUCTURE

There is strong evidence that immigrant children and children of immigrants are more susceptible to psychopathology as a result of the stress associated with immigration (Birman et al., 2007, Cheung, 1995, Klimidis, et al., 1994; Lamberg, 2008, Mirsky, et al., 2008; Ponizovsky, 2008). This phenomenon is termed the “migration morbidity” hypothesis (Klimidis, et al., 1994). Consequently, cross culturally relevant screening for symptoms of anxiety, depression, and exposure to traumatic events appears especially appropriate for immigrants. This necessitates a suitable system in which to assess symptoms related to immigrant morbidity (Birman., et al., 2007).

Many of the domains assessed by the ASEBA are documented as contributing to migration morbidity (Achenbach & Rescorla, 2001, Klimidis, et al., 1994). For example, anxiety, depression, somatic complaints, rule-breaking behavior, and aggression have been found in greater percentages among immigrant populations (Achenbach & Rescorla, 2007; Darwish Murad et al., 2003; Jaycox, 2002; Neto, 2009; Oppedal et al., 2005; Ponizovsky et al., 1999; Stevens et al., 2005; Zwirs et al., 2007). The ASEBA has been used extensively in the examination of psychological symptoms in immigrant children (Achenbach, et al., 1990; Achenbach, et al., 2008; Bengi-Arslan et al., 1997; Crijnen et al., 2000; Crijnen, et al., 1997, 1999; Darwish Murad et al., 2004; Darwish Murad et al., 2003; Davies & McKelvey, 1998; Goldin et al., 2008; Munroe-Blum et al.,

1989; Ponizovsky et al., 1999; Reijneveld et al., 2005; Rousseau & Drapeau, 2000; Stevens et al., 2003; Stevens et al., 2005; Zimmerman, et al., 1995). The ASEBA has been widely used cross culturally, has good validity, and as a result, has been translated into 85 languages (Achenbach & Rescorla, 2007a, 2007b, Achenbach & Rescorla, 2001). Therefore, the ASEBA appears to be an appropriate measure of symptoms related to the migration morbidity hypothesis.

Much of the literature related to the ASEBA's use with immigrant children has centered on emigration to countries outside the United States. Australia, Canada, Germany, Israel, Russia, Sweden, and Turkey have supported population trends and sociological transitions with commensurate research using the ASEBA to explore the transition and impact of immigration on the psychological functioning of adults and children (Aksel, et al., 2007; Atzaba-Poria et al., 2004; Beiser, et al., 2002; Bengi-Arslan, et al., 1997; Crijnen, et al., 2000; Darwish Murad, et al., 2003; Davies & McKelvey, 1998; Markus, 1980; Pew Hispanic Center, 2009; Ponizovsky, et al., 1999; Reijneveld et al., 2005; Roebbers & Schneider, 1999; Stevens, et al., 2005; Stevens, et al., 2003; Tartakovshy, 2009; Zwirs, et al., 2007). Thus, it is crucial that broad based inventories such as the ASEBA possess the specificity to discern between cultures and identify relevant symptoms.

It appears that the majority of research investigating the validity and reliability across cultures of the ASEBA has focused on the use of the CBCL. Some of the ASEBA research has looked at the use of the CBCL/6-18 with Mexican children (Albores-Gallo, et al., 2007). The results suggest that the Cronbach's alpha coefficient is 0.94 for

externalizing problems, 0.90 for internalizing problems, 0.97 for the total problems scale. Overall, the Mexican version appeared to be a reliable and valid screening instrument for clinical use with Mexican children. The utilization and analysis of the Spanish language version of the ASEBA is necessary but insufficient in determining its applicability with a Mexican immigrant population and/or Mexican American population (Medina et al., 2007).

In 2009, immigrants in the United States constituted approximately 12.8 percent of the total population (Passel & Cohen, 2009). Thirty two percent of these immigrants have moved to the U.S. from Mexico. Immigrant adults account for twenty three percent of all the children born in the U.S. ages 17 and younger (Passel, Cohen, & Lopez, 2011). Approximately 17.1 million children are represented by these births (Passel, Cohen, & Lopez, 2011). The overwhelming number of children born to immigrant parents and migration morbidity suggests that this population merits further study. Furthermore, children of Mexican origin immigrants have unique needs and experiences that warrant them being studied independent of other Spanish speaking cultures.

Teachers as Informants

Broad band measures, such as the ASEBA, typically seek input from a variety of sources to gather information about an individual's experience in multiple settings. Throughout the literature on immigrant children, teachers have been used as informants on behaviors in immigrant children (Javo, Rønning, Handård, & Rudmin, 2009, Han, 2010, Rousseau, Drapeau, Lacroix, Bagilishya, & Heusch, 2005, Sirin, Ryce, & Mir, 2009). The use of multiple sources of information from both minority and majority

cultures may be especially important with immigrant children to obtain a complete understanding of a child's functioning (Javo, et al., 2009).

ASEBA TRF

The ASEBA is a set of comprehensive rating scales designed to aid psychologists and educational professionals better understand psychological, academic, and social-emotional competencies and needs of children (Achenbach & Rescorla, 2001). The ASEBA is one of the most widely used systems for identifying problem behaviors in children age 1^{1/2} to 18 years indicative of psychological distress (Achenbach & Rescorla, 2001). The ASEBA system consists of the Child Behavior Checklist (CBCL) which is completed by the child's parents or guardian, Youth Self Report (YSR), for children age 11 to 18, and the Teacher's Report Form (TRF).

The focus of the current study is the TRF and its utility with the children of immigrants residing in the United States. The TRF is designed to be completed by teachers or others within the school community who are familiar with the child's functioning in an academic setting. The TRF is normed on children ages 6 to 18. It contains 112 items and uses a 3 point likert scale (*not true (0), somewhat or sometimes true (1), and very true or often true (2)*).

The current ASEBA English language forms were normed as part of the Temple University's Institute for Survey Research (ISR) (Achenbach & Rescorla, 2001). In order for children to be eligible, their parents were required to speak English. According to Table 6-1 of the ASEBA manual, the TRF norming sample included 7% percent Latino; although specifics about the Latino population (i.e. country of origin,

generational status) were not provided (Achenbach & Rescorla, 2001). The TRF has a test-retest reliability of .86 ($\alpha=.90$) for Internalizing Problems, .89 ($\alpha=.95$) for Externalizing Problems, and .95 ($\alpha=.97$) for Total Problems. Correlations of the ASEBA TRF with similar instruments, the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992), range from .40 (Depression scale) to .87 (hyperactivity).

In 2007, ASEBA added four new scales to its system: Youth Self Report Positive Qualities, Obsessive-Compulsive Problems (OCP), Posttraumatic Stress Problems (PTSP) and Sluggish Cognitive Tempo (SCT) (Rescorla, 2009). Given the prevalence of immigrant children in the U.S., experience of migration morbidity, and the ubiquitous use of the ASEBA forms, the PTSP scale appears a practical measure to identify students in an academic setting who may display symptoms of PTSD and require intervention.

Posttraumatic Stress Problems Scale. The development of the Posttraumatic Stress Problems (PTSP) Scale has its origins with child victims of sexual abuse. Wolfe, Gentile, and Wolfe (1989) identified 20 items on the CBCL that related to the diagnostic criteria for posttraumatic stress disorder. Canadian parents of children who were sexually abused endorsed these 20 items more frequently than other items on the CBCL. The items on the scale were further narrowed to 14 as a result of the work by Ruggerio and McLeer (2000) in the U.S. These 14 items were determined to better distinguish between sexually abused children and those not abused in a community sample. Although the sexually abused children differed from those non-abused in a community sample on the CBCL-PTSP scale, these children did not differ from an outpatient child sample. In fact, three of the items on the scale were rated as higher by those children

receiving outpatient services than those who were sexually abused. This along with other studies suggest that the PTSP scale may be able to identify children who are in psychological distress but lacks the ability to discriminate between general distress and symptoms of PTSD (Ayer, et al., 2009; Ruggiero & McLeer, 2000; Sim, et al., 2005; Wolfe, Gentile, Wolfe, 1989). Because the PTSP scale was developed using information gathered about children who were sexually abused, its efficacy with victims of other trauma should be investigated.

Moreover, a review of the literature suggests that to date, there are no studies investigating the validity of the PTSP scale when used by teachers to identify students who have experienced a variety of stressful life events.

Purpose of the Current Study

The purpose of this study is to investigate the ASEBA TRF PTSP scale as an appropriate measure to identify psychological stress related to trauma for children of Mexican origin and Mexican American children. Item-level confirmatory factor analysis (CFA) will be used to evaluate the adequacy of the correlated 13 item PTSP scale factor model proposed by Achenbach & Rescorla (2001) for children of Mexican origin mothers and Mexican American children residing in a primarily homogenous community within the U.S. Based on the small Latino norming sample and narrowed scope of sexually based trauma, it is anticipated that there will not be an adequate fit for the sample. Although the original PTSP scale was developed using the diagnostic criteria with child victims of sexual abuse, rigorous tests to its validity have failed to prove its generalizability to other sources of trauma. As such, it is hypothesized that the

factor structure will differ from that proposed by Achenbach and Rescorla (2007). In addition, it is hypothesized that because Mexican origin and Latino youth represent unique cultures, they will represent a unique factor structure related to the ASEBA TRF that is not reflected in the current scales.

Method

Participants

Public schools from the southern part of Texas with considerable Mexican American populations were sought for participation. Originally, three school districts were contacted to participate in the study; however, one district refused participation. A convenience sample was selected from the remaining two school districts in the southern most region of Texas. Information for demographics from each school district was obtained from the Public Education Information Management System (PEIMS) report provided by the area region center (Region One Education Service Center, 2010). The information was collected in October 2009. District A had a total enrollment of 31,329 students. Hispanic/Latino students constituted the largest demographic group at 99.26%. Eighty eight percent were designated as economically disadvantaged. District B's total enrollment was 9,566. Ninety percent of those students were identified as Hispanic/Latino. Fifty seven percent were identified as economically disadvantaged. Economically disadvantaged was indicated by whether or not the student qualified for free or reduced lunch.

Two groups were identified from the data collected: children of mothers born in Mexico (MO; $n= 59$; 44.36%) and those of mothers born in the United States (USB; $n =$

74; 55.64%). In both groups, 46% of the sample was male and 54% female. Mothers born in Mexico were less educated than those born in the United States; 14% of MO mothers completed college compared with 24% of USB mothers.

Information was gathered about the number of stressful life events mothers or a member of their family experienced. Specifically, respondents were asked to indicate if they had ever been kidnapped or threatened with a weapon, had a fear of death, witnessed violence toward others, were unemployed, experienced the death or loss of a loved one, had been physically attacked, were in an automobile accident, or diagnosed with a life-threatening illness. Seventy-seven percent of mothers born in the U.S. endorsed a stressful life event. This is in contrast to 96.6% of those mothers born in Mexico.

Approval for this study was obtained from the Texas A&M University Institutional Review Board (IRB). Consent was obtained from participating teachers and school districts. Twenty five elementary schools were contacted to participate in the study. The majority of the participating elementary schools were located within District A. Although District A has a total of 26 elementary schools, only the first 17 on a district provided list were contacted to participate because of a finite number of materials. Two hundred and five teachers from District A and 111 teachers from District B received 2 packets of information to complete on 2 students within their classroom for a total of 632 potential student participants. Consent to participate was also sent to each students' parent and/or guardian. Teachers were asked to identify student number 3 and 16 on their classroom roster for possible participation in the study. In addition, a parent was

asked to complete a demographic form which collected information about the family's level of education, A total of 133 packets were returned resulting in a 21.04% return rate. Gift cards (\$25.00) were randomly given to one parent participant and two teacher participants per district.

Children and teachers in the 3rd, 4th, and 5th grade were recruited to participate in the study. This grade range was selected because elementary school teachers were deemed as having more contact with the individual child than those in middle school or high school. Thus, they are better able to report on behaviors in the classroom. Children under the age of 7 and over the age of 12 were excluded because those in the 3rd through 5th grade who exceeded the cut off age could possibly represent other circumstances that may confound the results (e.g., repeated grade retention, lack of educational opportunity).

Instruments

Achenbach System of Empirically Based Assessment Child Behavior Teacher Report Form 6/18. (TRF; Achenbach & Rescorla, 2001). The test-retest reliabilities of the TRF Competence and Adaptive, Empirically based (e.g. Anxious/Depressed, Withdrawn/Depressed, Social Problems), and DSM-Oriented scales range from $r = 0.60$ to $r = 0.96$. Cronbach's alpha for these scales ranged from 0.72 to 0.97.

Post-traumatic Stress Problems Scale. Of particular interest in this study is the PTSP scale. The PTSP scale is provided on the standard output for the TRF. On the TRF, the PTSP consists of 13 items, one fewer than the CBCL. An item related to nightmares has been eliminated on the TRF. The other 13 items (see Table 1) are used to identify behaviors associated with the *DSM-IV-TR* (2000) diagnostic criteria for PTSD. Individual responses to the 13 items on the TRF PTSP scale were used for this study. Responses are given on a three-point likert-type scale. Cronbach's alpha for the PTSP scale has been reported as .89 (Wolf et al., 1989). Corresponding correlations ranged from .19 to .28 (Wolf et al., 1989).

Demographic Form. A demographic form was disseminated in English and Spanish to participating parents to gain information concerning stressful life events, country of origin, and other items related to socio-economic status.

Data Analysis

The model proposed by Wolfe et al. (1989) was used for this analysis. Results for the 13 items that comprise the TRF PTSP scale were submitted to CFA. Three models were tested using MPlus statistical software (Muthén & Muthén, 1998-2007). Global fit indices of Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Weighted Root Mean Square Residual (WRMR) were used to determine goodness of fit. The RMSEA cut point of less than .08 was used to determine adequate model fit as recommended by Brown and Cudeck (1993). A CFI of 0.90 was also used to assess adequate fit and 0.95 or greater indicating very good fit (Hu & Bentler, 1999). In addition, the WRMR of less than .90 was used to assess model fit as suggested by Yu

(2002). In order to reduce the influence of sample size, RMSEA and CFI were used (Hu & Bentler, 1999).

Results

A model was run using the 13 items and responses to each item based on the likert-type scale prescribed by the TRF. A frequencies analysis was conducted to determine the number of missing cases. Results indicate teacher respondents completed all items on the TRF; therefore, there was no missing data. Results of this model suggest a poor fit as assessed by a CFI = 0.885, RMSEA = 0.106, and WRMR = 1.054. Standardized factor loadings ranged from 0.089 for item 8 to 0.976 for item 52 (Table 2). A review of the correlations between items reveals that item #8 was negatively correlated with 6 of the remaining 12 items. Correlations ranged from -.186 for item 31 to .372 for item 3. The highest negative correlations were seen with items 31 (-.186), 34 (-.998), and 111 (-.282).

As a result of these negative correlations, cross tabulations, including a response count, were conducted for item 8 with items 31, 34, and 111. For example, 95 teachers responded 0 to both item 31 and item 8 out of 134 total responders. Results indicate that there was a lack of variability in the obtained data for these items. Consequently, the responses to individual items on the TRF were transformed from a likert-type scale response of 0, 1, and 2 to dichotomous data if the item was not endorsed or endorsed by the responding teacher.

A second model was run with the transformed response data to determine fit. This model was rejected, with CFI = 0.952, RMSEA = 0.066, and WRMR = 0.873

representing less than ideal fit. In addition, the standardized factor loading for item 8 was low, 0.071.

Finally, a third model to assess fit was run using dichotomous data and omitting item 8. Results of this model suggest good fit with CFI = 0.956, RMSEA = 0.071, and WRMR = 0.862. Standardized factor loadings for this model range from 0.484 for item 9 to .976 for item 52 (Table 2). Standardized thresholds for the model range from .993 for item 3 to 1.997 for item 103 (Table 2). Comparisons of the model with item 8 and without item 8 using the data transformation, favored the one factor model without item 8 (see Table 3).

Discussion

The purpose of this study was to determine the utility of the PTSP scale on the ASEBA TRF with a sample of children born to Mexican origin and Mexican American mothers residing in a primarily racially and ethnically homogeneous part of the U.S. The results of this study appear to indicate strong construct validity for the PTSP scale on the TRF with those children exposed to stressful life events.

Three models were tested to investigate which produced the strongest association between items. Two of these models included data that were transformed to dichotomous variables due to limited variability in the responses. Results from the CFA suggest that, for the given sample, items on the PTSP scale correlated well, with the exception of item 8. This item initially correlated negatively with several other items within the scale.

Item 8 relates to the inability or difficulty with concentration in class. Differences in culture may have impacted a teacher's responses to the item related to

attending to class. For example, teachers may have minimized or underreported this item. Future studies should examine the role of culture in the perception of items on the PTSP scale.

This study examines the use of and construct validity of the PTSP scale with Latino children of Mexican born and Mexican American born (a criteria for inclusion was not a stressful life event). The use of the TRF PTSP provides a teacher's perspective on the effects of stressful events and may be useful in determining the extent of migration morbidity. Originally normed with child victims of sexual abuse, the generalizability of the PTSP scale has been disputed (Ayer et al., 2009; Ruggiero & McLeer, 2000; Sim, et al., 2005; Wolfe, et al., 1989). The findings of the current study appear to support the use of the PTSP scale with populations other than sexual abuse.

A drawback of the current study is the limited sample size and that it is a sample of convenience. In addition, it is unknown if the children involved in the study directly experienced stressful events that could lead to elevations in stress or posttraumatic stress related symptoms. It is recommended that future studies examining migration morbidity and the ASEBA forms include an evaluation of the specific stress events.

CHAPTER III

MIGRATION-MORBIDITY IN MEXICAN ORIGIN AND MEXICAN AMERICAN IMMIGRANTS

Immigrants have been central to the American fabric since the United States' inception (Barkan, et al., 2008). The Pew Hispanic Center reported that 12.5% of the United States' population in 2006 was foreign born (Fry & Passel, 2009). This number represents over 37 million individuals currently residing in the U.S.; further, Mexicans constitute the largest population of immigrants residing within the United States (Passel & Cohen, 2009). The sheer number of immigrants residing within the U.S. makes this population crucial to the progress of American society. This influx of immigrants, although large in number, is not unique. During the mid to late 19th century, Irish and German immigrants constituted a similar portion of the U.S. population (Pew Hispanic Center, 2009). Although the population of Latin American immigrants to the U.S. represents a significant segment of the country's population, there is a paucity of scientific research that investigates the impact of the immigration experience on children.

Often illuminated in pictures, editorials, and qualitative studies, the plight of immigration and its effects on Latin American, specifically Mexican, immigration into the U.S. is a difficult one (Aguilera-Guzmán, et al., 2004; Bowen & Marshall, 2007; Massey & Sanchez, 2007; McGuire, 1993; Moynihan, et al., 2008; Ngo, 2008; Paris, 2008; Viruell-Fuentes, 2007). One woman interviewed described the actual passage

from Mexico into the U.S. as “having to walk for three days without food...having to find water....the trip was really sad” (Paris, 2008; p. 145). Qualitative studies document the struggles and traumatic events associated with the experiences of Latino immigrants, but quantitative studies looking at the effects of immigration on children are few, inconsistent, and fail to reach a consensus about the impact of the immigration process (Aguilera-Guzman et al., 2004; Bowen & Marshall, 2007; Massey & Sanchez, 2007; McGuire 1993; Moynihan et al., 2008; Ngo, 2008; Paris, 2008; Partida, 1996; Viruell-Fuentes, 2007). The goal of the current study is to contribute to the literature on Mexican origin children residing within the U.S.

The migration-morbidity hypothesis refers to the culmination of stressors immigrants encounter that lead to an increase in difficulties with mental health (Klimidis, et al., 1994). Conditions such as a lack of food, water, high temperatures, and dangerous criminals can plague the path to a new country (Paris, 2008). Moreover, immigrants may be escaping war and terrorism, experiencing poverty, neighborhood violence, political persecution, and threats to their survival (Birman et al., 2007; Clark & King, 2008; O’Shea et al., 2000; Paris, 2008; Paulson, 2003; Pumariega, et al., 2005). The realities of immigration are an important consideration in the mental health of immigrants (Gushulak & MacPherson, 2000).

In addition, immigrants struggle with traumatic and stressful events as a result of the pre-immigration, immigration, and post immigration process (Birman et al., 2007). Moreover, separation from primary caregivers or attachment figures has been documented as a traumatic experience for children (Rousseau & Drapeau, 1999;

Rousseau et al., 1997). The loss of a social support group can exacerbate an already stressful situation (Pumariega et al., 2005).

Fortuna et al. (2008) revealed that 11% of immigrant Latino adults reported some exposure to political violence and 76% described lifetime traumas. These traumas included personal assault, loss, and witnessing violence (Fortuna, et al., 2008; Jaycox et al., 2002). The experience of traumatic events may also be associated with an increase in family conflicts (Rousseau et al., 1997). Research shows that trauma, more specifically, post-traumatic stress disorder, poses significant long term negative mental health outcomes among immigrants leading to migration morbidity (Cheung, 1995; Klimidis et al., 1994; Lamberg, 2008; Mirsky et al., 2008).

Despite the available research, the struggle to intervene and provide appropriate assistance to immigrant children is hampered and deterred by a lack of consensus about the effects of immigration on children. Because the U.S. lags other countries with high immigrant populations in available research, looking at the consequences of immigration across countries allows a better understanding of the immigrant-morbidity hypothesis (Cheung, 1995; Tartakovsky, 2009). Australia, Canada, Germany, Israel, Russia, Sweden, and Turkey have supported population trends and sociological transitions with commensurate research to explore the transition and impact of immigration on adults and children (Aksel, et al., 2007; Atzaba-Poria et al., 2004; Beiser, et al., 2002; Bengi-Arslan, et al., 1997; Crijnen, et al., 2000; Darwish Murad, et al., 2003; Davies & McKelvey, 1998; Markus, 1980; Pew Hispanic Center, 2009; Ponizovsky, et al., 1999;

Reijneveld et al., 2005; Roebbers & Schneider, 1999; Stevens, et al., 2005; Stevens, et al., 2003; Tartakovshy, 2009; Zwirs, et al., 2007).

A review of the literature suggests that immigrant children are at an increased risk of general psychological distress as a result of their immigration status, supporting the migration-morbidity hypothesis (Bankston & Zhou, 2002; Derluyn, et al., 2008; Lien, et al., 2007; Mirsky et al., 2008; Oppedal, et al., 2005; Reijneveld et al., 2005). Immigrant children are more likely to have endured stressful situations prior to immigrating (Georgiades, et al., 2007; Lamberg, 2008; Pumariega et al., 2005) resulting in an increase in mental illness. For instance, internalizing mental health difficulties are documented in immigrant children. In particular, the research implies an increase in anxious and depressive symptoms (Bengi-Arslan et al., 1997; Crijnen et al., 2000; Diler, et al., 2003; Goldin, et al., 2008; Mirsky, et al., 2008; Palaiologou, 2007). Immigrant children also displayed a propensity for externalizing maladaptive behavior such as aggressiveness and rule-breaking conduct (Stevens et al., 2005). Severe stress reactions are also cited as a reason for problem behaviors exhibited by immigrant children in the schools (O'Shea et al., 2000).

Risk factors such as living in a single parent home, family dysfunction, health problems, a family history of poor mental health, and repeating a grade in school were associated with an increase in emotional and behavioral disorders in immigrants when compared with their native-born peers (Darwish Murad et al., 2004). Parent-reported stressors of post immigration events, such as death of a relative and/or friend, serious family health problems, and employment stress contribute to an increase in poor mental

health in immigrant children (Darwish Murad et al., 2004). Immigrants also appeared to suffer from a reduced sense of self as a consequence of a limitation in language and feelings of exclusion (Aurelius, 1979; Davies, 1998; Diler et al., 2003; Klimidis et al., 1994; Roebbers & Schneider, 1999). Consequently, an increase in suicidal ideation and parental reported depression was noted in immigrant children (Ponizovsky et al., 1999; Rousseau et al., 1997). Specifically, immigrant adolescents experienced more traumatic events than their non-immigrant peers and showed higher levels of peer problems and avoidance symptoms (Derluyn et al., 2008; Goldin et al., 2008). These events often include exposure to violence by family members or the children themselves (Rousseau & Drapeau, 1999).

The effects of immigration can have lasting consequences. Even after the actual immigration process, children can be increasingly susceptible to the negative effects impacting their long term psychological development. Children who suffer from high levels of post traumatic stress disorder (PTSD), specifically immigrants, need additional support over longer periods of time to minimize the disruption on academics and adjustment (Broberg, et al., 2005).

Notably, several studies have refuted the migration-morbidity hypothesis indicating no difference in psychopathology among children who immigrate and native born children (Munroe-Blum, et al., 1989; Roebbers & Schneider, 1999; Zwirs et al., 2007). In contrast, some researchers have concluded that immigrant children actually had lower scores on problem behavior inventories than their native born peers (Davies, 1998, Georgiades, et al., 2007; Neto, 2009).

Results suggest an increase in the prevalence of mothers and their children experiencing mental health difficulties; with at least one third of immigrant children and mothers reporting psychological distress (Breslau, et al., 2007; Jensen, 2007; McNaughton, et al., 2004). Further, studies suggest that immigrant children and children of immigrants residing in the U.S. are more likely to be at risk for depression, anxiety disorders, behavior problems, post-traumatic stress symptoms, substance abuse, suicidal behavior, sleep disturbance, and other psychological problems (Jaycox, et al., 2002; Lamberg, 2008).

Overwhelmingly, teachers have reported academic and behavior difficulties in immigrant children (Darwish Murad et al., 2004; Diler et al., 2003; Palaiologou, 2007; Markus, 1980; Neto, 2009; O'Shea et al., 2000; Palaiologou, 2007; Stevens et al., 2003; Stevens et al., 2005; Zwirs et al., 2007). Specifically, an increase in academic difficulties appears related to the number of traumatic events experienced by the family (Rousseau & Drapeau, 1999). Only one study reviewed suggested that immigrant children fared better than non-immigrants on measures of academic performance (Georgiades et al. 2007). Others have reported no difference between immigrant children and their non-immigrant peers with regard to academic performance (Munroe-Blum et al., 1989; Rousseau & Drapeau, 2000). Unfortunately, the children of Mexican immigrants lag behind the percentage of children of other immigrants enrolling in college by more than 15% (DeParle, 2009). Therefore, it is important to further investigate obstacles to success such as trauma and stress related to immigration experiences (Hernandez et al., 2009).

It appears to be the cumulative nature of stressful events in the life of an immigrant that potentially leads to negative consequences, struggles and an increase in psychopathology (Atzaba-Poria et al., 2004; Dumka, et al., 1997). The conflicting literature, impact of Mexican immigrants on the U.S., and paucity of research within the U.S. lend support to the need for additional investigation of the immigrant-morbidity hypothesis for Mexican origin immigrants. The current study looks to investigate two hypotheses. The first hypothesis seeks to examine whether problem behaviors as rated by teachers differ between children of mothers born in Mexico living in the United States (MO) and those of children of US born mothers (USB). The literature indicates that immigrant children are more likely to experience stressful, even traumatic events; therefore, it is hypothesized that these events will lead to increased levels of emotional/behavioral symptoms as reported and observed by teachers of the children of immigrant mothers. Because non-immigrant students have not endured the immigration process and the stress associated with it, it is expected that they will be less likely to demonstrate problem behaviors in the classroom. The second hypothesis strives to investigate which is the better predictor of emotional/behavioral status, cumulative risk or generational status. The migration morbidity hypothesis suggests that generational status may be more influential in the emotional and behavioral status of children from immigrant families than their U.S. born peers.

Method

Participants

Public schools from southern Texas with considerable Mexican American populations were sought for participation. Initially, three school districts were contacted to participate in the study; however, one district refused participation based on the sensitive nature of the information requested. A convenience sample was selected from the remaining two school districts in the far southern region of Texas. Information for demographics from each school district was obtained from the Public Education Information Management System (Region One Education Service Center, 2010) report provided by the area region center. The information was collected in October 2009. District A had a total enrollment of 31,329 students. Hispanic/Latino students constituted the largest demographic group at 99.26%. Thirty five percent of students were identified as enrolled in bilingual classrooms and 88.52% were designated as economically disadvantaged. District B's total enrollment was 9,566. Ninety percent of those students were identified as Hispanic/Latino. Twenty one percent of students received instruction in a bilingual education classroom and 56.77% were identified as economically disadvantaged and were eligible for free or reduced-priced meals.

Two groups were identified from the data collected: children of mothers born in Mexico (MO; $n= 59$; 44.36%) and those of mothers born in the United States (USB; $n = 74$; 55.64%) (see Table 5). In both groups, 46% of the sample was male and 54% female. Mothers born in Mexico were less educated than those born in the United States; 14% of MO mothers completed college compared with 24% of USB mothers.

The mean age for children whose mother was born in Mexico was 9.25 ($SD = 0.958$) and 9.09 ($SD = 0.968$) for those whose mother was born in the United States. Mothers who were born in Mexico reported more adults and children living in the home ($M = 2.24$, $SD = 0.97$ and $M = 3.10$, $SD = 1.36$ respectively) than those born in the United States ($M = 2.11$, $SD = 0.77$ and $M = 2.99$, $SD = 1.41$).

Approval for this study was obtained from the Texas A&M University Institutional Review Board (IRB). Consent was obtained from participating teachers and parents. Twenty five elementary schools were contacted to participate in the study. The majority of the participating elementary schools were located within District A. Although District A has a total of 26 elementary schools, only the first 17 on a district provided list were contacted to participate because of a finite number of materials. Two hundred and five teachers from District A and 111 teachers from District B received 2 packets of information to be disseminated to 2 students within their classrooms for a total of 632 potential student participants. Teachers were asked to identify student number 3 and 16 on their classroom roster for possible participation in the study. A total of 133 packets were returned resulting in a 21.04% return rate. Gift cards (\$25.00) were randomly given to one parent participant and two teacher participants per district.

Instruments

Demographic Form. The demographic form was provided to parents in English and Spanish and was designed to inquire about demographic information, stressful life events, country of origin of family members, and information regarding language dominance.

Achenbach System of Empirically Based Assessment Child Behavior

Checklist (CBCL) Teacher Report Form 6/18. (TRF; Achenbach & Rescorla, 2001).

The test-retest reliabilities of the TRF Competence and Adaptive, Empirically based, and DSM-Oriented scales range from $r = 0.60$ to $r = 0.96$. Cronbach's alpha for these scales ranged from 0.72 to 0.97. The domains assessed by the TRF have been documented by the literature as contributing to migration-morbidity. These domains include: Adaptive Functioning Scale, which contain ratings for Academic Performance, Working Hard, Behaving, Learning, and Happy; Syndrome Scale Scores for Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior; Internalizing Problems, Externalizing Problems, and Total Problems; DSM-Oriented Scales which include Affective Problems, Anxiety Problems, Somatic Problems, Attention Deficit/Hyperactivity Problems, Oppositional Defiant Problems, and Conduct Problems; Sluggish Cognitive Tempo; Obsessive-Compulsive Problems; and Post-traumatic Stress Problems (Achenbach & Rescorla, 2001). All scores for the TRF are reported as T-scores with a mean of 50 and a standard deviation of 10. Teachers were asked to complete the TRF for each student who returned a consent packet along with the demographic form. Only if both sets of forms, parent and teacher, were returned then the participant was included in the study. Thirty-three parent forms (demographic and consent) were received but teachers failed to submit corresponding forms. Seven packets were eliminated because the families who responded were not Latino.

Procedures

Parent participants were provided with a packet containing a consent form and demographic form (Appendix B). Teacher participants matched to the parent and child participants were provided with a consent form and the CBCL- TRF for each participating student. Forms were distributed to school personnel who then in turn disseminated the information to all 3rd, 4th, and 5th grade teachers. Forms were initially collected by the researcher approximately 5 days following distribution. Teachers for whom there was a parent form but failed to return the TRF were contacted via email to encourage submission. If the teachers responded, they were mailed an additional form along with a self-addressed stamped envelope to assist in mailing.

Research Design, Sample Size, Power and Variables Generated

A one-way ANOVA was conducted to test the difference between the independent variables, maternal country of origin, on subscales outlined in the TRF. Dependent variables include the Adaptive Functioning Scale, Syndrome Scales, DSM Oriented Scales, Internalizing, Externalizing, and Total Problem Scores. The data were reviewed for violations to the assumption of analysis of variance. A separate regression analysis was employed using cumulative risk and generational status as the independent variables to test the second hypothesis. Problem behaviors as identified by teachers using the TRF constituted the dependent variable. A cumulative risk variable was developed from the demographic form information which summed the scores for total stress items endorsed and language spoken at home. Children who spoke Spanish or watched television in Spanish were given higher scores than those who did so in English. Thus,

acculturation was measured by endorsement of language dominance in everyday activities such as television and language spoken at home. This is consistent with other research using language dominance as a measure of acculturation (Serrano & Anderson, 2003). Generational status was computed by assigning a number based on where the child and mother were born; with a larger number reflecting more risk (2 = child and mother both born in Mexico, 1 = child born in the US and mother born in Mexico, and 0 = child and mom both born in U.S.).

Analysis of variance (ANOVA) revealed that the two groups did not differ significantly on demographic variables of gender ($\chi^2(1, N = 133) = 0.000; p = 0.98$). The smallest acceptable sample with moderate effect size ($f = .10$), less conservative alpha (.05), and power of .60 would require a sample size of 125 or 63 in each group. A conservative alpha of .05 was used since only two groups were being compared (USB and MO) and these two groups constituted unequal sample sizes. Therefore, planned contrasts were employed instead of post *hoc* procedures such as Bonferroni's correction. A total of 133 subjects consented to participation in the study; 59 in the MO group and 74 in the USB group. A low return rate, 21.04%, resulted in a less than optimal sample size.

Results

Variables from Demographic Form

Descriptive statistics were run to investigate the results reported on the demographic form (see Table 4). Children in the MO groups were statistically different, in that they were more likely to watch television $F(1,130) = 28.62, p = .000$ and speak

primarily Spanish $F(1,130) = 39.8, p = .000$ than those in the USB group. Statistically significant differences were also found between the USB and MO groups involvement in an automobile accident [$F(1, 131) = 4.20, p = .042$]. In addition, a main effect was found of maternal educational attainment, [$F(1,131) = 11.66, p = .001$] such that, USB mothers had higher educational attainment than MO mothers. Other comparisons of demographics were not statistically significant.

Behavioral Differences on TRF

T-score means and standard deviations for the TRF scales are described in Table 4. A one-way ANOVA was used to test for behavior differences between USB and MO groups based on the TRF domains. A Levene's test was conducted to assess whether or not the data met the assumptions of homogeneity of variances required for ANOVA. The results indicated that the Levene's test was significant for Total stressful events endorsed $F(1,131) = 6.95, p = .009$, TRF Happiness $F(1,127) = 9.24, p = .003$, TRF Withdrawn/Depressed $F(1,130) = 5.61, p = 0.20$, TRF Attention Problems $F(1,130) = 10.65, p = .001$, TRF Total $F(1,130) = 5.01, p = .027$, TRF ADHD $F(1,130) = 4.62, p = .034$, therefore violating the assumption. As a result of the Levene's test, a Welch's F is reported in Table 6 for each comparison violating the assumption of homogeneity. The data show that the teacher's responses on the TRF measure of happiness differed significantly such that teacher's reported the USB group as happier than the MO group (see Table 7). There was a medium effect size ($d = 0.37$) according to Cohen's (1988) standards. There was no significant effect for maternal country of origin on the other Competence and Adaptive Functioning Scales, Syndrome Scale Scores, Internalizing

Problems, Externalizing Problems, Total Problems, DSM-Oriented Scales, Sluggish Cognitive Tempo, Obsessive-Compulsive Problems, or Post-traumatic Stress Problems (Table 5).

Cumulative Risk and Behavior

Another objective of this study was to determine the predictive nature of generational status or cumulative risk on behaviors as reported on the TRF. Multiple regression was conducted with generational status and cumulative risk as the independent variables and TRF scales as the dependent variable. Several multiple regressions were conducted using the TRF scales suggested by previous analysis and the reviewed literature. Happy, Internalizing, Externalizing, Total Problem Behaviors, and PTSD were used separately as dependent variables. The results outlined in Table 8 indicate that neither cumulative risk nor generational status accounted for significance variance on TRF scales of interest.

Discussion

Previous research investigating the migration hypothesis overwhelmingly supports the notion that immigrant children are more likely to experience both internalizing and externalizing problem behaviors. The purpose of this study was to determine if this increase in problem behaviors as observed by classroom teachers were also evident in children born to Mexican origin mothers residing in the U.S. The results of the study do not support the hypothesis that MO children differ significantly then their USB peers on measures of problem behaviors in the classroom. Nevertheless, MO

children were reported by teachers as being less 'happy' than their USB peers. Notably, neither generational status nor cumulative risk predicted problem behaviors well.

The results of the present study differed from those of previous researchers (Bankston & Zhou, 2002; Derluyn, et al., 2008; Lien, et al., 2007; Mirsky et al., 2008; Oppedal, et al., 2005; Reijneveld et al., 2005). The difference in findings may be the result of the homogeneous nature of the sample given that the children attended schools that constituted a primarily Mexican American/ Mexican population. None of the literature reviewed looked at children of Mexican origin mothers living in the United States and residing in a predominately Mexican American area. Thus, the data appears to support the straight line assimilation framework (Safi, 2010) that suggests that as immigrants reside in a country longer, across generations, then their emotional outcomes positively increase. From this research, it appears that even when children are residing in a racially and ethnically homogenous population differences in teacher perceived happiness are marginally apparent across generationally different children.

Although information was gathered concerning levels of parental education, information on income level was not available. Because MO mothers were significantly less educated than their USB peers, it is plausible that economic factors may have contributed to the differences in teacher reported happiness which is consistent with ASEBA data and other life satisfaction literature (Achenbach & Rescorla, 2001). Achenbach and Rescorla (2001) suggest that all measures of adaptability on the TRF are higher for upper SES students. Furthermore, the measurement of happiness on the TRF consisted of one question asking teachers to rate the children with respect to other

children his/her age. As a result, it had a relatively low test-retest reliability ($r = .78$) when compared with the other Competence and Adaptive Scale and the *alpha* coefficient was not applicable. Factors related to the measurement of happiness could have influenced the results.

If the data supported the migration hypothesis, then it would be expected that generational risk would best predict behaviors in the classroom. The results of the study do not support a clear relationship between generational status and/or cumulative risk and the ability to predict behaviors in children as reported by their classroom teachers. Homogeneity of population and culture could potentially mitigate the stress associated with generational status and cumulative risk. If groups of people share the same experiences or are sympathetic to those experiences, specifically those which appear stressful, those feelings and actions of understanding may provide a buffer from alienation or feelings of differences across generations of immigrants. The generational risk factor lacked variability and specificity. For example, few parents acknowledged that their children had been born in Mexico. In addition, this variable was derived using dominant language information and place of birth for both mother and child. Cumulative risk consisted of the sum of endorsed stressful events. The failure to endorse such events may have occurred as a result of a hesitation to reveal personal information.

Limitations of the Present Study

Although efforts were made to recruit the most participants possible, a small return rate may have affected the results. Immigration status and exposure to violent

events are both sensitive topics and therefore, may have discouraged participation from families born outside the U.S. or those exposed to stressful life events contributing to the low return rate. Fear of deportation or immigration status disclosure could have also impact the return rate. Using teacher reports coupled with parent and self-reports of problems behaviors would have strengthened the data source. In addition, using a single source of information about problem behaviors limits the observations to just one setting and ignores potentially crucial behaviors occurring in the home. Finally, as noted above, the sample was drawn from a culturally homogeneous sample.

Conclusions and Future Directions

The findings of the study suggest that when children reside in a predominately homogenous environment, teachers may still have the ability to discriminate between those students who appear less happy than their peers. This subjective perception could affect how teachers distribute attention and services to students. The lack of a difference between classroom behaviors between children of immigrants and those of non-immigrants suggests that when students reside in a predominately culturally homogenous environment, they are less likely to display behaviors of maladjustment compared with those living in a racial and ethnic heterogeneous setting as cited in previous literature. Future research should seek to compare groups of recent, first, and second generation immigrant children residing in heterogeneous versus homogenous areas on measures of behavior in an academic setting.

CHAPTER IV

CONCLUSION

The existing literature acknowledges that there appears to be an association between immigrant status and the experience of post-traumatic stress symptoms (Broberg, Dyregrov, & Lilled, 2005; Peguero, 2008). Furthermore, the literature suggests that immigrant children are more likely to exhibit mental health difficulties as a result of the immigrant status, resulting in migration-morbidity (Derluyn et al., 2008). This is consistent with literature related to the results of the ASEBA with immigrant children. Assessing migration-morbidity has been challenging. The ASEBA, which has been used across cultures, has limited construct validity for its PTSP scale. A valid measure is essential to the identification of migration-morbidity.

The first study confirmed the construct validity of the PTSP scale based on the information provided by teachers. As such, it appears that the ASEBA TRF PTSP scale can be used to identify behaviors associated with an experience of trauma. When the PTSP results are then used to determine if there are differences based on maternal origin, results suggest that children of Mexican origin women and Mexican American women residing in the U.S. did not differ on levels of problem behaviors or on most competence and adaptive scales for this sample. The only difference observed was the teacher perceived level of happiness of the two groups.

Implications

The studies suggest that the ASEBA PTSP scale appears an appropriate measure for the identification of stress problems in children of immigrants. Education professionals and mental health clinicians may use the information in these studies to support the use of the TRF with trauma symptoms related to immigration. Furthermore, because no difference was seen in the two groups in observed problem behaviors, it could suggest that being the child of an immigrant does not necessarily result in observed problem behaviors in the classroom.

Limitations and Future Directions

There were several limitations with these studies. Most notable was the homogeneous sample. The population of the area from which the sample came was mostly Latino, specifically Mexican and Mexican American. Therefore, it is difficult to generalize the results of the studies to other populations of immigrant families who reside in more heterogeneous parts of a country. The response rate for participation in the study was also low. It is hypothesized that the sensitive nature of immigrant and residency status may have contributed to the low response rate. Other techniques such as a different setting (i.e. religious facilities, after-school programs) should be attempted to increase the sample size and response rate.

In order to provide additional insight into the ASEBA PTSP scale and problem behaviors among immigrant children, both parent and child reports should be included for additional studies. The current studies employed responses from only teachers. Although teachers can provide important insight into the behaviors of children in an

academic setting, their behaviors outside this setting could provide valuable information concerning migration-morbidity.

As the population of the U.S. becomes less homogenous, the need for assessment and intervention with immigrants will become increasingly important. The results of the current studies suggest a need for additional research within this area. Future research should further expand on this study and examine the impact of immigration on children who were born in another country not just had family members who emigrated to the U.S. With regard to the PTSP scale, a similar study assessing the PTSP scale should include other populations who have experienced trauma.

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APPENDIX A

Table 1

Items on the PTSP Scale of the ASEBA TRF

3. Argues a lot	50. Too fearful or anxious
8. Can't concentrate, can't pay attention for long	52. Feels too guilty
9. Can't get his/her mind off certain thoughts; obsessions	69. Secretive, keeps things to self
11. Clings to adults or too dependent	87. Sudden changes in mood or feelings
31. Fears he/she might think or do something bad	103. Unhappy, sad, or depressed
34. Feels others are out to get him/her	111. Withdrawn, doesn't get involved with others
45. Nervous, nigh-strung, or tense	

Table 2

Standardized Parameter Estimates for Model Three

Variable	Factor loading	Threshold
Item 3	0.551	0.993
Item 9	0.484	1.379
Item 11	0.609	1.243
Item 31	0.808	1.687
Item 34	0.906	2.163
Item 45	0.826	1.430
Item 50	0.866	1.430
Item 52	0.976	1.687
Item 69	0.935	1.687
Item 87	0.886	1.687
Item 103	0.882	1.997
Item 111	0.788	1.546

Table 3

Fit Indices for CFA Models

Fit Indices	Model 1	Model 2	Model 3
CFI	0.885	0.952	0.956
RMSEA	0.106	0.066	0.071
WRMR	1.054	0.873	0.862

Note: CFI = comparative fit index; RMSEA = root mean square error of approximation; WRMR = weighted root mean square residual.

Table 4

T-score Means and Standard Deviations for ASEBA TRF Responses

Scale	Mean T-Scores	Standard Deviation
Working Hard	50.67	7.673
Behaving	50.18	7.326
Learning	49.72	8.726
Happy	49.84	7.985
Anxious/Depressed	52.17	4.087
Withdrawn/Depressed	52.31	4.070
Somatic Complaints	51.18	3.666
Social Problems	51.53	2.925
Thought Problems	51.05	3.158
Attention Problems	51.53	3.237
Rule Breaking	51.12	2.517
Aggressive	51.30	2.905
Internalizing	45.13	8.291
Externalizing	46.15	5.787
Total	44.06	8.302
Affective	51.65	3.574
Anxiety	52.46	4.535

Table 4 continued

Scale	Mean T-Scores	Standard Deviation
Somatic	50.95	3.162
Attention Deficit Hyperactivity Disorder	51.68	3.519
Oppositional Defiant Conduct	51.35	3.102
Sluggish Cognitive Tempo	50.90	2.370
Obsessive Compulsive	51.47	5.780
Post-Traumatic Stress Problems Scale	51.83	6.376
	52.10	3.902

Table 5

Demographic Data Based on Maternal Country of Origin as a Percentage of the Sample

Characteristic	Mother (U.S. Born) (n=74)		Mother (Mexico Born) (n=59)	
	<i>n</i>	%	<i>n</i>	%
Gender of Child				
Male	34	(46.0)	27	(46.0)
Female	40	(54.0)	32	(54.0)
Education level completed				
Some grade school	1	(1.0)	13	(22.0)
Completed 8 th grade	7	(9.0)	3	(5.0)
High school diploma	23	(31.0)	20	(34.0)
Some college	24	(32.0)	15	(25.0)
College degree	18	(24.0)	8	(14.0)
Unknown	1	(1.0)	-	-
Child separation from primary caregiver	16	(22.0)	12	(20.0)

Table 5 continued

Characteristic	Mother (U.S. Born) (n=74)		Mother Characteristic (Mexico Born) (n=59)	
Language Spoken at Home				
English	51	(69.0)	5	(8.0)
Spanish	9	(12.0)	39	(66.0)
Both equally	14	(11.0)	13	(22.0)
Neither	-	-	1	(2.0)
Marital Status				
Married/living together	49	(66.0)	44	(75.0)
Separated/divorced	14	(19.0)	8	(14.0)
Widowed	1	(1.0)	2	(3.0)
Never married	8	(14.0)	3	(5.0)
Location of Child's Birth				
United States	74	(100.0)	42	(71.0)
Mexico	-	-	17	(29.0)

Table 6

Welch's F for ASEBA TRF/6-18 Scales Violating Homogeneity

Welch	Statistic	df1	df2	<i>p</i>
Total Events Endorsed	3.459	1	125.810	0.065
Happy	4.43	1	125.00	0.040*
Withdrawn/Depressed	2.227	1	100.564	0.139
Attention Problems	1.665	1	116.714	.0200
Rule Breaking	2.761	1	118.957	0.099
Total Problems	.131	1	129.989	0.718
ADHD	1.330	1	115.934	0.251

Note. ASEBA=Achenbach System of Empirically Based Assessments, TRF=Teacher Report Form.

* $p < .05$, $d = 0.37$

Table 7

ANOVA for ASEBA TRF/6-18 Scales Based on Maternal Country of Origin

Subscale	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Competence and Adaptive Functioning Scales					
Working Hard					
Between Groups	32.90	1	32.90		
Within Groups	7481.42	126	59.38	0.55	0.46
Total	7514.31	127			
Behaving					
Between Groups	0.92	1	0.92		
Within Groups	6920.62	127	54.49	0.02	0.90
Total	6921.54	128			
Learning					
Between Groups	32.61	1	32.61		
Within Groups	9788.20	127	77.07	0.42	0.52
Total	9820.81	128			
Happy					
Between Groups	260.95	1	260.95		
Within Groups	7802.28	125	62.42	4.18	0.04*
Total	8063.23	126			

Table 7 continued

Subscale	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Empirically-Based					
Syndrome Scales					
Anxious/Depressed					
Between Groups	2.45	1	2.45		
Within Groups	2194.52	130	16.88	0.15	0.70
Total	2196.97	131			
Withdrawn/Depressed					
Between Groups	35.07	1	35.07		
Within Groups	1903.20	130	14.64	2.40	0.12
Total	1938.27	131			
Somatic Complaints					
Between Groups	0.02	1	0.02		
Within Groups	1772.24	130	13.63	0.002	0.97
Total	1772.27	131			
Social Problems					
Between Groups	0.002	1	0.002		
Within Groups	1126.81	130	8.67	0.00	0.99
Total	1126.81	131			

Table 7 continued

Subscale	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Thought Problems					
Between Groups	6.40	1	6.40		
Within Groups	1274.60	130	9.81	0.65	0.42
Total	1280.99	131			
Attention Problems					
Between Groups	15.52	1	15.52		
Within Groups	1355.49	130	10.43	1.49	0.23
Total	1371.00	131			
Rule Breaking Behavior					
Between Groups	15.65	1	15.65		
Within Groups	819.16	130	6.30	2.48	0.12
Total	834.81	131			
Aggressive Behavior					
Between Groups	5.44	1	5.44		
Within Groups	1106.82	130	8.51	0.64	0.43
Total	1112.27	131			
Internalizing Behavior					
Between Groups	20.01	1	20.01		
Within Groups	8798.98	130	67.68	0.30	0.59
Total	8818.99	131			

Table 7 continued

Subscale	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Externalizing					
Behavior					
Between Groups	49.73	1	49.73		
Within Groups	4361.27	130	33.55	1.48	0.23
Total	4410.99	131			
Total Problems					
Between Groups	8.64	1	8.64		
Within Groups	8945.24	130	68.81	0.13	0.72
Total	8953.88	131			
DSM-Oriented Scale					
Scores					
Affective					
Between Groups	3.46	1	3.46		
Within Groups	1503.17	130	11.56	0.30	0.59
Total	1506.63	131			
Anxiety					
Between Groups	43.15	1	43.15		
Within Groups	2659.24	130	20.46	2.11	0.15
Total	2702.39	131			

Table 7 continued

Subscale	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Somatic					
Between Groups	2.36	1	2.36		
Within Groups	1306.45	129	10.13	0.23	0.63
Total	1308.81	130			
Attention Deficit/ Hyperactivity Disorder					
Between Groups	14.68	1	14.68		
Within Groups	1608.98	130	12.38	1.19	0.28
Total	1623.66	131			
Oppositional Defiant Problems					
Between Groups	0.12	1	0.12		
Within Groups	1268.14	130	9.76	0.13	0.91
Total	1268.27	131			
Conduct Problems					
Between Groups	3.47	1	3.47		
Within Groups	737.44	130	5.67	0.61	0.44
Total	740.91	131			

Table 7 continued

Subscale	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Additional Scale					
Scores					
Sluggish Cognitive					
Tempo					
Between Groups	26.75	1	26.75		
Within Groups	4169.79	130	32.08	0.83	0.36
Total	4196.55	131			
Obsessive-					
Compulsive Problems					
Between Groups	8.58	1	8.58		
Within Groups	5353.06	130	41.18	0.21	0.65
Total	5361.67	131			
Post-Traumatic Stress					
Problems					
Between Groups	0.01	1	0.01		
Within Groups	1910.92	130	14.70	0.001	0.98
Total	1910.93	131			

Note. ASEBA=Achenbach System of Empirically Based Assessments, TRF=Teacher Report Form, ANOVA= Analysis of Variance.

* $p < .05$, $d = 0.37$

Table 8

Linear Regression Coefficients for Externalizing Behaviors as Reported on the ASEBA TRF/6-18

	<i>B</i>	<i>SEB</i>	β	<i>t</i>	<i>Sig.</i>
Constant	46.82	0.84		55.84	0.00
Generational Status	-0.67	0.81	-0.08	-0.83	0.41
Cumulative Risk	-0.08	0.22	-0.04	-0.37	0.71

Note. ASEBA=Achenbach System of Empirically Based Assessments, TRF=Teacher Report Form.

APPENDIX B

DEMOGRAPHIC FORM

This form should be completed by the child's mother, father, or other person who is responsible for the child's care.

Please indicate your relationship to this child (circle the correct response):

Mother Father Aunt Grandparent Family friend

Other _____

This child was born in (circle the correct response):

United States Mexico Neither, he/she was born in _____

This child's mother was born in (circle the correct response):

United States Mexico Neither, I/she was born in _____ Unknown__

This child's father was born in (circle the correct response):

United States Mexico Neither, I/he was born in _____ Unknown__

If you are not the child's mother or father, please indicate the country in which you were born (circle the correct response):

United States Mexico Neither, I/he was born in _____ Unknown__

Highest level of education completed by mother (circle the correct response)?

Some grade school	Finished some college
Finished at least 8 years of school	Received degree from college
Finished secondary school/high school	Unknown

Highest level of education completed by father (circle the correct response)?

Some grade school	Finished some college
Finished at least 8 years of school	Received degree from college
Finished secondary school/high school	Unknown

If you are not the child's mother or father, what is the highest level of education you have completed (circle the correct response)?

Some grade school	Finished some college
Finished at least 8 years of school	Received degree from college
Finished secondary school/high school	Unknown

This child has lived continuously in the United States for (circle the correct response):

Fewer than 12 months 1-3 years 4-7 years 8 plus years

How many adults live in the home: _____

How many children live in the home: _____

How often does the child spend more than 1 month in Mexico (circle the correct response)?

Once every other year Once a year Twice a year More than twice a year Never

I have lived in the United States for (circle the correct response):

Fewer than 12 months 1-3 years 4-7 years 8 plus years

If you were born in another country, what were the reasons for immigration (circle all that apply):

Safety Employment opportunities Join family members Other

Has the child been separated from his/her primary caregiver (such as mother, father) for longer than one month (circle the correct response):

Yes No

If yes, how long did the separation last (circle the correct response):

1-6 months 7 months – 1 year 1 year – 3 years More than 3 years

If yes, what was the reason for the separation?

In the child's home, what language is spoken the most? (circle the correct response):

English Spanish Both equally

Television within the home is mostly watched in (circle the correct response):

English Spanish Both equally

The child's parents' marital status is:

Married Married/Living Separately Separated/Divorced Widowed Never married
Not known

Please check any event ever experienced and by which family member:

Event	Self	Child	Other Children in the	
Home	Family member			
Unemployment	_____	N/A	N/A	_____
Kidnapping	_____	_____	_____	_____
Threatened w/ weapon	_____	_____	_____	_____
Fear of death	_____	_____	_____	_____
Witnessing violence toward others	_____	_____	_____	_____
Death or loss of a loved one	_____	_____	_____	_____
Physically attacked	_____	_____	_____	_____
Automobile accident	_____	_____	_____	_____

Diagnosed with a life-threatening illness
(e.g., Cancer)

VITA

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