Intergenerational Effects of Citizenship Status, Psychosocial Stress, and Family Influences Among Second-Generation Immigrant Youth

by

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Dedication

This dissertation is dedicated to my parents, Takako and Masateru Tsuchiya. Thank you for always supporting me in my going after my dreams and pushing me to always challenge my limitations in becoming ever more capable!

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Abstract

Children of immigrants are the fastest growing population of children in the United States. Compared to children of US born parents, children of immigrants face unique social and economic circumstances, which have profound implications for their development, social mobility, and health.

More recently, legal status has been posited to contribute to immigrant health disparities. Legal status stratification has created a hierarchy of classes of immigrants through a sliding scale of entitlement and privileges (e.g., public assistance, income, employment) with implications for their health. Additionally, legal status has been posited to have spillover effects across other family members (including children) through pathways of family relationship dynamics and psychosocial stressors. These associations are currently understudied.

In response to these issues, the dissertation examines intergenerational effects of US citizenship status, family factors, and psychosocial stressors on outcomes of education (as a social determinant of health) and health among a diverse sample of second-generation immigrant youth. This dissertation used data from the Children of Immigrants Longitudinal Study to conduct three studies, each building upon the other to examine both risk and protective factors on education and health for second-generation immigrant youth.

In my first study, I found that citizenship status (both parent and youth) and parent factors (parent-child communication and educational expectations) were significantly associated with educational attainment. In the second study, I initially found that parent citizenship status was

significantly associated with depressive symptoms; however, after controlling for all predictors and covariates, this association was attenuated. Strong family relationships were inversely associated with depressive symptoms, while psychosocial stressors were positively associated with depressive symptoms. In my third study, as these youth transition into young adulthood, I found that their own citizenship status and health insurance status were initially associated with health; however, the relationship between these factors and self-rated health were attenuated after accounting for all predictors and covariates. Results suggest that educational attainment and psychosocial stressors were salient for young adults' self-rated health.

Collectively, my findings indicate that citizenship status may be associated with health via pathways of access to education and other critical family and psychosocial resources (e.g., family support, income, psychosocial stressors) that regulate health within and across generations. For young adults, educational attainment was significantly associated with their health, which suggests that citizenship status may contribute to their health through associations with educational attainment. Specifically, parents' citizenship status may be associated with educational attainment through providing financial support and supporting their children for college preparation, with influence on their children's education extending into adulthood.

Additionally, strong family relationships were protective for the health of immigrant youth; conversely, psychosocial stressors were negatively associated with health among immigrant youth across the life course. Findings suggest that family dynamics may buffer the adverse effects of psychosocial stress for the health of immigrant youth and their protective influence spanning beyond adolescence. These results also suggest that immigrant youth may be experiencing multiple stressors which may have cumulative and adverse consequences for their health into adulthood. Furthermore, the link between citizenship status and health may be

mediated by family and psychosocial factors, with future assessment of these relationships needed. This dissertation contributes to the literature in understanding the relationship between citizenship status and risk and protective factors on the health of second-generation immigrant youth across the life course.

Chapter 1 Introduction

Children of immigrants are the fastest growing population of children across the United States (Kalil & Chen, 2008; Passel, 2011). Currently, one in four children in the US are children of immigrants and by 2050 they are projected to represent one in three children (Passel, 2011). An immigrant family is defined as a family where at least one parent was born outside of the United States (Crosnoe, 2012). In 2015, the majority of children (approximately 90%) with at least one foreign-born parent were US citizens (Migration Policy Institute, 2015; Zong & Batalova, 2017). Additionally, children of Latino and Asian immigrants comprise the majority (77%) of immigrants living in the US (Lopez, Passel, & Rohal, 2015).

Compared to children of native-born parents, children of immigrants often face unique social and economic circumstances (Wight, Thampi, & Chau, 2011). Approximately 4.2 million children from immigrant families are living in poverty (Dreby, 2012). While immigrants may have higher rates of employment compared to native workers, they are more likely to receive lower wages (Wight, Thampi, & Chau, 2011). Differences in poverty rates have been noted by citizenship and documentation status among US immigrants, where in 2009, the poverty rate was 25.1% among noncitizen adult immigrants, compared to 10.8% among US naturalized citizens, and 13.7% among US natives (DeNavas-Walt, Proctor, & Smith, 2012). These social and economic challenges may have profound implications on the health of immigrant families.

An extensive body of literature has examined socio-demographic factors that may affect outcomes for immigrant children and youth, including socioeconomic status (SES), parental

education, income, and employment (Rumbat, 2005; Ellwood & Kane, 2000; Baum & Flores, 2011). However, legal status is an overlooked area of research for understanding outcomes of health among immigrant families. Studies that have examined intergenerational effects on immigrant health have largely focused on nationality and generational status (Bates, Acevedo-Garcia, Alegria, & Krieger, 2008; Singh, Kogan & Stella, 2009; Williams, et al., 2007), without considering legal status, which is an unmeasured source of variance among immigrant groups (Oropresa, Landale, & Hillimeier, 2015; Gee & Ford, 2011). More recently, as an emerging area of scholarship, a few scholars have begun to examine associations between parent citizenship status on SES and family dynamics (Massey, 2003; Yoshikawa & Way, 2008), and the intergenerational effects of parent citizenship status on outcomes of their descendants. As one of the few studies that have examined these relationships, Joo and Kim (2013) found that children with noncitizen parents reported lower education and were not employed full time, which in turn was associated with poverty. Other scholars have found differences in health care access by parent citizenship status (Huang, Yu, & Ledsky, 2006; Ortega, et al., 2007). These findings provide support for examining citizenship status as a critical factor in shaping health outcomes among immigrant families and their children.

Immigrant Health, Legal Status & Immigration Policies

According to the immigrant health paradox, immigrants are typically healthier and have lower rates of morbidity compared to non-immigrants (Escobar, 1998); however, this advantage has been found to erode over time (Acevedo-Garcia, 2001; De Castro, Gee, & Takeuchi, 2010; Derose, Escarce, & Lurie, 2007; Singh & Siahpush, 2001; Vega, et al., 1998). Scholars have suggested that duration or length of time living in the US and "negative acculturation," when immigrants adopt American attitudes, beliefs, and behaviors, have contributed to the decline in

health among immigrants (Derose, Escarce, & Lurie, 2007; Hale & Rivero-Fuentes, 2011; Ro & Bostean, 2015; Vega, et al., 1998). Other scholars posit that this erosion may be due to exposure to racism and other forms of discrimination (Gee, Ryan, Laflamme, & Holt, 2006; Gee, Walsemann, & Brondolo, 2012), and social exclusion (Yoshikawa, Godfrey, & Rivera, 2008). Exclusion can occur through public institutions and institutionalized policies, as well as through systems of social networks and community organizations (Viruell-Fuentes, Miranda, & Abdulrahim, 2012; Oropresa, Landale, & Hillemeir, 2015; Yoshikawa, Godfrey, & Rivera, 2008). Thus, legal status (or citizenship status) has become a critical dimension of stratification as a form of social exclusion through a set of hierarchical categories that are institutionalized through policies, practices, and laws (Gee & Ford, 2011; Oropresa, Landale, & Hillemeir, 2015; Viruell-Fuentes, Miranda, & Abdulrahim, 2012).

In the US, a spectrum of legal statuses distributed by the government contribute to a sliding scale of entitlements and privileges, which has produced a hierarchy of classes of immigrants (Lakhani, 2015; Oropresa, Landale, & Hillemeir, 2015). There are four general categories of legal designations: naturalized citizens, permanent residents (green card holders), temporary residents or visa holders, and unauthorized residents (Romero, 2009). Citizenship is automatically conferred on native-born residents and grants them unrestricted access to educational and employment opportunities. For non-native born immigrants, naturalized citizens are positioned at the top of the hierarchy, where they are naturalized through a legal process and are conferred similar benefits as native-born residents (Oropresa, Landale, & Hillemeir, 2015). After satisfying residency requirements, permanent residents gain unrestricted access to most economic and educational opportunities and public benefits. However, other than naturalized citizens, other legal designations maintain some type of exclusion or limitation even if they may

be lawfully present in the country. The effects of formal policy exclusion and anti-immigrant policies directly shape access to public assistance, higher education, and employment opportunities including joining the military (Viruell-Fuentes, Miranda, & Abdulrahim, 2012). For example, immigrants who are lawfully present[1] and maintain a temporary status, which include student visas and employer-based visas, are not qualified for public benefits (Oropresa, Landale, & Hillemeir, 2015). Undocumented immigrants are unable to access most entitlements and privileges (Lakhani, 2015; Duncan, Hotz, & Trejo, 2006; Derose, Escarce, & Lurie, 2007). Hence, Gee and Ford (2011) have argued that immigration policy should be considered a form of structural racism, which has profound implications on outcomes for immigrants and their descendants.

Federal welfare and immigration laws that were introduced in the mid-1990s have profoundly affected immigrant eligibility for federal and state public benefits and set the precedent for present-day eligibility for immigrants. Both the Personal Responsibility and Work Opportunity Reconciliation ACT (PWORA) and Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), both signed in 1996, affected immigrant access to public benefits (Broder, Moussavian, & Blazer, 2015). Title IV of PWORA changed the eligibility criteria for non-citizens for means-tested federal assistance (Migration Policy Institute, 2015), which included retirement, welfare, health, disability, housing, postsecondary education, unemployment, and food assistance. Some of these federal assistance programs include Supplemental Nutrition Assistance Program (SNAP), Children's Health Insurance Program (CHIP), and Medicaid (Broder, Moussavian, & Blazer, 2015).

[1] Lawfully present immigrants include: lawful permanent residents (LPRs), immigrants who are able to live permanently live in the US, as well as foreign born individuals who are able to stay in the US temporarily or indefinitely. This category includes immigrants who entered the country for work, as students, or faced political instability or natural disasters in their home countries. Essentially, these immigrants maintain a status that allows them to stay in the country but they are not granted the same rights as LPRs.

Prior to these laws, lawfully present immigrants were eligible for public benefits on similar terms as citizens, as long as they met the same eligibility criteria of income and family composition (Broder, Moussavian, & Blazer, 2015). Under PWORA, two categories of immigrants were established for federal benefits, those who were "qualified" and "not qualified." Immigrants who were qualified were permanent residents (green card holders), as well as Cubans, Haitians, refugees, immigrants granted political asylum, and a few other categories (e.g., abused or trafficked immigrants). All other lawfully present immigrants, including visa holders, and unauthorized immigrants, were not eligible to receive public benefits. Even among qualified immigrants, if they arrived to the United States on or after the enactment of PWORA on August 22, 1996, they were ineligible for means-tested federal benefits until after five years. It was now up to the states to provide TANF and Medicaid. Refugees and asylees were eligible to receive benefits after seven years of entering the country. Additionally, under PWORA and IIRAIRA, access to postsecondary education became restricted for lawfully present visa holders through: 1) regulation in monetary aid, including scholarships and financial aid in federal loans, and 2) regulation in their status, such as state residency for tuition rates, or in some cases, both. However, undocumented immigrants and visa holders still do not have access to federal educational loans for postsecondary education (Baum & Flores, 2011). This has profound implications for citizenship status and health, as educational attainment has been directly linked to health and health care access (Derose, Escarce, & Lurie, 2007; Krieger & Fee, 1994; Walsemann, Geronimus, & Gee, 2008).

The enactment of these laws led to a substantive decrease in welfare applications among immigrants, even among those who were lawfully present and were eligible for federal benefits (Fix & Passel, 2002). Some of the confusion on the eligibility criteria for various state and

federal programs was due to lack of adequate staff training (Broder, Moussavian, & Blazer, 2015). The effects of immigrant uninsured due to PWORA were noted even in states that provided alternative sources of health insurance (Gee & Ford, 2011; Kaushal & Kaestner, 2005). These findings suggest that immigration policy can negatively affect immigrants' access to health, directly through eligibility criteria but also indirectly through fear, even among immigrants who are eligible for benefits (Gee & Ford, 2011). Both the welfare and immigration policies have profoundly affected access to social benefits for immigrants and their children, which in turn have implications for their health.

Citizenship Status & Health

Research examining the intergenerational effects of citizenship status on health has largely focused on health care access (Castaneda, et al., 2015; Oropresa, Landale, & Hillemeir, 2015). Immigrants compared to US native-born populations typically have lower rates of health insurance and in turn are least likely to receive preventive health care and have a usual source of care (Derose, Escarce, & Lurie, 2007; Goldman, Smith & Sood, 2005; Huang, Yu, & Ledsky, 2006). As a growing body of literature shows, disparities in health insurance rates and health care have been noted by citizenship status among immigrants and their children (Duncan et al, 2006; Derose, Escarce, & Lurie, 2007; Huang, Stella, & Ledsky, 2006; Ojeda & Brown, 2005). Specifically, compared to US citizens, US noncitizens were more likely to report discrimination in health care (Huang, Yu, & Ledsky, 2006), were less likely to have health insurance and a usual source of care (Ojeda & Brown, 2005; Huang, Yu, & Ledsky, 2006), and were often working in occupations without health insurance (Goldman, et al., 2005). Huang, Stella, and Ledsky (2006) found that both US-born and foreign-born children with noncitizen parents reported worse physical health and lower use of health services. Thus, lack of health insurance

and access to health services has significant implications for the health (Huang, Stella, & Ledsky, 2006) of immigrant families and their children.

Over the past several years, other scholars have begun to examine the effects of citizenship status on other health outcomes, including behavioral functioning. Landale and colleagues (2015) examined Mexican children's behavioral functioning by parent legal status. Their findings suggest that children of undocumented Mexican parents have significantly higher risks of internalizing and externalizing behaviors compared to naturalized citizens. Specifically, they found that mothers having undocumented status was significantly associated with their children's behavioral functioning. Oropresa and colleagues (2015) also found that mothers with undocumented status were associated with adverse physical health outcomes among their children. Additionally, another study found that immigration policies may be a major mechanism operating through immigrant Latino parents' documentation status and may be associated with adverse consequences for their children's physical health (Vargas & Ybarra, 2017). Valdez and colleagues (2013) conducted focus groups among Mexican mothers with undocumented status and found that immigration policy may create fears around family separation or result in family separation via deportation or detention. As a result, family separation increased parenting responsibilities and burden on these undocumented mothers. These findings suggest that the effects of immigration policies may spill over into their relationships with their children, through decreased parenting and time for nurturing, supervising, and guiding their children (Parcel, et al., 2010). As one of the few studies that have examined citizenship status, while controlling for other immigrant stress factors (e.g., acculturative stress and health care visits), Gee and colleagues (2016) found that citizenship status may be a privileged identity, the lack of which contributes to psychological distress

through one's view of their current perceived social status compared to future aspirations. They found noncitizens reported greater psychological distress mediated by subjective social status, compared to native-born and naturalized citizens among Asian American adults. Brabeck and colleagues (2016) found significantly higher levels of occupational stress, ethnicity-based discrimination, and legal status stress (e.g., legal status limited their contact with their friends and family) among undocumented parents compared to documented parents. Thus, in the context of multiple structural disadvantages, legal status may provide an added layer of discrimination in addition to their race, ethnicity, and income. These studies provide support that citizenship status through multiple mechanisms has profound implications on the health of immigrants and their descendants.

Research Gaps

In the last decade, scholars have begun to recognize that legal status is a critical variable for understanding patterns of assimilation among immigrants. However, since legal status is not measured in most surveys conducted in social science research, it has been underemphasized in research (Bachmeier, Van Hook, & Bean, 2014; Clark & King, 2008). Scholars have posited that excluding legal status in immigrant studies creates a potential omitted variable bias (Massey & Bartley, 2005). In response, studies have begun to include citizenship status as a variable. Of those that have, the main focus has been how citizenship status and health care access are associated with child outcomes, and among Latino families (Acevedo-Garcia & Stone, 2008; Huang, Yu, & Ledsky, 2006; Ojeda & Brown, 2005; Oropresa, Landale, & Hillemeier, 2015). In addition, empirical studies examining legal status have mainly focused their attention on undocumented residents or employing qualitative methods to examine the nuance of intergenerational effects of citizenship status among families (see Oropresa, Landale, &

Hillemeier, 2015; Valdez, Padilla, & Valentine, 2013; Vargas & Ybarra, 2017). However, future investigations are needed which examines intergenerational effects of citizenship status on diverse populations of immigrant families and their children (including temporary visa status holders) and on outcomes of health beyond health care access-related factors.

In addition, among studies that include questions around documentation or citizenship status, there have been variations in details. Studies that measure legal status often identify native-born citizens, naturalized citizens, and noncitizens (Oropresa, Landale, & Hillemeier, 2015). This approach conflates the permanent residents and non-permanent residents into the noncitizen category, in spite of their distinct differences. A few datasets have further details around immigration status, including temporary visa holders (e.g., Survey of Income Program Participation), and no documentation status (Bachmeier, Van Hook, & Bean, 2014). To assess the impact of citizenship status across generations, even fewer studies have measures for both parents and children and their legal status.

Individual citizenship status aside, Asad and Clair (2018) have posited that there may be potential spillover effects of legal status to other potential in-group members (e.g., family members), ultimately contributing to health inequality. These spillover effects may result from the indirect experiences of those with close social relationships to these individuals, including parents and their children. In understanding the spill-over effects of family legal status, scholars have suggested several future avenues of research. First, we need to understand whose legal status, across family members, affects the child; at a minimum, parents' legal status should be considered as they are typically responsible for ensuring the well-being of their children. Second, family structure is another area where non-residential parents may or may not provide resources to their children. Third, families are often gendered with women typically having

greater responsibility for their children than men (Vargas, 2016), which, again, has profound implications on the health of the children.

However, few studies have examined the implications of legal status on family dynamics and relationships across generations. Additional research is needed that examine parental legal status while considering discrimination and other psychosocial stressors on children's outcomes, as these psychosocial stressors are more likely to co-occur among racial and ethnic groups (Sternthal, Slopen, & Williams, 2011). With the exception of Gee and colleagues (2016) and Brabeck and Sibley (2016), few scholars have examined citizenship status in the presence of critical psychosocial stressors (e.g., perceived discrimination, adverse life events) and other social-determinant factors, including educational attainment and health insurance status. To date, prior literature has not assessed legal status from a life course perspective for second-generation immigration adolescents as they transition into adulthood. These gaps and limitations are key considerations for this dissertation in understanding intergenerational effects of citizenship status among diverse immigrant families.

Overview of Dissertation

Based on these research gaps, this dissertation includes three studies that focus on understanding the intergenerational effects of citizenship status, psychosocial stress, and family influences on outcomes of educational attainment and health among second-generation immigrant youth, as they transitioned into young adulthood, encompassing a portion of the life course. These relationships will be assessed starting from when these youth are in high school and as they transition into young adulthood. The studies were informed by the ecological life course perspective, Theory of Fundamental Causes, and Theory of Segmented Assimilation.

Theoretical Framework & Conceptual Model

The conceptual model (Figure 1.1) provides theorized mechanisms based on previous research of how fundamental factors such as citizenship status and other mediating pathways of psychosocial factors of perceived discrimination, family stressors, and family dynamics, may influence educational attainment and health outcomes for second-generation immigrant youth. An overview of the theoretical frameworks guiding this model (ecological life course perspective, Theory of Fundamental Causes, and Assimilation Theories), will be provided in the sections below. The main effects pathways that will be examined in the dissertation are identified in Figure 1.1 and will be further described in the methodology section below (see page 18).

Ecological Life Course Perspective

An ecological life course perspective recognizes contextual factors shape individuals and the interactions between the person and environment (Bronfenbrenner, 1979; Gonzales, et al., 2011). Within this framework, individuals are influenced by multiple contexts, including their family and neighborhood (intermediate and proximate) and the broader macro level system (e.g., institutional). Ecological frameworks consider the interplay between multiple settings and how risk in one context may depend on the presence of the risk in other contexts (Gonzales, et al., 2011). The ecological life course perspective considers individuals as they develop and age, as well as when they enter and exit social systems (Edler, Johnson & Crosnoe, 2003), including the educational system, labor market, and immigration policies. For immigrant families and their children, it is critical to consider the effects of macro-level influences, as well as intermediate and proximal influences including neighborhood, family (e.g., quality of parent-child relationships) and psychosocial factors on families for outcomes on health. These macro-level

systems all have been considered to be fundamental causes of health inequities and are critical to consider for immigrant adolescents and as they transition into young adults (Link & Phelan, 1995; Walsemann, Geronimus, & Gee, 2008).

A growing area of research has suggested that health is not the result of risks that occur at one point in time (Gee, Walsemann, & Brondolo, 2012). Factors that affect health and the conditions that lead to deleterious health outcomes and health inequities are dynamic, as they change across time and in intensity (Gee, Walsemann, & Brondolo, 2012). A life course perspective provides the lens to examine the importance of these changes at different stages of development. Additionally, from a developmental perspective, social settings including the family, peer, and neighborhood contexts influence youth development at different stages (Anderson, Sabatelli, & Kosutic, 2007; Bronfenbrenner, 2005), which has implications for their health (Fredricks & Eccles, 2006). Research has found that stressful circumstances during critical developmental transitions affect outcomes of health and mental health (Larson, et al., 2002; Wickrama, Conger, Lorenz & Jung, 2008), which may have different implications for different age groups. Additionally, it is critical to understand the implications of age and development situated within the timing of normative life events, as there are differences in rights and responsibilities between a 17-year-old versus an 18-year old (Edler, Johnson & Crosnoe, 2003). Some of these rights and responsibilities include voting, ability to drive, getting married, and drinking alcohol, with each of these rights shaped by racism and race (Feagin, 2000). The transition into young adulthood in the context of these systems provides differential exposures to factors associated with health inequities and, specifically, racism and discrimination for second-generation immigrants.

Although exposure to racism and discrimination can change in nature, intensity, and the level of importance to the individual over time (Gee, Walsemann, & Brondolo, 2012), research on racism and discrimination on health has insufficiently recognized the complexity of these effects over the life course (Gee, Walsemann, & Brondolo, 2012; Hertzman, 2004). The majority of the scholarship in this area has focused on examining the main effect of these exposures during a specific time period (Gee, Walsemann, & Brondolo, 2012; Jones, et al., 2019). However, it has been postulated that the effects of racial discrimination may resonate across the life course and may be reinforced by other types of discrimination (e.g., speech, age, country of origin) and across multiple contexts (e.g., everyday discrimination, workplace discrimination) (Gee, Walsemann, & Brondolo, 2012). Moreover, previous studies have found that discrimination including racial and nonracial forms of discrimination, and other psychosocial stressors (e.g., relationship stressors, financial strain) co-occur in higher frequencies among disadvantaged ethnic and racial groups (Sternthal, Slopen, & Williams, 2011). Specifically, legal status may give rise to other potential forms of discrimination due to either one's race or ethnicity or income (Brabeck & Sibley, 2016). Furthermore, a single stressor or discrimination can lead to the rise in secondary stressors or stress proliferation (Pearlin, 1989; Gee, Walsemann, & Brondolo, 2012). An emerging body of literature has examined the stress proliferation process as it is linked to discrimination and psychological health on other outcomes of health through the mediating pathways of stress (Anderson, 2015; Gassman-Pines, 2015). Prior research has found direct associations between discrimination and mental health and physical health (Williams, Neighbors & Jackson, 2003) with limited studies, however, on the effects of stress and discrimination among immigrant young adults and their health. Given immigrant health disparities, it is critical to understand how legal status along in conjunction

with racism, discrimination and other forms of discrimination may influence health through multiple pathways across the life course among immigrant families.

In addition to the stress proliferation theory, the linked lives concept from the life course framework posits that people's lives are interlinked where factors or events that may affect one individual can also affect others in their networks or across generations (Gee, Walsemann, & Brondolo, 2012). As an emerging area of research, discrimination and other forms of stressors have been associated with parenting behaviors and their children's well-being (Anderson, 2015; McNeil, et al., 2013; Simons, et al., 2002). Gassman-Pines (2015) found that discrimination at the job experienced by immigrant parents affected their children's internalizing and externalizing behaviors. Prior studies found neighborhood context as a source of chronic stress, such as neighborhood safety, on parenting behaviors and parenting quality, as a result, influencing their child's health (Gonzales, et al., 2011; Liu, et al., 2009). For immigrant families, it is important to consider the multiple pathways of stress, through the implications of family psychosocial stressors and family dynamics on the health of their children as they mature.

Theory of Fundamental Causes & Citizenship

The Theory of Fundamental Causes posits that structurally rooted disadvantages have deleterious effects on health and treatment of disease (Link & Phelan, 1995; Phelan, et al., 2010). These disadvantages are typically reflected in forms of social capital including income and wealth-related economic resources, social resources around one's social networks and connections, as well as knowledge acquired from education. Access to social capital and resources affects the risk of exposure to diseases and may mitigate the risk on health and access to treatment for disease. As a fundamental cause, one's citizenship status or legal status may affect health through multiple pathways (Oropresa, Landale, & Hillemeier, 2015). Legal status

distinctions matter in the US as they reflect hierarchical categories that are institutionalized through laws, procedures, and practices that reflect structural and institutional forces that regulate access to health care and outcomes of health (Oropresa, Landale, & Hillemeier, 2015; Torres & Young, 2016). So far, the majority of the research that examines family citizenship status and health has largely focused on access to health care, with potential pathways that may include stress and social and physical environments (Castaneda et al., 2015).

Assimilation Theories

The Immigration and Nationality Act of 1965 drastically shifted the criteria for immigrants arriving in the United States, with a focus on immigrants who were more educated and skilled (Gee & Ford, 2011). Two theories have been developed to understand the integration and the succession of second-generation immigrants post 1965 for the different processes underlying their outcomes: the straight-line assimilation theory and the segmented assimilation theory (Waters, Tran, Kasinitz, & Mollenkopf, 2010). The straight-line assimilation theory, developed by the Chicago School of Sociology, focused on understanding the integration of first and second-generation European immigrants during the early 20th century. This theory posited that through assimilation processes each subsequent generation will be upwardly socially mobile in their educational attainment and occupations and be more integrated into American society, with less use of their cultural language and residential concentration (Warner & Srole, 1945; Waters, Tran, Kasinitz, & Mollenkopf, 2010).

As an alternative to the straight-line assimilation theory, the Theory of Segmented Assimilation (TSA) was developed during the 1990s and became influential in explaining the different trajectories among second-generation immigrants who were not of European descent (Waters, Tran, Kasinitz, & Mollenkopf, 2010). Developed by Portes and colleagues (Portes &

Zhou, 1993; Portes & Rumbaut, 2001), the segmented assimilation theory posits three possible outcomes: upward assimilation, downward assimilation, and upward mobility combined with biculturalism. These outcomes correspond with three processes of consonant, dissonant, and selective acculturation, respectively, which describe family relations among immigrant parents and their children and community. Consonant acculturation is when both the children and parents drift away from their home language at the same rate. Dissonant acculturation is when children learn English and adopt American values at a faster rate than their parents. Portes and Rumbaut (2001) posited that this process could lead to downward assimilation when these young people are confronted by discrimination and face other stressors and may lack a strong system of support from their parents and community. Lastly, with selective acculturation, both parents and children gradually adopt and learn American ways while integrating within their ethnic community. This process is characterized by fluent bilingualism among the children and minimal intergenerational conflict. As immigrant groups face discrimination and other stressors, these families are able to buffer these stressors within their communities (Portes & Rumbaut, 2001). Additionally, TSA emphasizes the importance of parental human capital (parent income and education). These various processes of assimilation are critical to note for second-generation immigrants and understanding differences across groups in their educational outcomes and thus indirectly for their health.

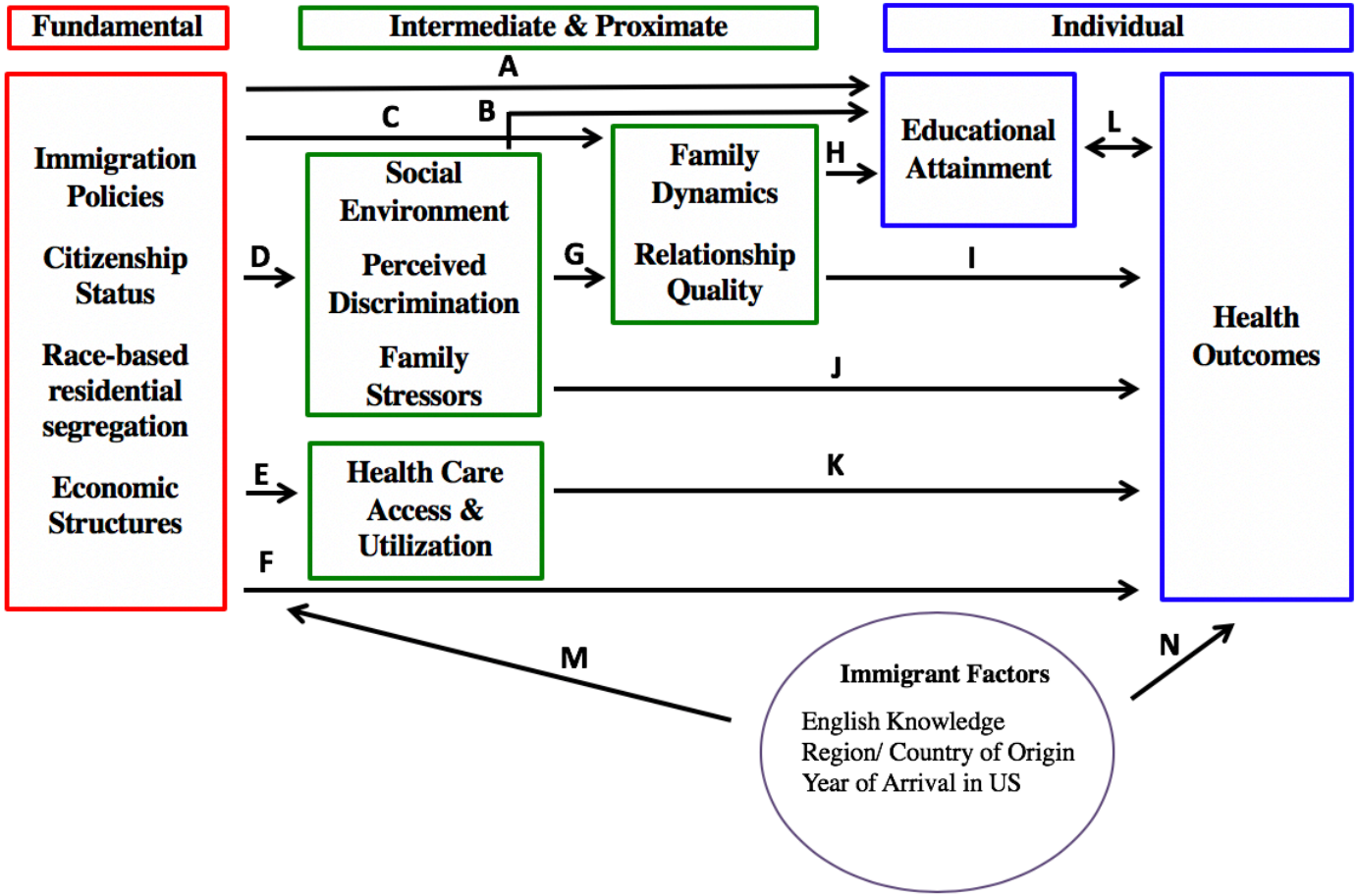

Figure 1.1 Conceptual model of citizenship status & psychosocial factors on immigrant outcomes

Methodology

Informed by prior theoretical and empirical findings for citizenship status, family and psychosocial factors on immigrant health inequities, two potential analytic strategies emerge: 1) testing main effect associations between educational attainment and health outcomes; and 2) testing mediating pathways between educational attainment and health outcomes. Due to our limited understanding of the effects of parent citizenship in the presence of these other psychosocial and family factors on educational attainment and health outcomes, an analysis testing main effect associations was employed across all three studies. Main effect pathways (see Figure 1.1) were investigated across the three studies. The first study examined pathways of citizenship status and educational attainment (A), both the social environment (neighborhood factors) and perceived discrimination and educational attainment (B), and family dynamics and educational attainment (H). The second study examined pathways of citizenship status and depressive symptoms (F), family dynamics and depressive symptoms (I), and psychosocial stressors and depressive symptoms (J). Finally, the last study, examined pathways of citizenship status and self-rated health (F), psychosocial stressors and self-rated health (J), health insurance and self-rated health (K), and educational attainment and self-rated health (L). The other pathways represent mediating pathways (C, D, E and G), not main effects, and are not tested, or are covariates (M, N) and thus, are included in the model.

Data Source & Participants

Each study in the dissertation conducted analysis using data from the Children of Immigrants Longitudinal Study (CILS), a longitudinal study with three waves of survey data starting from 1992 (Wave 1), 1995 (Wave 2) through 2001-2003 (Wave 3), among second-generation youth. The CILS dataset was well suited for the dissertation analysis because it yields

a large and robust sample of second-generation immigrants and their parents, while also including critical variables that were theoretically and analytically important. In fact, this dataset is one of the few datasets that include measures on citizenship status for parents and children, a critical focus of the study, in addition to health and psychosocial factors of discrimination, adverse life events, and family dynamics. Additionally, the data collection occurred during critical transitional and developmental periods for second-generation immigrant youth, starting from adolescence into young adulthood, and provided a unique opportunity to examine these developmental periods.

CILS was a large multi-city survey focused on second-generation immigrant youth living in Miami/Fort Lauderdale, Florida and San Diego, California (Portes & Rumbat, 2001). Its purpose was to examine the process of adaptation of second-generation immigrant youth and their educational trajectories. The sample was drawn from 49 schools, and these cities were selected due to areas with concentrations of immigrant and native-born populations. The initial data collection began when the participants were adolescents and followed them as they transitioned into young adulthood. The criteria for immigrant youth participating in the study included either being born in the United States or having lived in the US for at least 5 years and having at least one foreign born parent.

The study had three waves of data; participants were initially surveyed in 1992 (Wave 1), when they were either in the 8th or 9th grade (around 14 or 15 years of age; Rumbaut, 2005). The sample for this wave was comprised of 5,262 youth. The first follow up survey was conducted three years later in 1995 (Wave 2), with a total sample of 4,288 or 81.5 percent of the original sample, and the majority of the sample was in their junior or senior year of high school (about 17 or 18 years old). Coupled with the first follow-up survey with the youth, a parent survey (Wave

2) was conducted to examine the contexts and characteristics of the immigrant parents and where they live, as well as their aspirations and relationships with their children. The total sample of parents was 2,442 or approximately less than half (46 percent) of the original youth sample of 5,262. About a decade later, the second follow-up survey of youth was conducted from 2001-2003, with a total of 3,613 participants or approximately more than half (68.9 percent) of the original sample. These second-generation immigrants were now in their young adulthood (about 24 or 25 years old; Portes & Rumbat, 2001; Rumbaut, 2005). Wave 1 and 3 did not survey the parents.

Study 1: Intergenerational Influences of Family and Psychosocial Factors, Neighborhood Context, and Citizenship Status on Educational Attainment

The purpose of the first study was to test both the parents' and youth's citizenship status along with other critical factors of the neighborhood context, family dynamics and psychosocial factors on second-generation immigrant young adults' educational attainment. The study was informed by the ecological life course perspective and Theory of Segmented Assimilation (TSA), in which both frameworks provide explanations for how multiple contexts influence educational outcomes among second-generation immigrant youth. Legal status is increasingly viewed as a driver of immigrant health disparities with potential spillover effects within families and their children (Asad & Clair, 2018), through pathways of stress and the social context (Castaneda et al., 2015). However, relatively few researchers have examined citizenship status in tandem with factors that may amplify or block education opportunities for immigrant young adults, with specific consideration to parent factors. Given these gaps, I tested main effect associations of youth- and parent-reported citizenship status, parent-reported family (e.g., parent-child communication, educational expectations) and neighborhood factors (e.g., living in an

ethnic enclave, parents' perceived neighborhood safety), and psychosocial stress (parents' perceived discrimination) on young adults' educational attainment. As reflected in the conceptual model (Figure 1.1), these research questions correspond to pathways described by arrows A, B, and H.

Both the family and the neighborhood context are influential agents for youth and their educational attainment (Paat, 2015; Pong & Hao, 2005). Given that legal status and specifically, US citizenship status is linked to access to critical financial resources (Oropresa, Landale, Hillemeier, 2015; Viruell-Fuentes, Miranda, & Abdulrahim, 2012), I hypothesized that for both young adults and parents with US citizenship status was associated with higher education. Reflecting previous research, I hypothesized that parents who reported higher frequency of parent-child communication, educational expectations, and neighborhood safety were associated with higher education among young adults. Conversely, I hypothesized parents who reported living in ethnic enclaves and experienced previous perceived racial discrimination would report lower education.

Study 2: Psychosocial Family factors, Discrimination, and Parent Citizenship Status on Depressive Symptoms

Numerous researchers have examined the role of family dynamics and psychosocial stress for adolescent depressive symptoms (Branje, Hale, Frijns, Meeus, 2010; Johnson & Galambos, 2014; Huynh & Fuligni, 2010; Ríos-Salas & Larson, 2015), and the spillover effects of stress across family members and their children (Gonzales, et al., 2011; Conger et al., 2000). Yet limited literature has examined multiple risk and protective family and psychosocial factors together for immigrant adolescents' depressive symptoms. Additionally, according to the life course framework and the linked lives concept, individuals are interdependent where events or

conditions that may affect one person may also influence others in their network (Elder, Johnson, & Crosnoe, 2003; Gee, Walsemann, & Brondolo, 2012). A few studies have begun to examine the role of citizenship status as a social determinant of health (see Goldman, Smith, & Snood, 2005; Miranda, et al., 2017) and its influence across generations (Landale, et al., 2015; Yoshikawa, Godfrey, & Rivera, 2008). The role of parent legal status influencing their children's health has been explored among Latino families (see Landale, et al., 2015; Oropresa, Landale, & Hillemeier, 2015; Yoshikawa, Godfrey & Rivera, 2008), with no known empirical study among diverse immigrant samples. In sum, citizenship status in tandem with other family factors and psychosocial stressors has not been previously studied although it has a known impact on health (Gubernskaya, Bean, & Van Hook, 2013; Oropresa, Landale, & Hillemeir, 2015; Torres & Young, 2016). Therefore, this study seeks to examine parent citizenship status along with adolescent reports of parent-child quality relationship, family cohesion, perceived racial discrimination, and adverse family stressors on depressive symptoms among second-generation immigrant adolescents. Referring to the conceptual model (Figure 1.1), this study tested paths of F, I, and J.

Given previous findings regarding parent legal status and children's mental health (Landale, et al., 2015; Oropresa, Landale, & Hillemeier, 2015), I expected to find that adolescents with citizen parents would be associated with lower adolescent depressive symptoms. Similarly, reflecting previous literature on family dynamics and psychosocial stressors, I expected to find that adolescent perceptions of higher parent-child relationship quality and family cohesion would be associated with lower adolescent depressive symptoms. Conversely, I hypothesized that adolescent perceived racial discrimination and reports of adverse family events would predict higher adolescent depressive symptoms.

Study 3: Social Determinants, Psychosocial, and Citizenship Status on Self-Rated Health

Extensive literature has examined the relationship between socioeconomic status (SES) and health among immigrants (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Kimbro, et al, 2008; Padela & Heisler, 2010; Ro, et al., 2016). Despite their low SES, recent immigrants report better health compared to their native-born counterparts; however, this advantage erodes over time (Markides & Rote, 2015; Mossakowski, 2007). Emerging evidence has shown that the gradual deterioration of health among immigrants may be due to the clustering of disparities related to social exclusion and exposure to racism (Gee, Walsemann, & Brondolo, 2012; Gee & Ford, 2011; Opresa, Landale, & Hillemeier, 2015; Viruell-Fuentes, Miranda, & Abdulrahim, 2012; Yoshikawa, Godfrey, & Rivera, 2008). Legal status, a critical dimension of social stratification in the US, has been posited to be a form of social exclusion and a determinant of health (Gee & Ford, 2011; Opresa, Landale, & Hillemeier, 2015; Viruell-Fuentes, Miranda, & Abdulrahim, 2012). However, studies on citizenship status and health have primarily been focused on samples of either immigrant adults or children, with known study among immigrant young adults. Young adults are transitioning into social systems of post-secondary higher education, the labor market, and criminal justice system, which have also been posited to be fundamental drivers of health inequities (Link & Phelan, 1995; Walsemann, Geronimus, & Gee, 2008). Given these developmental and critical changes, it is imperative to examine the interplay between these systems and on outcomes of health among young adults, and specifically, immigrant young adults. The purpose of this study was to examine associations between young adults' self-rated health and their own citizenship status along with their educational attainment, health insurance status, perceived racial discrimination, and adverse family events. In reference to the conceptual model (Figure 1.1), this study examined paths F, J, K, and L.

Based on the emerging evidence around citizenship status and health, I expected citizen young adults to be more likely to report excellent health. With the strong evidence to support the relationship between educational attainment and health insurance status for self-rated health, I expected both education and health insurance to be protective for their health. In other words, young adults with health insurance and higher education were more likely to report excellent health. In contrast, previous research on perceived discrimination and adverse family events have indicated that these stressors have adverse consequences for health. Thus, I hypothesized that perceived discrimination and more adverse family events would be negatively associated with young adults' health.

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Chapter 2 Intergenerational Influences of Family and Psychosocial Factors, Neighborhood Context, and Citizenship Status on Educational Attainment

Rich in scholarship, education is one of the major predictors of economic advancement, social mobility, and health and mortality (Murray, 2009; Mirowsky & Ross, 2008; Walsemann, Geronimus, & Gee, 2008). It has been argued that good formal education enhances positive health outcomes and career opportunities, as it is a prerequisite to secure certain occupations (Baum & Flores, 2011; Paat, 2015). Additionally, four-year degrees have the highest economic value where adults with a bachelor's degree typically earn more than 50 percent higher than their high school graduate counterparts (Baum & Flores, 2011). According to the American Community Survey (ACS), from 1970 to 2010 the wage gap increased by 41% from those who went to college with a four-year degree compared to a high school graduate (Ruggles, et al., 2010). Due to the shifts in the US economy from an industrial to an information and service-based economy, this has contributed to the need for a college degree as a necessary attribute for a middle-class lifestyle (Louie, 2007).

Despite the social and health benefits bestowed by an educational degree, differences have been noted in rates of educational attainment among immigrants and their children (Baum & Flores, 2011; Karoly, & Gonzales, 2011; Kao & Thompson, 2003; Portes & Rumbaut, 2001; Rumbat, 2005). Overall, parental socioeconomic status (SES) and parent educational attainment have been widely established to be significantly associated with children's educational trajectories, specifically post-secondary education attainment (Ross & Mirowsky, 2011; Rumbat,

2005; Ellwood & Kane, 2000). Children from high SES backgrounds are more likely to be tracked into advanced courses compared to low SES students and specifically, those who take advanced placement classes are more likely to attend college than those who do not (Darling-Hammond & Post, 2000). Among immigrant families, researchers have found that family income predicts youth's educational trajectories (Baum & Flores, 2011; Rumbat, 2005), while families with one US born parent compared to children with both parents who are native born, have been associated with lower educational trajectories (Rumbat, 2004; 2005). The Theory of Segmented Assimilation (TSA) posits that multiple contextual factors including living in the presence of other co-ethnics, government acceptance or rejection of immigrant groups (e.g., immigration policy), and family support and dynamics (especially parents) are critical for immigrant children's adaptation and social mobility (Portes & Rumbaut, 2001). Additionally, families serve as a primary context of socialization providing vital sources of support for immigrant children's educational outcomes through socioeconomic resources (White & Glick, 2000), setting expectations (Kao & Tienda, 1995; Zhou, et al., 2008), and establishing an environment that is conducive to their success (Suarez-Orozco & Suarez-Orozco, 1995).

Providing an additional lens regarding how inequities may be generated and sustained among families, the intergenerational drag hypothesis posits that inequities and social resources are passed down from one generation to the next (Darity, 2003; Gee & Ford, 2011). This perspective considers the cumulative effect of macro-level system factors that interact with one another in generating or sustaining present day inequalities. The intergenerational drag hypothesis has been used to examine how educational attainment and wealth of one generation contributes to socioeconomic inequities for the succeeding generation (Collins & Margo, 2001; Margo, 1990), which may also be salient in generating inequities for immigrant families. In

tandem with the intergenerational drag hypothesis, the linked lives concept from the life course perspective provide a framework for understanding how families may influence outcomes for their children. More specifically, the linked lives concept considers how individuals are interdependent with each other (Elder, Johnson, & Crosnoe, 2003; Gee, Walsemann, & Brondolo, 2012). These frameworks are important for understanding outcomes of educational attainment among second-generation immigrant young adults.

An emerging area of research has begun to examine citizenship status as a potential source of variation for education and health among immigrants (Bean, et al., 2011; Lee, 2018; Oropresa, Landale, Hillemeier, 2015; Zhou, et al., 2008). The US immigration system has been recognized to be a source of stratification through legal status and noncitizens in particular, including legal permanent residents, temporary status holders, and undocumented immigrants, which has profound implications for their employment, income, and job mobility. As a result, this has led to the creation of different classes of immigrants (Abrego, 2014). Legal status has direct influence for social mobility through occupational opportunities that may require either citizenship status or having legal permanent residency, which may also influence income through the types of jobs they are able to obtain (Abrego, 2014). With the growing number of immigrants and their descendants in the US (Passel, 2011), understanding intergenerational transmission of educational and social mobility among children of immigrants remains critical.

Limited literature exists on examining critical structural, neighborhood, family, and other contextual factors simultaneously on educational attainment (Lee, 2018). Legal status has been hypothesized to indirectly and directly influence immigrant young adult's educational attainment through potential spillover effects across family members (Asad & Clair, 2018) and having access to financial aid (Baum & Flores, 2011). In tandem with legal status, understanding

parental and other contextual factors that influence post-secondary educational attainment among immigrant children is critical as it may have implications for their social mobility (Derose, Escarce, & Lurie, 2007; Lauderdale, 2001). To fill this gap in the literature, the present study investigated intersections between educational attainment among second-generation immigrant young adults and citizenship status, along with parental-reported family and neighborhood factors, and psychosocial stressors.

Legal Status

Previous scholars have posited that legal status stratification may be linked to social mobility and education through being able to access federal assistance or specifically, financial aid for higher education (Oropresa, Landale, Hillemeier, 2015; Baum & Flores, 2011). Among noncitizen immigrants, unauthorized immigrants and temporary visa holders are ineligible for federal financial aid (Baum & Flores, 2011). Several state universities have instituted policies for out-of-state undocumented immigrant students (not including temporary visa status holders) to pay in-state tuition under certain circumstances, but these policies do not resolve issues related to employment, citizenship status, and financial aid eligibility for federal loans for the unmet aid. While second-generation citizen children are eligible for financial aid, they may face challenges in taking out enough financial aid to cover tuition without the support of their parents (if they are either undocumented or temporary visa status holders), which may also be compounded by challenges in navigating the complex process of applying for financial aid (Baum & Flores, 2011).

Legal status has implications for social mobility not only for immigrants but also for their children, as their education and employment trajectories are linked to their parents' citizenship status (Bean, Brown, & Rumbaut, 2006; Massey, Durand, & Malone, 2002). Lee (2018)

examined by parents' entry status and children's educational attainment and found that father's status specifically, fathers with a student or a tourist visa upon entry, was associated with higher education compared to other visa statuses. Children whose fathers arrived in the US through student or tourist visas, were more likely to enroll in advanced or honors courses, thus increasing their college readiness. Findings from this study suggest that legal status may be a determinant for parent human capital (e.g., educational background) and economic resources (e.g., family income; Oropresa, Landale, Hillemeier, 2015). These advantages or disadvantages are translated through their children's educational outcomes. Based on these findings, it is critical to examine both parent and children's legal status as a potential determinant for educational attainment among second-generation immigrant young adults.

Parent Relationships and Expectations

Strong family relationships have the potential to exert a far-reaching influence on educational trajectories for immigrant children (Paat, 2015). Family relationships typically function as a protective factor for their child's development, specifically, parenting practices around positive involvement have been found to be protective of the child's well-being among immigrant families (Flores, 2013). Parenting practices, which include staying involved in their child's life, communicating regularly with the child, and eating regular meals together as a family, have provided children with the structure that is critical to their development and well-being (Amato & Fowler, 2002; Lamb & Lewis, 2011). Parents who engage in open and frequent communication with their children and the encouraging nature of their communication have been significantly associated with better academic achievement outcomes (Brooks-Gunn & Markman, 2005; Mullis, Rathge, & Mullis, 2003). López Turley, Desmond, and Bruch (2010) found that positive parent-child relationships were associated with academic achievement in high school

and also post-secondary education and four-year college enrollment. A qualitative study by conducted Valdez, Padilla, and Valentine (2013) found that due to the implementation of an anti-immigration policy, Latina mothers who reported an undocumented status, experienced psychosocial stress and discrimination, which resulted in compromised parenting practices and parent-child quality of communication. This negative family functioning may have adverse implications on educational attainment for immigrant children.

Additionally, substantial research has examined the role of parental expectations and children's academic achievement (Yamamoto & Holloway, 2010). High parental expectations have been positively linked to their children's academic performance (Aldous, 2006; Fuligni & Fuligni, 2007; Goyette & Xie, 1999; Kao, 2004). However, most of the literature in this area has focused on mainly European and middle-class samples. Only recently has this literature focused on diverse racial and ethnic samples (Yamamoto & Holloway, 2010). Several studies have shown that the majority of immigrant parents have high educational expectations for their children (Glick & White, 2004; Goldenberg, et al., 2001; Goyette & Xie, 1999). Immigrant adolescents whose parents place high values on their educational achievement were more likely to invest more time and effort into their academics and value educational success, which in turn, lead to greater educational attainment (Fuligni & Fuligni, 2007). In contrast, parental exposure to economic pressure and other psychosocial stressors have been associated with compromised expectations for their children's future educational attainment (Crosnoe, Mistry, & Elder, 2002). These findings imply that strong family relationships reflecting frequency of communication and high parent educational expectations may be critical elements for post-secondary educational trajectories for immigrant youth.

Perceived Racial Discrimination

Within family studies, a growing literature has examined psychosocial stressors of perceived racial discrimination on parenting and parent-child quality of relationships (Anderson, 2015; Ayón, et al., 2010; Barrett & Turner, 2005; Gassman-Pines, 2015). Findings suggest that parent-perceived racial discrimination indirectly affects the psychological well-being of the child through parent-child quality of relationships (Anderson, 2015; Brabeck & Sibley, 2016; Gassman-Pines, 2015). To further support these findings, under the context of anti-immigrant sentiment, for immigrants, experiencing discrimination at work was significantly associated with psychological distress, and as a result, influenced their children's internalizing and externalizing behaviors (Gassman-Pines, 2015; Brabeck & Sibley, 2016). However, while most studies have examined relationships between perceived racial discrimination and health of that individual (Gee, et al., 2006; Williams & Mohammed, 2013), a paucity of literature has investigated the intergenerational effects of perceived racial discrimination on post-secondary educational attainment among immigrant young adults.

Immigrants experience discrimination and prejudice due to racism, anti-immigrant attitudes, or a combination of both (Rogers-Sirin, Ryce, & Sirin, 2014). General attitudes towards immigrants in the US have fluctuated across time but within the last several decades these attitudes have remained relatively negative (Deaux, 2006). Due to the range of current stereotypes for various racial and ethnic groups, immigrants may encounter different forms and degrees of discrimination. Among US citizens', their views towards different immigrant groups are varied, with the most negative perceptions towards Mexicans, followed by Dominicans, Cubans, and Puerto Ricans (Deaux, 2006). Asian immigrants also reported experiencing discrimination in spite of the "model minority myth" (Singh, 2009; Sue & Sue, 2003). This

myth refers to the commonly held view that Asians tend to accept US mainstream ideals much more quickly than other groups and thus, are easily acclimated into the US mainstream culture. However, Asian immigrants have faced discrimination throughout history, but their struggles are often rendered invisible due to assumptions that they do not face racial discrimination (Singh, 2009). Findings suggest that across immigrant groups interpersonal discrimination is ubiquitous, in differing forms and degrees based on context and time.

Neighborhood Context

From a developmental and life course perspective, examining the role of the neighborhood social context on adolescents' educational outcomes is important as adolescence represents a critical period of susceptibility to influences outside the home (Pong & Hao, 2007). Moreover, neighborhood effects are expected to increase as youth enter adolescence as they have increased contact with their neighborhood peers and activities (Boyce, et al., 1998). Researchers have examined the relationship between the neighborhood context of living in co-ethnic or immigrant enclaves and immigrant children's education and schooling (Kroneberg, 2008; Pong & Hao, 2005; Sampson, Squires, & Zhou, 2001). Immigrant children who live in ethnic enclaves are surrounded by other foreign-born ethnic peers with limited English proficiency (LEP), and may have limited opportunities to become proficient in English (Pong & Hao, 2007). Limited English proficiency among immigrant children is hypothesized to have negative consequences for education and academic performance, and the few studies in this area have shown mixed findings. Kroneberg (2008) found that depending on the communities' commitment or educational aspirations and socioeconomic resources, these factors have differential impact on school performance among immigrant children. For immigrant young adults, living in a co-ethnic immigrant enclave may be a critical influence on their educational attainment.

Moreover, adolescent perceptions of neighborhood risk, including neighborhood safety, have been linked with academic performance (Henry, Merten, Plunkett, & Sands, 2008; Suárez-Orozco & Qin-Hillard, 2004; Bowen, Rose, Powers & Glennie, 2008; Milam, Furr-Holden & Leaf, 2010). In addition, researchers have examined economic hardship as it captures the psychological implications of living in poverty (Conger & Conger, 2000). Neighborhood risk has been assessed through multiple characteristics of the neighborhood, including neighborhood disorder (Skogan, 1990; Steenbeek & Hipp, 2011). Disorder can be classified into two categories of social and physical disorder (Skogan, 1990). Social disorder typically captures neighborhood aspects of danger, including fighting, arguing, drug dealing, and assaults, while physical disorder often includes visual indicators of disorder such as litter, vandalism, and poorly maintained properties. Disorder affects the individual's psychological well-being through increasing feelings of powerlessness, fear, distress, and mistrust (Ross, 2000). Additionally, the synergistic effects of neighborhood contextual factors of high levels of poverty, low levels of education, and high unemployment rates, intensify the deleterious effects of these daily stressors, and lead to adverse consequences for the mental health of these residents (Evans & English, 2002; Attar, et al., 1994; Wadsworth, et al., 2008). Thus, parents who are more economically disadvantaged may be less likely to be optimistic about their children's educational success and less likely to engage in proactive parenting and promote their child's educational enrollment (Crosnoe, Mistry, & Elder, 2002), with potential implications on immigrant children's educational attainment.

A large body of work has found that the neighborhood context influences parenting and quality of parent-child relationships via pathways of psychological well-being and their child's health (Brabeck & Sibley, 2016; Kohen, Leventhal, Dahinten, & McIntosh, 2008; Santiago,

Wadsworth & Stump, 2011; Gonzales, et al., 2011; White, et al., 2009). According to the family stress theory (FST), economic stressors influence parental functioning, and in turn, affect the quality of family relationships and parenting behaviors (Gonzales, et al., 2011; Conger et al., 2000). In particular, for racial and ethnic families living under poverty, the stress encountered while living in contexts of high poverty and violence, result in a diminished capacity to parent effectively due to limited parent resources, energy, and time (Liu, et al., 2009). Significant associations have been found between parent perceptions of neighborhood safety and their psychological health (Cabrera & Garcia Coll, 2004; Kohen, Leventhal, Dahinten, & McIntosh, 2008; Santiago, Wadsworth & Stump, 2011; White, et al., 2009). Specifically, parents who are concerned about neighborhood safety may employ punitive and coercive parenting practices in an effort to protect their children from perceived risks (Ceballo & McLoyd, 2002; Eamon & Mulder, 2005; Gonzales, et al., 2011; Kohen, Leventhal, Dahinten, & McIntosh, 2008; Xue, et al., 2005). Parenting practices may be a potential mediator between neighborhood conditions and educational attainment; however, prior studies have not examined direct links between parent perceptions of neighborhood safety and post-secondary educational attainment for immigrant youth.

Current Study

Educational attainment trajectories among immigrant youth may be explained by the cumulative effects of disadvantage that are generated and sustained through the family, as posited by the intergenerational drag hypothesis and linked lives concept from the life course perspective. Additionally, informed by the Theory of Segmented Assimilation and previous research, multiple contexts including structural, community, and family influence second-generation immigrant youths' educational attainment. Legal status has also been posited to have

spillover effects within families and their children (Asad & Clair, 2018), and through pathways of stress and the social context (Castaneda et al., 2015) and may influence their children's educational trajectories. However, scant literature has examined young adults' and parents' citizenship status in tandem with multiple contextual factors that may support or block educational outcomes for second-generation immigrant young adults. In particular, parent perceptions around critical family and neighborhood factors have not been adequately examined in relation to second-generation young adult educational attainment. To address these gaps in the literature, the current study will examine links between educational attainment among second-generation immigrant young adults and citizenship statuses of parents and youth, parent-child frequency of communication, parent educational expectations, parent neighborhood factors (e.g., living in immigrant ethnic enclaves, neighborhood safety), and psychosocial stress (parent perceived discrimination).

Research Question & Hypotheses

Research question: Does educational attainment vary among second generation immigrant young adults by parent perceptions of parent-child frequency of communication, educational expectations, neighborhood context, and citizenship status of parents and youth?

H2.1. Federal welfare and immigration laws, PWORA and IIRIRA of 1996, restricted non-US citizens access to financial aid. Therefore, both youth and parent US citizens will attain higher educational levels compared to noncitizen youth and parents.

H2.2. Youth whose parents report better parent-child quality of communication, higher educational expectations, and more neighborhood safety will attain higher educational levels than youth whose parents who don't.

H2.3. Youth whose parents report perceived racial discrimination and living in immigrant ethnic enclaves will attain lower educational levels than parents who don't.

Methods

Sample

The study used the Children of Immigrants Longitudinal Study (CILS) to test the study hypotheses. CILS was a large multi-city survey (Miami/ Fort Lauderdale, FL and San Diego, CA), focused on the adaptation process of second-generation immigrant youth (Portes & Rumbat, 2001). These locations were selected due to high concentrations of immigrant and native-born populations. The study criteria were that these youth were either born in the United States or had lived in the US for at least 5 years (from the initial data collection period), with at least one foreign born parent. About 49 schools were included in the study asking students about their family characteristics, academic achievement, and ethnic identity, among other topics. The study had three waves of data starting from when these youth were adolescents in 8^{th}-9^{th} grade (baseline; Wave 1), following them through high school (first follow-up; Wave 2), and about a decade later, when these youth were in young adulthood (second follow-up; Wave 3). Data were collected beginning from 1992, again in 1995, and the final wave in 2001-03, when these young adults were about 24 or 25 years old (Portes & Rumbat, 2001; Rumbaut, 2005).

The study used parent/legal guardian data linked with young adults, or parent-young adult dyads (N= 1712) from CILS. The parent/legal guardian survey was collected in 1995 (Wave 2) and the young-adult survey in 2001-2003 (Wave 3), with approximately six to eight years between the two data collection points. Both second and 1.5 generation of immigrant youth (or came to the US before they were 12 years old) were included in the sample, with about 48.2% who were second-generation immigrant (or 51.8% were 1.5 generation). Descriptive

statistics were conducted (results not shown) to assess whether there may be differences by generational status, though this was not the primary aim of the study. Similar patterns were noted by generational status and parents' citizenship status, and with a relatively high correlation (0.38) between generational status and parent citizenship status.

The study used *parent reported predictors*, which included parent US citizenship status, parent reports of frequency of parent-child communication, parents perceived discrimination, parent educational expectations, parent perceptions of living in immigrant ethnic enclave, and parent perceptions of neighborhood safety. For citizenship status, both the parent and young-adult measures will be examined in the analysis. The study's dependent outcome used *young adult reports* of their highest educational attainment at Wave 3.

Measures

Dependent Variable

Young Adult Educational Attainment. Self-reported educational attainment has been commonly used to understand outcomes for educational attainment (Portes & Hao, 2004; Portes & Rumbaut, 2001; Rumbaut, 2005; Siahaan, Lee, & Kalist, 2014). Researchers have typically operationalized educational attainment as years of schooling or degree attained (Siahaan, Lee, & Kalist, 2014; Walsemann, Gee, & Ro, 2013). This measure has also been used as a proxy for socioeconomic position as it may be less prone to nonresponse error compared to measures like income.

Educational attainment of second-generation young adults was measured at Wave 3 of the study. It was examined as a three-category ordinal dependent variable. Respondents were asked: "What is the highest grade or year of school you have completed?" Participants were asked to respond using the following categories: some high school (grades 9-12, no diploma),

graduated from high school, 1 or 2 years of post-high school vocational training, graduated 2 year college/vocational school (associate's degree), 3 or more years of college (no degree yet), graduated from 4 or 5 year college (e.g., bachelor's degree), some graduate school (no degree yet), master's degree, professional/doctoral degree (JD, MD, DDS, Ph.D.), or other. Responses were collapsed into three categories: less than high school/high school graduate, some college/vocational school, bachelor's degree or beyond (graduate degree). Less than high school/high school graduate was the reference category.

Independent Variables

Citizenship status. A handful of studies have included citizenship status as a self-reported measure (Brabeck & Xu, 2010; Brabeck & Sibley, 2016; Perreira, et al., 2008; Gee, et al., 2016). Scholars have posited that immigrant legal status measure may be sensitive in nature and prone to response bias (Bachmeier, Van Hook, & Bean, 2014). However, researchers from two large-scale surveys did not find questions on immigrant's legal status to be sensitive and found that this measure had similar non-response rates to other immigration related variables, like year of immigration (Bachmeier, Van Hook, & Bean, 2014).

Parent citizenship status was measured as a dichotomous variable for parent reported citizenship status. Respondents were asked: Are you a U.S. citizen?" Responses items were yes or no, with non-citizens as the referent category.

Youth citizenship status was measured using a one-item question. Youth were asked about their citizenship status of whether if they were US citizen by birth, US citizen by naturalization, not a US citizen, or a dual citizen or nationality. Respondents who reported being dual citizens who were born in the US were collapsed into the U.S. citizen by birth category; if

they were not born in the US, but were US citizens, they were included in the US citizen by naturalization category, creating a three-category ordinal variable.

Parent perceived frequency of parent-child communication. Prior studies have assessed perceived frequency of parent-child communication using a continuous scale measure using similar questions, which have been shown to be internally consistent for immigrant and native youth populations (Downey, 1995; Glick & White, 2004; Lopez-Turley, Desmond, & Bruch, 2010). Respondents were typically asked how often they discussed school experiences and plans after high school with their children, with response options ranging from never to regularly.

Frequency of parent-child communication was measured using the average of two items: "How often do you or your spouse/partner talk with your child about his or her experiences in school?; How often do you or your spouse/partner talk with your child about his or her educational plans after high school?" A total of four response options were included: not at all (1), rarely (2), occasionally (3), and regularly (4). Response categories of not at all, rarely, and occasionally were combined and collapsed to 0, and regularly was recoded to 1, with scores ranging from 0 to 1. Both items were averaged together and demonstrated acceptable internal consistency reliability ($\alpha = 0.77$). Higher scores indicate higher average scores of parent perceived frequency of parent-child communication.

Parent perceived racial discrimination. Across decades of research, indirect measures of racial discrimination have been found to be salient for a number of health outcomes and risky health behaviors (Krieger, 2000; Gee, Ro, Shariff-Marco, Chae, 2009; Yip, Gee, & Takeuchi, 2008; Williams & Mohammed, 2009). Challenges have been noted around measuring racial discrimination, with no explicit standardized measure of the indirect experiences of

discrimination (Krieger, 2000). Across studies, a variety of subjective measures of discrimination have been used to assess time period (initial vs. recently), domain (globally or within specific situations), and intensity and frequency (as major events or everyday) of discrimination (Gee, Ro, Shariff-Marco, Chae, 2009; Krieger, 2000). This measure has been tested among diverse racial and ethnic groups, including African Americans, Latinos, Whites (see Krieger, 2000; Williams & Mohammed, 2012), and also among immigrant groups (Padela & Heisler, 2010; Yip, Gee, & Takeuchi, 2008). Despite challenges, examining racial discrimination has been helpful in determining whether other forms of disparities (e.g., economic) that may be related to discrimination account for differences in health and other outcomes between groups (Krieger, 2000).

Parent perceived discrimination was assessed using a one-item measure where respondents were asked: "Do you feel that you have been discriminated against because of your race or your ethnicity in the US?" Perceived racial discrimination was treated as a dichotomous variable (yes versus no).

Parent educational expectations. Although parental expectations have been defined in multiple ways, most scholars have defined expectations as realistic beliefs that parents may have about their children's future educational attainment (Yamamoto & Holloway, 2010). Typically, expectations have been measured over aspirations due to the realistic assessments for predictions of future success, while aspirations may be interpreted as desires or wishes (Goldenberg, et al., 2001). Similar to this study, most scholars have operationalized parent expectations as a single item measure asking them how far do they think their child will go in their education with response categories ranging from less than high school to post-graduate education (Glick &

White, 2004; Goldenberg, et al., 2001). This measure has been measured for both immigrant and native populations (Glick & White, 2004; Goldenberg, et al., 2001).

Parent educational expectations were assessed using a one-item ordinal variable with four categories. Respondents were asked: "How far in school do you expect your child to go?" Categories were collapsed into: less than high school/high school graduate (1); vocational training/ some college (2); bachelor's degree (3); master's degree or beyond (4). Referent category was less than high school/ high school graduate.

Parent report of living in an ethnic enclave. Although most studies that assessed ethnic enclaves have used U.S. Census measures of proportions of ethnic compositions within the neighborhood (Alba, Logan, & Stults, 2000; Madyun & Lee, 2010; MacDonald, Hipp, & Gill, 2013; Miller, et al., 2009), scholars have pointed to the benefits of using perceptions of the neighborhood context as they have been linked to objective characteristics of SES and racial compositions of neighborhoods (Kim, et al., 2009). A study using a self-reported measure of ethnic communities found significant associations on school performance for second-generation immigrant youth (Kroneberg, 2008), and thus, similar findings will be expected for the current study using the self-reported measure.

Parent perceptions of living in an ethnic enclave was treated as a dichotomous variable, with participants reporting whether they lived in a neighborhood where residents are mostly from their own country.

Parent perceptions of neighborhood safety. Researchers who examined aspects of the neighborhood environment have used a variety of sources to measure the neighborhood context using objective or achival data (e.g. Census tracts), observer ratings, or resident perceptions (Elo, et al., 2009; Leventhal & Brooks-Gunn, 2000). However, prior studies have found that observer

ratings and resident perceptions are not often correlated (Sampson & Raudenbush, 2004). Residents may perceive different characteristics of the neighborhood differently and thus, subjective measures may be better indicators of neighborhood influence (Coulton, Jennings, & Chan, 2013). Subjective measures have been found to be predictive of individual outcomes (Furstenberg, et al., 1999; Elo, et al., 2009; Martin-Storey & Crosnoe, 2014). Previous research that examined perceptions of neighborhood risk of neighborhood safety and disorder have included similar items (e.g., gang activity, drug dealing) and reported high internal consistency (Lin & Reich, 2016; Elo, et al., 2009). These measures have been tested among diverse racial and ethnic populations and were shown to be internally consistent (Elo, et al., 2009; Lin & Reich, 2016; Martin-Storey & Crosnoe, 2014).

Parent perceived neighborhood safety was measured using the average of five items, which include: "In your neighborhood, how much of a problem is … Different racial or cultural groups who do not get along with each other"; "Little respect for rules, laws, and authority"; "Assaults and muggings"; "delinquent gangs or drug gangs"; and "Drug use or drug dealing in the open." A total of three response options were used, ranging from not a problem (1), somewhat of a problem (2), or a big problem (3). Responses were reverse coded so that higher scores indicate higher perceptions of neighborhood safety. This neighborhood safety scale demonstrates good internal reliability for the sample ($\alpha = 0.86$).

Parent demographic control variables. I controlled for parent demographic variables that have been associated with educational attainment in previous research, including parent birth year, parent year of immigration, parent English knowledge, family income, parent educational attainment, parent marital status, parent gender, and parent region/country of origin (Chiswick & DeBurman, 2004; Portes & Hao, 2004; Portes & Rumbaut, 2001; Rumbaut, 2005; Siahaan, Lee,

& Kalist, 2014). **Parent birth year** was measured as a continuous variable of the respondents' reports of the year they were born. **Parent year of immigration** was measured as a continuous variable of the respondents' reports of the year they arrived to live permanently in the US. **Parent English knowledge** was measured using a scale created from an average of four items of respondents' reports of how well they speak, understand, read, and write English. **Family income** was assessed as a continuous measure using respondents' reports on the total family income from all sources in the last year: $0-14,999; $15,000-24,999; $25,000-34,999; $35,000-49,999; $50,000-74,999; $75,000 or more. **Parent educational attainment** was assessed using as four ordinal category measure, based on respondents' reports of their highest level of education completed. Response categories included less than high school (1), high school graduate (2), some college/vocational school (3), and bachelor's degree or beyond (graduate degree) (4). **Parent gender** was treated as a dichotomous variable, with male as the referent category. **Parent marital status** was a three-item measure with respondents' report of whether they were married/live with partner, divorced/separated/widowed, or other. **Parent region/country of origin** was measured using nine categories grouped by regions of respondents' reported country of birth: Cuba (1), Mexico (2), South America (3), Caribbean (4), Asia (5), USA & other US territories (Puerto Rico & Guam) (6), and Other (7).

Analytic Strategy

STATA version 14 was used to conduct all the statistical analysis. First, data cleaning and diagnostic procedures were undertaken to transform and recode variable distributions, and to examine non-normality and non-linearity of variables. To confirm assumptions of independence for each of the predictors, multicollinearity diagnostics was performed. The variance inflation factor (VIF) and tolerance (TOL) were computed and assessed using standard cutoffs (VIF>10

and TOL <0.01) for violations of independence (Cohen, Cohen, West, & Aiken, 2003). Tests confirmed that a high degree of correlation did not exist across the independent variables.

After appropriate procedures were conducted, descriptive data and bivariate relationships using the original study variables were computed (see Tables 2.1-2.6). Bivariate analyses including correlations, t-tests, and chi-square tests were estimated using the original data. Next, missing data patterns were assessed with imputation procedures detailed below.

Prior to estimating the multivariate model, the dependent variable of interest, educational attainment, was an ordered categorical variable. One of the key underlying assumptions of ordered logistic regression is the parallel regression assumption: that the same relationship exists between each pair of groups (lowest and highest order categories) for the dependent variable. To test the parallel regression assumption, I used the gologit2 command in STATA. Test results suggested a non-significant finding indicating that there was no difference in coefficients between models or that the proportional odds assumption has not been violated. After the data were imputed, unadjusted and adjusted regression models were estimated using the appropriate imputation estimates for ordinal logistic regression (see Missing Data section below for further details) as shown in Table 2.7.

Missing Data. Missing data existed across the variables. As standard procedure, key variables were tested in the model to identify any systematic bias in the missing data on the basis of socio-demographic variables (e.g., education, income) and bivariate regression conducted to determine missing data patterns. The analysis suggested that missing data were likely missing at random, as the patterns of missing data did not appear to be significantly associated with key socio-demographic variables. To account for missing data observations multiple imputations were estimated, as a sound analytic approach to handle missing data (Raghunathan, 2004; Sterne,

et al., 2009). Specifically, the Multivariate Imputation by Chained Equations (MICE) algorithms in STATA 14.0 (College Station, Texas) was used to replace missing data, where each variable was imputed based on its distribution and own imputation model. Multiple imputation using MICE is considered to be rigorous for producing statistically valid inferences (Liu & De, 2015).

Results

Descriptive Statistics

Parent Predictors and Sample Characteristics. Descriptive statistics of parent predictors and parent demographic factors by their citizenship status are provided in Table 2.1. I conducted comparisons by parent citizenship status using two-tailed *t* and $\chi 2$ tests for each of the measures, with differences noted in the far-right column (p†). A little more than half of parents (54.2%) reported having US citizenship status.

Approximately three quarters of young adults reported obtaining at least a bachelor's degree or more. Statistically significant differences were noted by their parents' citizenship status, where young adults with a citizen parent were more likely to report obtaining a bachelor's degree or higher, compared to those with a noncitizen parent. Noncitizen parents, compared to citizen parents, were more likely to report either less than high school or high school diploma. In sum, more than four fifths of citizen parents were more likely to obtain a post-secondary degree of either some college or vocational training or a bachelor's degree or beyond, compared to noncitizen parents.

Approximately three quarters of the young adult sample reported being a citizen, with about half were citizens by birth. About two-thirds of young adults with noncitizen parents reported being a US citizen. Overall, parents reported high frequency of parent-child communication. Compared to citizen parents, noncitizen parents reported lower parent-child

communication. Parent educational expectations for their children varied, where more than a third of parents expected their children to obtain a bachelor's degree and more than a quarter expected their children to obtain a master's degree or advanced degree. Significant differences were noted by citizenship status, where noncitizen parents were more likely to expect their children to obtain some college or vocational training, compared to citizen parents. The majority of citizen parents expected their child to obtain a bachelors' degree or more. Approximately one third of parents reported perceived racial discrimination. However, compared to citizen parents, less than a third of noncitizen parents reported perceived discrimination. More than a quarter of respondents reported living in an immigrant ethnic enclave with no significant differences by parent citizenship status. Respondents reported high frequency of perceived neighborhood safety, with noncitizen parents reporting slightly lower levels of neighborhood safety.

Parent birth year ranged from 1913 to 1978, with the mean at approximately 1948; with no significant differences by parent citizenship status. Citizen parents arrived in the US around 1973, while noncitizen parents reported immigrating to the US much later around 1980. Citizen parents reported higher levels of English knowledge compared to noncitizen parents. The majority of the sample reported an annual family income of $0-34,999; however, citizen parents reported higher levels of family income compared to noncitizen parents, with more than three quarters of noncitizen parents reporting an annual family income between $0-34,999.

Among the parents, approximately half of the overall sample reported higher educational attainment, with either some college/ vocational degree or a bachelor's degree and beyond. Nearly half the noncitizen parents reported obtaining less than a high school or high school diploma and close to a quarter reported obtaining some college or vocational training. More than half of citizen parents reported obtaining education beyond a high school degree, with either

some college or vocational training or a bachelor's degree and beyond. By gender, more than half of the parent sample was comprised of females (or mothers/ female legal guardian), but males (or fathers/ male legal guardian) were more likely to be a US citizen compared to females; however, these differences were not significant. The majority of the parents were married; however, citizen parents were more likely to report being married or living with a partner compared to noncitizen parents. Regarding region/country of origin, approximately two-fifth of the respondents were from Asia, followed by South America, Cuba, and Mexico. Significant differences were noted by region/country of origin where parents from the Philippines, Cuba, and the Caribbean were more likely to be US citizens, while respondents from South America, Mexico, and Southeast Asia/Asia were more likely to be noncitizens.

Table 2.1 Parent socio-demographic variables by US citizenship status

Variables	Range	Full Sample (N=1750)		Citizen (N=948)		Non-citizen (N=800)		p†
		M(SD)	%(N)	M(SD)	%(N)	M(SD)	%(N)	
Outcome								
Educational Attainment								***
< high school/high school grad			21.3 (364)		15.0 (140)		28.7 (224)	
Some college/voc.			50.1 (858)		49.0 (456)		51.5 (402)	
Bachelor's & beyond			28.7 (491)		36.0 (335)		19.7 (154)	
Total			1713		931		780	
Predictors								
Youth citizenship status								
Citizen by birth			50.4 (873)		68.3 (641)		29.4 (232)	***
Naturalized citizen			31.8 (550)		27.5 (258)		36.8 (291)	
Noncitizen			17.8 (308)		4.3 (40)		33.8 (267)	
Total			1731		939		790	
Parent-child communication	0-1	.8 (.4)		.8 (.4)		.7 (.4)		***
Total		1740		942		796		
Parent educational expectations								***
< high school/high school grad			4.1 (71)		6.3 (50)		6.3 (50)	
Some college/voc.			19.2 (333)		12.9 (121)		26.8 (212)	
Bachelor's degree			38.8 (672)		43.0 (404)		33.9 (268)	
Master's & beyond			37.8 (655)		41.9 (393)		32.9 (260)	
Total			1731		939		790	

Parent discrimination						***
Yes		33.1 (567)		38.3 (352)	27.2 (215)	
No		66.8 (1143)		61.7 (566)	72.8 (575)	
Total		1710		918	790	
Parent ethnic enclave						ns
Yes		29.5 (515)		30.1 (284)	28.9 (231)	
No		70.5 (1230)		69.9 (660)	71.1 (568)	
Total		1745		944	799	
Parent neighborhood Safety	1-3	2.8 (.4)	2.8 (.4)		2.7 (.5)	***
Total		1717	927		788	
Covariates						
Parent Birth Year	1913-70	47.9 (7.1)	48.0 (6.4)		47.7 (8.0)	ns
Total		1732	938		792	
Parent Immigration Year	1944-94	75.9 (8.4)	72.7 (8.3)		79.6 (6.7)	***
Total		1723	923		798	
Parent English Knowledge	1-4	2.9 (1.0)	3.4 (.7)		2.3 (.9)	***
Total		1714	925		787	
Family Income						***
$0-14,999		21.3 (355)		11.8 (106)	32.4 (249)	
$15,000-24,999		22.9 (382)		16.5 (148)	31.5 (234)	
$25,000-34,999		15.0 (250)		14.5 (130)	15.5 (119)	
$35,000-49,999		18.7 (312)		23.8 (213)	12.8 (98)	
$50,000-74,999		13.5 (224)		20.2 (181)	5.6 (43)	
$75,000 or more		8.5 (142)		13.2 (118)	3.1 (24)	
Total		1665		896	767	
Parent education						***
< high school		28.0 (489)		11.8 (111)	47.4 (378)	
High school graduate		16.4 (286)		18.1 (171)	14.4 (115)	
Some college/ Voc. school		32.3 (564)		39.7 (375)	23.4 (187)	
Bachelor's & beyond		23.3 (406)		30.5 (288)	14.8 (118)	
Total		1745		945	798	
Parent gender						ns
Female		61.7 (1076)		59.9 (557)	63.7 (507)	
Male		38.3 (668)		40.1 (379)	36.3 (289)	
Total		1744		946	796	
Parent marital status						**
Married/ Lives with partner		82.2 (1436)		84.2 (797)	80.0 (638)	
Separated/ Divorced/ Widowed		16.4 (286)		15.1 (143)	17.9 (143)	
Other		1.4 (25)		0.7 (7)	2.1 (17)	
Total		1747		947	798	
Parent region/ Country of origin						***
Cuba		16.3 (285)		21.9 (208)	9.6 (77)	
Mexico		12.9 (226)		6.1 (58)	21.0 (168)	
South America		18.6 (325)		12.0 (114)	26.4 (211)	

Caribbean	8.3 (146)	8.8 (83)	7.6 (61)	
Philippines	17.0 (298)	27.7 (263)	4.4 (35)	
SE Asia/Asia	21.7 (380)	15.5 (147)	29.1 (233)	
USA & US territories	2.0 (35)	3.7 (35)	0 (0)	
Other	3.1 (55)	4.2 (40)	1.9 (15)	
Total	1750	948	800	
Parent Relationship				ns
Father	36.9 (643)	38.7 (366)	34.8 (277)	
Mother	60.8 (1,060)	59.1 (559)	62.7 (499)	
Other guardian	2.4 (41)	2.2 (21)	2.5 (20)	
Total	1744	946	796	

† Two-tailed *t* and $\chi 2$ tests comparing citizen and non-citizen parents
Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Bivariate Analyses

The bivariate analysis suggests that educational attainment differed by the young adult's citizenship status (Table 2.2). Noncitizen young adults were more likely to obtain less than a high school or high school diploma, compared to those with citizen young adults. Additionally, close to half of the noncitizen young adult sample had either some college or vocational training. Conversely, the majority of young adult citizens had obtained either some college or a bachelor's degree or beyond.

Table 2.2 Cross tabulations of youth adult citizenship status and educational attainment

Educational Attainment	Youth Citizenship Status			
	Citizen by birth	Citizen by naturalization	Noncitizen	$\chi 2$
< high school/high school graduate	18.1% (156)	16.1% (87)	39.0% (117)	94.32***
Some college/ vocational training	51.7% (445)	48.6% (263)	49.0% (147)	
Bachelor's or beyond	30.1% (259)	35.3% (191)	12.0% (36)	

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Significant differences were noted by parent educational expectations and young adult's citizenship status (Table 2.3). Close to three quarters of young adults who were citizens by birth had parents with expectations that they obtained a bachelor's degree or higher. Similar

proportions were noted among young adults who were naturalized citizens. Young adult noncitizens had more than half of their parents report educational expectations of either some college or a bachelor's degree.

Table 2.3 Cross tabulations of young adult citizenship status and parent educational expectations

Parent Educational Expectations	Youth Citizenship Status			
	Citizen by birth	Naturalized Citizen	Noncitizen	$\chi 2$
< high school/high school graduate	3.2% (28)	3.7% (20)	7.6% (23)	23.29**
Some college/ vocational training	16.8% (145)	19.7% (108)	24.8% (75)	
Bachelor's degree	39.8% (344)	39.1% (214)	35.6% (108)	
Master's degree & beyond	40.2% (347)	37.5% (205)	32.0% (97)	

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Parent educational attainment differed by young adults' citizenship status (Table 2.4). About half of noncitizen young adults had parents who had less than a high school degree. Conversely, more than half of citizen young adults (by birth or naturalization) had parents with either some college or a bachelor's degree or higher. Additionally, citizen young adults were more likely to have parents with a bachelor's degree or more compared to noncitizen young adults.

Table 2.4 Cross tabulations of young adult citizenship status and parent educational attainment

Parent Education	Youth Citizenship Status			
	Citizen by birth	Naturalized citizen	Noncitizen	$\chi 2$
< high school	17.1% (149)	32.9% (180)	49.8% (153)	134.25***
High school graduate	17.6% (153)	17.2% (94)	11.7% (36)	
Some college/ vocational training	38.4% (334)	27.7% (152)	23.5% (72)	
Bachelor's degree or more	27.0% (235)	22.3% (122)	15.0% (46)	

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Family income differed by young adult's citizenship status (Table 2.5). Young adult citizens were less likely to report living below the poverty level (less than $15,000) compared to naturalized citizen and noncitizen young adults. More than half of noncitizen young adults had family incomes below $25,000. Similarly, citizen young adults were more likely to have family incomes above $50,000, compared to naturalized citizen and noncitizen young adults.

Table 2.5 Cross tabulations of young adult citizenship status and family income

Family Income	Youth Citizenship Status			
	Citizen by birth	Citizen by naturalization	Noncitizen	$\chi 2$
$0-14,999	14.9% (123)	24.1% (127)	34.6% (101)	173.76***
$15,000-24,999	17.1% (141)	27.3% (144)	31.2% (91)	
$25,000-34,999	14.0% (116)	15.4% (81)	17.5% (51)	
$35,000-49,999	21.9% (181)	18.4% (97)	11.3% (33)	
$50,000-74,999	19.1% (158)	10.6% (56)	2.7% (8)	
$75,000 or more	13.1% (108)	4.2% (22)	2.7% (8)	

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Based on the bivariate analysis (Table 2.6), parent-child communication, educational expectations, neighborhood safety, family income, and parent education were all positively associated young adult educational attainment, while living in an ethnic enclave and parents who without citizenship were negatively associated with educational attainment. Parents without citizenship were also negatively associated with parent communication, perceived discrimination, educational expectations, neighborhood safety, family income, educational attainment, and young adult's educational attainment. A relatively high negative correlation was noted between noncitizen parents and family income. Additionally, family income and parent educational attainment were positively associated with young adult educational attainment. Parent perceived discrimination was not significantly associated with young adults' educational attainment. However, parent perceived discrimination was positively associated with parent

educational expectations, family income, and parent educational attainment and negatively associated with living in an ethnic enclave and neighborhood safety.

Parent-child communication was positively associated with parent educational expectations, neighborhood safety (marginal), family income, and parent educational attainment. However, there were no significant associations between parent-child communication, perceived discrimination, and living in an ethnic enclave. Parent educational expectations were positively associated with all the key predictors shown in Table 2.6, and a negatively associated with living in an ethnic enclave. Parent perceptions of neighborhood safety were positively associated with parent-child communication, educational expectation, family income, parent and young adult education, and negatively associated with perceived discrimination and living in an ethnic enclave, and parents who were noncitizens. Family income and parent educational attainment was positively associated with all key parent factors, and negatively associated with living in an ethnic enclave and noncitizen parents. Family income and parent educational attainment were positively and highly correlated.

Table 2.6 Correlation matrix of young adult educational attainment and key parent predictors

	1	2	3	4	5	6	7	8	9
1 Parent communication	1.00								
2 Parent discrimination	-.02	1.00							
3 Parent educational expectations	.15***	.06**	1.00						
4 Parent ethnic enclave	-.03	-.06**	-.12***	1.00					
5 Parent neighborhood safety	.04@	-.06*	.09***	-.06*	1.00				
6 Parent non-citizens	-.07**	-.12***	-.18***	-.01	-.13***	1.00			
7 Family income	.11***	.12***	.25***	-.06*	.21***	-.39***	1.00		
8 Parent education	.19***	.18***	.32***	-.06**	.16***	-.37***	.55***	1.00	

9 Young adult education	.10***	.03	.31***	-.08***	.12***	-.21***	.23***	.28***	1.00

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Multivariate Ordinal Regression Results

Results of the ordinal logistic regression results are presented in Table 2.7, with differences noted across parent and youth citizenship status and parent predictors of family factors (parent-child communication, educational expectations), psychosocial (perceived discrimination), and neighborhood factors (living in an ethnic enclave, neighborhood safety).

Parent and Young Adult Citizenship Status

Significant differences were noted by both parents' and young adults' citizenship status. In the bivariate model (Table 2.7 Models 1 a-g), young adults with a noncitizen parents had lower odds of having a bachelor's degree or more (OR= 0. 44; 95% CI: 0.36, 0.53) than those with at least one citizen parent. The bivariate models were expanded to adjust for socio-demographic and immigrant factors (results not shown in table), similar patterns were noted by noncitizen parents and young adults' educational attainment (OR= 0. 64; 95% CI: 0.51, 0.82). In the final adjusted model (Table 2.7 Model 2), which controlled for all key predictors and co-variates, noncitizen parents (OR= 0.77; 95% CI: 0.60, 0.98), were associated with a 23% decrease in the odds of having a bachelor's degree or more, than those with a citizen parent.

For young adults' citizenship status, the bivariate model (Table 2.7 Models 1 a-g) found a trend for naturalized young adult citizens and higher education (OR= 1.21; 95% CI: 0.99, 1.49), which was marginally significant, while noncitizen young adults were less likely to have higher education (OR= 0.34; 95% CI: 0.26, 0.43). The bivariate model was expanded to adjust for socio-demographic and immigrant factors (results not shown in table), results suggest naturalized young adult citizens were more likely to have higher education (OR= 1.57; 95% CI: 1.19, 2.07),

while noncitizen young adults were less likely to have higher education (OR= 0.50; 95% CI: 0.35, 0.70). After adjusting for all predictors and covariates (Table 2.7 Model 2), similar patterns were noted where among naturalized young adult citizens (OR= 1.56; 95% CI: 1.18, 2.07), where the odds of having a bachelor's degree or more were 1.56 times greater than those of young adult citizens by birth. Conversely, for noncitizen young adults (OR= 0.52; 95% CI: 0.37, 0.75), the odds of reporting a bachelor's degree or more, was associated with a 48% decrease, compared to citizens by birth.

Parent Family Factors

The bivariate model (Table 2.7 Models 1 a-g) results suggest that parent child-communication (OR= 1.67; 95% CI: 1.31, 2.12) and parent educational expectations of either some college (OR= 2.52; 95% CI: 1.49, 4.26) or a bachelor's degree (OR= 6.03; 95% CI: 3.63, 10.04) or more (OR= 10.80; 95% CI: 6.47, 18.04) were both significantly associated with higher education, compared to parent's with lower expectations. After adjusting for socio-demographic and immigrant covariates (results not shown in table), though slightly attenuated, similar patterns were noted, parent child-communication (OR= 1.55; 95% CI: 1.19, 2.02) and parent educational expectations of either some college (OR= 2.72; 95% CI: 1.57, 4.69) or a bachelor's degree (OR= 4.59; 95% CI: 2.70, 7.81) or more (OR= 7.49; 95% CI: 4.37, 12.83) were both significantly associated with higher education, than parents with lower expectations.

In the final model, after adjusting for all predictors and covariates (Table 2.7 Model 2), though further attenuated, each additional increase in parent-child communication (OR= 1.37; 95% CI: 1.04, 1.79) was associated with a 37% increase in the young adult's odds of obtaining a bachelor's degree or more. Additionally, for young adults with parent educational expectations of either some college (OR= 2.48; 95% CI: 1.42, 4.32), a bachelor's degree (OR= 4.22; 95% CI:

2.46, 7.23), or a master's degree or beyond (OR= 6.86; 95% CI: 3.97, 11.86), the odds of obtaining higher education were 2.48, 4.22, and 6.86 times greater, respectively, than those with parents with less educational expectations. No significant association was noted between parent perceived discrimination and young adult educational attainment in either the unadjusted or adjusted models.

Parent Neighborhood Factors

The bivariate results (Table 2.7 Models 1 a-g) suggest that having parents who reported living in an immigrant ethnic enclave was associated with lower young adult educational attainment (OR= 0.71; 95% CI: 0.58, 0.86). However, after adjusting socio-demographic and immigrant factors (results not shown in table), this relationship became attenuated where having parents who lived in ethnic enclaves was marginally associated with lower odds of young adults obtaining a bachelor's degree or more (OR= 0.81; 95% CI: 0.65, 1.01). Further adjusting for key predictors and covariates (Table 2.7 Model 2), parents reporting living in an ethnic enclave was no longer significantly associated with young adults' educational attainment.

For parent neighborhood safety, the bivariate results (Table 2.7 Models 1 a-g) suggest that higher neighborhood safety was associated with higher young adult educational attainment (OR= 1.77; 95% CI: 1.43, 2.19). After the bivariate models were expanded to adjust for socio-demographic and immigrant factors (results not shown in table), similar patterns were noted between parent neighborhood safety and higher education among young adults (OR= 1.26; 95% CI: 1.00, 1.59). However, after adjusting for all predictors and covariates (Table 2.7 Model 2), a trend in the expected direction was noted for neighborhood safety (OR= 1.24; 95% CI: 0.98, 1.58), which was marginally significant.

Table 2.7 Ordinal logistic regression analysis of educational attainment among immigrant young adults

Variables	Models 1 a-g* Bivariate		p†	Model 2 Adjusted		p†
	OR	95%CI		OR	95%CI	
Parent citizenship status						
Citizen	1	(1.00, 1.00)		1	(1.00, 1.00)	
Noncitizen	0.44	(0.36, 0.53)	***	0.77	(0.60, 0.98)	*
Youth citizenship status						
Citizen by birth	1	(1.00, 1.00)		1	(1.00, 1.00)	
Citizen by naturalization	1.21	(0.99, 1.49)	@	1.56	(1.18, 2.07)	**
Noncitizen	0.34	(0.26, 0.43)	***	0.52	(0.37, 0.75)	***
Parent-child communication	1.67	(1.31, 2.12)	***	1.37	(1.04, 1.79)	*
Parent educational expectations						
< high school/ high school grad	1	(1.00, 1.00)		1	(1.00, 1.00)	
Some college/voc.	2.52	(1.49, 4.26)	***	2.48	(1.42, 4.32)	**
Bachelor's degree	6.03	(3.63, 10.04)	***	4.22	(2.46, 7.23)	***
Master's & beyond	10.80	(6.47, 18.04)	***	6.86	(3.97, 11.86)	***
Parent discrimination						
Yes	1.15	(0.95, 1.39)	ns	0.93	(0.76, 1.14)	ns
No	1	(1.00, 1.00)		1	(1.00, 1.00)	
Parent ethnic enclave						
Yes	0.71	(0.58, 0.86)	***	0.88	(0.70, 1.10)	ns
No	1	(1.00, 1.00)		1	(1.00, 1.00)	
Parent neighborhood safety	1.77	(1.43, 2.19)	***	1.24	(0.98, 1.58)	@
Parent birth year				0.99	(0.98, 1.01)	ns
Parent immigration year				0.99	(0.97, 1.01)	ns
Parent English knowledge				1.10	(0.94, 1.29)	ns
Family income				1.05	(0.97, 1.14)	ns
Parent education						
< high school				1	(1.00, 1.00)	
High school graduate				0.97	(0.70, 1.35)	ns
Some college/ Voc. school				1.59	(1.15, 2.19)	**
Bachelor's & beyond				2.32	(1.58, 3.42)	***
Parent gender						
Female				0.86	(0.69, 1.06)	ns
Male				1	(1.00, 1.00)	
Parent marital status						
Married/ Lives with partner				1	(1.00, 1.00)	
Separated/ Divorced/ Widowed				0.98	(0.74, 1.29)	ns
Other				1.48	(0.69, 3.18)	ns
Parent region/country of origin						
Cuba				1	(1.00, 1.00)	
Mexico				0.93	(0.63, 1.37)	ns
South America				0.95	(0.67, 1.36)	ns
Caribbean				1.22	(0.80, 1.87)	ns
Philippines				0.81	(0.57, 1.15)	ns
SE Asia/Asia				1.71	(1.18, 2.49)	**
USA & US territories				0.42	(0.21, 0.85)	*
Other				1.57	(0.85, 2.90)	ns

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

*Models 1 a-g examined each predictor separately on educational attainment

Discussion

This study provides further nuance in our understanding of citizenship status along with critical family and contextual factors that influence educational attainment for immigrant young adults. Support for several of our hypotheses were found for educational attainment including for both parent and young adult citizenship status and family factors of parent-child communication and educational expectations. Our hypotheses were not supported for parent psychosocial stress and neighborhood factors on educational attainment. Further discussion of our findings is detailed in the sections below.

Young Adult Citizenship Status and Education

Findings from this study suggest that noncitizen young adults, including temporary visa status holders and legal permanent residents, were less likely to obtain a bachelor's degree or more compared to citizen young adults. This may be due to increased barriers to obtain financial aid. Scholars have posited different implications due to legal status classifications and education, in particular with undocumented immigrant youth as they do not have access to financial aid, which in turn influences their ability to have adequate financial resources to go to college (Baum & Flores, 2011). Legal status has pervasive implications for undocumented immigrants in access to resources (e.g., federal assistance), employment, and educational opportunities (Gonzales, 2011). Some states have instituted policies where undocumented immigrants can pay for in-state college tuition (Baum & Flores, 2011). However, this does not address issues related to the restrictions due to their legal status. Another group of immigrants who face similar restrictions are noncitizens, specifically temporary visa status holders as they are also not eligible to apply for financial aid.

Results from previous research suggest that legal status may influence educational attainment through multiple pathways. For example, Greenman and Hall (2013) examined differences in educational attainment by legal status among Mexican and Central American (MCA) immigrant youth where they found that documented MCA immigrant youth had higher odds of college enrollment compared to undocumented MCA immigrant youth. Additionally, these findings indicate that citizenship status may potentially be a proxy measure for financial aid access and other economic resources to support higher education. Future studies may consider investigating the interplay between citizenship status, financial aid access, and educational attainment and to further unpack whether citizenship status may be a proxy measure for financial aid access and access to other financial resources. Further assessment is needed to examine higher education enrollment among immigrant young adults by legal status, with specific attention on noncitizens and how immigration policy through citizenship status influences educational outcomes.

Additionally, to provide further context regarding parent factors, noncitizen young adults had parents with lower educational expectations compared to citizen young adults. In addition, the majority of youth with noncitizen parents had less than a high school degree (49.8%) compared to citizen young adults (17.1% for citizens by birth, versus 32.9% for naturalized citizens). As previously mentioned, parent education and parent educational expectations are salient for youth's educational attainment and the differences by legal status among young adults is adversely associated with their education, as supported by other studies (Rumbat, 2005; Yamamoto & Holloway, 2010).

Noncitizen young adults in this study also had significantly lower family incomes compared to citizens by birth or naturalization. This finding supports previous research by Zhou

and colleagues (2008), who found that family income had significant implications for having adequate resources to attend a four-year university. They also found that second-generation immigrants who were working to support themselves and their family while juggling school may experience negative consequences for their educational attainment. Specifically, some may delay going to a four-year college or university due to having to economically support their parents and family. Additionally, naturalized citizen young adults were more likely to have a bachelor's degree compared to citizens by birth, which suggests that having citizenship status facilitates their ability to obtain financial aid to attend a four-year university.

Parent Citizenship Status and Education

Notably, the results of the current study found that young adults with noncitizen parents were more likely to have lower educational attainment compared to citizen parents over and above other critical predictors in the study. This finding is consistent with the intergenerational drag hypothesis and the hypothesized spillover effects of parent legal status on educational outcomes, as previous studies have found (Bean, Brown, & Rumbaut, 2006; Bean, et al., 2011; Dreby, 2012; Lee, 2018). Their findings support the premise that legal status may be a potential pathway for how inequities may be passed down across immigrant generations through education (Lee, 2018; Bean, et al., 2011). Additionally, the intergenerational drag hypothesis considers how social resources of educational attainment from one generation may affect subsequent generations in producing inequities (Collins & Margo, 2001; Darity, 2003; Gee & Ford, 2011). Bean and colleagues (2011) found differences in educational attainment among immigrant young adults by parents' legal status upon entry, where parents with legal status predicted higher education compared to parents who were unauthorized. Legal status may be directly linked with parent education, family income, and other socioeconomic resources (Oropresa, Landale, &

Hillemeier, 2015) to financially support their children, as well as providing a context that supports their children's education (e.g., navigating college preparation courses, support; Lee, 2018), all of which are critical for immigrant youth's educational attainment. These findings provide a critical contribution to the literature; however, further understanding is needed of how parents' legal status may directly contribute to their children's educational attainment.

Parent Factors and Education

As expected, we found that strong family relationships, including parent-child quality of communication and high educational expectations, have positive implications for educational attainment for immigrant young adults, regardless of citizenship status; however, parent expectations of attainment of some college or more was higher among young adults with citizen parents. While these findings are in line with earlier literature, prior studies on family dynamics have mostly focused on younger children or adolescents, not young adults, which allowed us to examine college attainment. Additionally, the literature on parent educational expectations have focused on samples mainly comprised of European and middle-class groups (Yamamoto & Holloway, 2010). The sample in our study was comprised of immigrants and children of immigrants, with more than half the sample reporting family incomes below $35,000 a year. These findings suggest that family dynamics play a protective role in educational outcomes for children of immigrants and also among low-income samples. This study provides further contribution to the literature in this area for understanding these associations among immigrant young adults.

Psychosocial stress, specifically, parents' perceived discrimination, was not significantly associated with young adults' educational attainment. Previous studies have found that youth's perceived discrimination has been linked with adverse consequences for their academic

achievement and educational outcomes (Datu, 2018; O'Hara, Gibbons, Weng, Gerrard & Simons, 2012). Informed by the linked lives concept from the life course theory (Gee, Walsemann, & Brondolo, 2012), people's lives are interlinked where parental experiences of discrimination may affect other family members, specifically their children. A growing area of research has catalogued intergenerational associations of parents' perceived discrimination on parenting and parent-child quality relationships and outcomes of their children (Anderson, 2015; McNeil, et al., 2014). These studies have primarily focused on health and mental health, with a limited focus on educational outcomes. However, after accounting for family dynamics, neighborhood context, and citizenship status, we did not find a significant association between parent reports of perceived discrimination and child educational outcomes; hence, the non-significant finding in this study. Additionally, experiencing discrimination may have spillover effects on other realms areas such as parenting practices and health outcomes. However, the focus of this study was on educational attainment, and thus, provides a contribution to the scholarship on intergenerational associations on educational outcomes for immigrant young adults.

Parent Neighborhood Factors and Education

The present study did not find support for our hypothesis regarding associations between the neighborhood context and educational attainment among immigrant young adults. Additionally, no significant differences were noted by parent citizenship status and living in an ethnic enclave; however, slightly lower parent perceived neighborhood safety was noted among noncitizen parents compared to citizen parents.

Though initially significant in the bivariate analysis, living in an ethnic enclave was no longer associated with young adult educational attainment after adjusting for key predictors and

covariates. However, limited research has examined associations between parent neighborhood factors and educational outcomes among immigrant young adults; thus, the results of the study provide further understanding of how these factors intersect with educational attainment. Previous studies have examined associations between living in an ethnic enclave and immigrant children's schooling outcomes (Kroneberg, 2008; Pong & Hao, 2005; Sampson, Squires, & Zhou, 2000), with mixed findings across several studies and among different ethnic groups. However, no empirical study has examined this link among immigrant young adults and their educational attainment, while also controlling for other critical factors (e.g., legal status, parent educational expectations, parent-child quality of communication). Pong and Hao (2007) suggest that immigrant children who live in ethnic enclaves may have fewer opportunities to become proficient in English as they may be surrounded by other foreign-born co-ethnic peers with limited English proficiency and thus, may have adverse effects on educational outcomes. Conversely, Kroneberg (2008) argue that ethnic enclaves may also be associated with educational outcomes through the community's levels of commitment to education and socioeconomic resources. Specifically, Zhou and Kim (2006) posit that parents who live in ethnic communities with high socioeconomic resources (high self-employment and education) tied with their educational aspirations may have high expectations that their children become successful in the mainstream economy rather than staying within their ethnic enclave community. These studies find different associations between living in an ethnic enclave and youth's educational attainment through examining pathways of peer or community support. According to the Theory of Segmented Assimilation, community resources along with family dynamics influence multiple pathways of assimilation across immigrants. Thus, the results of

this study were not consistent with previous research on the relationship between living in an ethnic enclave and second-generation immigrant youth's educational outcomes.

Additionally, the present study did not find support for the relationship between parent's perceptions of neighborhood safety and youth educational attainment. Scholars have examined associations between adolescent perceptions of neighborhood safety and academic achievement, with scarce literature on parent perceptions of safety. However, a wide body of literature has examined the role of the neighborhood context on parenting and parent-child quality of relationships through pathways of psychological health (Brabeck & Sibley, 2016; Santiago, Wadsworth & Stump, 2011; Gonzales, et al., 2011; White, et al., 2009). Significant associations have been noted between parent perceptions of neighborhood safety and their psychological health (Kohen, Leventhal, Dahinten, & McIntosh, 2008; Santiago, Wadsworth & Stump, 2011; White, et al., 2009). For racial and ethnic families experiencing poverty, the stress experienced under these conditions may result in a diminished ability to parent effectively due to limited resources, time, and energy (Liu, et al., 2009). Parents' neighborhood perceptions may be associated with their levels of optimism about their children's educational success and as a result, they are less likely to engage in proactive parenting and promote education (Crosnoe, Mistry, & Elder, 2002). Thus, families living in poverty may be less optimistic about their children's educational success and less likely to promote their child's educational enrollment (Crosnoe, Mistry, & Elder, 2002). Findings reported here suggest that parent's neighborhood perceptions may not be directly associated with educational attainment among immigrant young adults after accounting for other predictors; however, further assessments are needed to examine whether parent reports of neighborhood factors are associated with their children's educational attainment along with other key variables, with further details for future research detailed below.

Limitations

Several limitations of the study should be addressed. First, several measures used in the study were either one-item measures or had limited response categories including parent citizenship status, perceived discrimination, and ethnic enclave measures. Both parent and youth citizenship status measures did not have detailed categories for noncitizens. One of the noted limitations with measuring citizenship status is the collapsing of noncitizens into one category. Immigrants who fall under the noncitizen category include a diverse spectrum of legal statuses of temporary visa holders, permanent legal residents, and potentially, undocumented immigrants. Scholars have hypothesized that different legal status categories may have varied implications for education and social mobility (Torres & Young, 2016). However, limited research has examined the relationship between citizenship status (both parents and youth), and results suggest that both measures accounted for some of the variation in youth educational attainment. Perceived discrimination was also assessed using one-item. To examine the relationship between discrimination and health, perceived discrimination has previously assessed multiple domains including from initial to recent, global to specific, and intensity and frequency (Gee, Ro, Shariff-Marco, Chae, 2009; Krieger, 2000). Nevertheless, due to the salient experiences of perceived discrimination, this one-item measure captured some of the variation; future studies should include more nuanced measures of perceived discrimination.

Second, the data collected were based on self-reported information. Self-reported data may be susceptible to social desirability bias (Huang, Liao, & Chang, 1998). However, self-reported data was necessary given assessing respondent perceptions. Additionally, the neighborhood measures also relied on respondent perceptions. Previous scholars have posited that neighborhood effects on health are salient through residents' perceptions compared to

objective measures as they may better reflect the neighborhood conditions (Mair, Diez Roux, & Morenoff, 2010; Kim, 2008), and also may be relevant for educational outcomes. Further investigations are needed to examine whether different aspects of the neighborhood may be associated with education and also whether there may be differences between parent and youth perceptions of the neighborhood for youth's educational trajectories. Given that very few datasets include both parent and youth citizenship status measures along with other family and contextual factors, this is a critical gap in the literature.

Study Contributions

Despite these limitations, the current study provides a critical contribution to the literature in understanding how citizenship status in tandem with multiple contexts including family and neighborhood factors may be associated with educational attainment of immigrant young adults. According to the Theory of Segmented Assimilation, several aspects of the social context play a critical role in the adaptation of children of immigrants, including institutional inclusion/exclusion of immigrants, the presence of other immigrants in the settlement community or ethnic enclaves, and family dynamics. Previous studies have examined these factors separately on educational outcomes among second-generation immigrant youth, with limited research examining these factors concurrently.

We found differences by young adults' legal status where naturalized citizens were associated with higher educational attainment, while noncitizens were associated with lower educational attainment. Based on previous findings, I posit that legal status through immigration policies influence financial aid access, and thus, may be driving these differences by legal status and post-secondary educational attainment. However, empirical assessment of whether this is a critical factor for college enrollment needs future examination. Scholars have emphasized the

importance of assessing legal status beyond high school transitions, as one's legal status plays a salient role in adulthood and for social mobility including employment, income, and education (Perreira & Spees, 2015; Zhou, et al., 2008). Results of the study support previous literature on the critical role of parents, through parent and child relationship dynamics and educational expectations, and enhancing educational outcomes for their children. The bivariate analysis results indicated that parent citizenship status and family income were highly correlated. Thus, future research that builds off this study may consider how parent citizenship status may be contributing to income and other forms of social capital, and family dynamics, and in turn their children's education. Additionally, most studies have examined immigrant educational outcomes among children or adolescents; thus, this study provides further contribution in understanding educational attainment for a diverse sample of second-generation of immigrant young adults.

Conclusion

Numerous studies have found education is critical for social mobility and health; however, variability has been noted for mobility and health among immigrants and across generations. Previous literature has primarily focused on examining the role of multiple contexts (e.g., family, neighborhood) singularly, rather than together, on outcomes for their children's education. Additionally, limited research has examined structural factors, in particular immigration policy and its influence on educational attainment. This study investigated factors associated with immigrant young adults' educational attainment including both the parent and youth's citizenship status along with multiple contextual factors (e.g., neighborhood, family, psychosocial stress). Both the young adult and parents' citizenship status were salient for educational attainment. Citizenship status may be linked to education through access to financial

aid, which is key for attending a four-year university and other educational opportunities. Parents' legal status may be linked to their education and other socioeconomic resources to financially support their children while also guiding and supporting their children for higher education. As predicted, parent factors were critical for their child's education, extending the findings for a diverse sample of immigrant young adults. In sum, parent influence on education may span beyond adolescence. These findings demonstrate the potential intergenerational transmission of social mobility through citizenship status and family factors for immigrant young adult's educational attainment.

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Chapter 3 Parent Citizenship Status, Psychosocial Family Factors, Discrimination on Depressive Symptoms

The psychological well-being of adolescents has gained increased traction in research due to the implications of depressive-related problems on their health and physical development, school dropout decisions, teen pregnancy, and substance use (Costello, Erkanli, & Angold, 2006; Kennan-Miller, Hammen, & Brennan, 2007). Compared to other groups, females, Latino and Filipino youth have reported higher levels of depressive symptoms (Eaton, et al., 2006; Joiner, & Metalsky, 2001; Javier, Lahiff, Ferrer, & Huffman, 2010). With limited research existing on mental health outcomes among immigrant adolescents and increasing projected numbers of children of immigrants (Passel, 2011), understanding risk and protective family and psychosocial factors that may influence depressive symptoms among second-generation immigrant adolescents has become paramount (Landale, Thomas, & Van Hook, 2011).

Guided by Bronfenbrenner's (1979) ecological framework, Bernal and colleagues (2006) emphasized the need for investigating the influences of human interactions on depressive-related problems among adolescents. Adolescence is a critical period with increased prevalence of psychiatric conditions including depression and other mental health conditions (Kessler, et al., 2005) due to physical, developmental, (e.g., pubertal and hormonal changes; Ge, Conger, & Elder, 2001) and relational (e.g., changes in relationships with parents, family members, peers; Hankin, Mermelstein, & Roesch, 2007) changes occurring all at once (Blakemore & Mills, 2014). Researchers have noted the importance in understanding how family processes may

influence depressive symptoms among youth, as they may be directly linked to the family context compared to symptoms among adults (Hammen, Rudolph, Weisz, Rao, & Burge, 1999). In addition to the ecological framework, the life course perspective and the linked lives concept provide a framework for understanding how families may influence outcomes for their children (Gee, Walsemann, & Brondolo, 2012). Specifically, experiences and conditions in one individual's life may influence the lives of others. These frameworks are crucial to understanding depressive symptoms among a diverse group of second-generation immigrant adolescents.

An extensive area of research has examined cultural processes as a contributor to immigrant health outcomes (Derose, Escarce, & Lurie, 2007; Hale & Rivero-Fuentes, 2011; Ro & Bostean, 2015; Vega, et al., 1998). As a growing area of research, scholars have posited legal status stratification through immigration policy to be a form of social exclusion (Gee & Ford, 2011), thus a source of variation for immigrant health (Oropresa, Landale, Hillemeier, 2015). Legal status in the US is reflected by a hierarchical structure, granting and limiting access to resources and public benefits to those other than citizens, influencing health through multiple pathways (Oropresa, Landale, & Hillemeir, 2015). Thus, legal status has been posited to have potential spillover effects among families (Asad & Clair, 2018). Similarly, parents' legal status has been associated with their children's health (Landale, et al., 2015; Yoshikawa, Godfrey, & Rivera, 2008; Crosnoe, 2006) and may occur in tandem with family risk and protective factors including parenting and family dynamics (Landale, et al., 2015; Valdez, Padilla, & Valentine, 2013; Vargas & Ybarra, 2017). However, scant literature has examined the relationship between parents' legal status, in tandem with risk and protective factors of family dynamics and

psychosocial stressors on depressive symptoms among immigrant adolescents. The current study examines these associations among a diverse group of second-generation immigrant adolescents.

Immigration Policies and Legal Status

Since the beginning of US history, US immigration policies have reinforced the social hierarchy through limiting the rights of immigrants and minorities, or in other words excluding non-Whites from citizenship (Gee & Ford, 2011). This anti-immigrant climate contributes to experiences of discrimination and stress among immigrants, with profound implications for their health (Gee & Ford, 2011). Leading up to the passage of the Personal Responsibility and Work Opportunity Reconciliation ACT (PWORA) and Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996, which placed severe restrictions on the rights of noncitizens (Broder, Moussavian, & Blazer, 2015), there was an increasing political concern over the growing number of immigrants who were welfare dependent and the confusing distinctions between undocumented and legal immigrants (Singer, 2001; Singer, 2004). These tensions were perpetuated by the economic downturn during the early to mid-1990s (Singer, 2004). At the same time, there were political interests in cutting immigrants' access to federal benefits, specifically for noncitizens, to increase government savings (Haskins, 2009). In 1994, Proposition 187, a statewide referendum was passed in California as they were undergoing a recession (Singer, 2004), which mandated that public service workers (e.g., doctors, teachers, social workers, police) check the immigration status of those who were accessing public education or publicly funded health services. Despite Proposition 187 being ruled as unconstitutional, reports of discrimination against immigrants and Hispanics increased due to the heightened anti-immigrant rhetoric (Singer, 2004). Additionally, immigrants felt vulnerable due to their precarious position in the US with the growing perceptions that the incentive structure

around citizenship status and naturalization had changed, leading to a rush in becoming US citizens (Singer & Gilbertson, 2000; Singer, 2004). These events suggest that the experiences of discrimination faced by immigrants during the mid-1990s may potentially affect the health of immigrant families and their descendants.

Several recent studies have found that children from mixed-immigration-status families are more likely to experience internalizing symptoms as a result of their parents' legal status (Landale, et al., 2015; Yoshikawa, Godfrey, & Rivera, 2008; Crosnoe, 2006). One study investigating access to financial services (e.g., savings or checking accounts, financial credit) and driver's license among undocumented immigrants (Yoshikawa, Godfrey & Rivera, 2008) found that a lack of access was associated with economic hardship and parental psychological stress and lower cognitive ability among their infant children. Additionally, other studies found that citizenship status as a form of a stressor through immigration policy influences family dynamics and parent-child relationship quality (Valdez, Padilla, & Valentine, 2013; Vargas & Ybarra, 2017); moreover, parents' citizenship status was associated with Latino children's health and behavioral outcomes (Landale, et al., 2015; Oropresa, Landale, & Hillemeir, 2015). These findings suggest that parent citizenship status may influence depressive symptoms among second-generation immigrant adolescents.

Family Dynamics and Relationships

A plethora of studies have examined the role of protective family factors such as family cohesion and parent-child relationship quality on the mental health of adolescents (Branje, Hale, Frijns, Meeus, 2010; Connell & Dishion, 2008; Dinh, Roosa, Tein, & Lopez, 2002; Johnson & Galambos, 2014; Marsigilia, Parsai, & Kulis, 2009). Specifically, higher levels of family cohesion (or the strength of emotional bonds between family members) and parent-child

relationship quality were protective for adolescent internalizing behaviors and specifically, depressive symptoms (Branje, Hale, Frijns, Meeus, 2010; Connell & Dishion, 2008; Johnson & Galambos, 2014; Herman, Ostrander, & Tucker, 2007). However, supporting evidence shows that these processes may vary across family circumstances. For immigrant families, children often adapt and acculturate to cultural norms more quickly than their parents (Martinez, 2006; Gonzales, Knight, Morgan-Lopez, Saenz & Sirolli, 2002). Differences in these adaptation processes may result in immigrant parents relying on their children to navigate situations, specifically in translating and interpreting complex situations (Tse, 1995; Martinez, McLure, & Eddy, 2009; Morales & Hanson, 2005), including medical health care visits, and in legal and social service settings (Coleman, 2003; Dorner, Orellana & Jimenez, 2008; Orellana, Dorner, & Pulido, 2003). Martinez and colleagues (2009) found that Latino adolescents living in high language-brokering contexts reported increased family stress, decreased parenting effectiveness, and poor adolescent adjustment. Based on prior research on immigrant families, these findings suggest that the family context, including parent-child relationship quality and family cohesion, may differentially influence immigrant youth and their mental health.

According to the family stress theory (FST), economic stressors influence parental functioning, as well as the quality of family relationships and parenting behaviors (Gonzales, et al., 2011; Conger et al., 2000). Parents experiencing economic hardship are more likely to employ punitive and coercive behavior patterns towards their children (Ceballo & McLoyd, 2002; Eamon & Mulder, 2005; Gonzales, et al., 2011; Xue, et al., 2005), which may have negative implications on the quality of their relationship with their child. Previous studies have found that immigrant first- and second-generation children were more likely to live below the poverty line compared to native-born children (US Census, 2006), which may also affect parent-

child relationship quality among immigrant families. Additionally, chronic life strains and stressful circumstances have been negatively associated with family dynamics and in turn with the health and well-being of their descendants (Conger, et al., 2000; Liu, et al., 2009). Emerging evidence suggests that under the context of anti-immigrant sentiment, immigrant parents who faced workplace discrimination experienced psychological distress, which was linked to their children's internalizing and externalizing behaviors (Gassman-Pines, 2015). These findings suggest that family factors that have been previously considered to be protective for immigrant youth may be eroded by the stressful nature of immigration (Marsigilia, Parsai, & Kulis, 2009) and adjusting to a new country, culture, and contexts.

Perceived Discrimination

Over the last several decades, the relationship between perceived discrimination and mental health has been extensively explored (Kessler, Mickelson, & Williams, 1999; Williams & Williams-Morris, 2000; Williams & Mohammed, 2009). Self-reported racial discrimination has been associated with poor mental health, specifically, for depressive symptoms across multiple groups, including Blacks, Latinos, Asian/Pacific Islanders, and American Indians (Finch, Kolody & Vega, 2000; Gee, Ro, Shariff-Marco, & Chae, 2009; Gee, Ryan, Laflamme, & Holt, 2006; Stuber, Galea, Ahern, Blaney, & Fuller, 2003; Whitbeck, McMorris, Hoyt, Stubben, & Lafromboise, 2002). As a small and growing area of research, these findings have also been supported among adolescents (Ríos-Salas & Larson, 2015; Huynh & Fuligni, 2010; Williams, Neighbors, & Jackson, 2003). Generally, discrimination research has largely focused on Black and Latino adolescents (Edwards & Romero, 2008; Greene, Way, & Pahl, 2006; Ríos-Salas & Larson, 2015; Umana-Taylor, Vargas-Chanes, Garcia, & Gonzales-Backen, 2008) with limited literature for other ethnic groups (Greene, Way, & Pahl, 2006; Huynh & Fuligni, 2010) and

immigrant populations (Finch & Vega, 2003; Gee, Ryan, Laflamme, & Holt, 2006; Takeuchi, Gong, & Shen, 2002; Ríos-Salas & Larson, 2015). The majority of the discrimination literature among adolescents has been focused on racial discrimination (Edwards & Romero, 2008; Greene, Way, & Pahl, 2006; Ríos-Salas & Larson, 2015; Umana-Taylor, Vargas-Chanes, Garcia, & Gonzales-Backen, 2008). However, children of immigrants may experience discrimination that may be compounded either by their own status as an immigrant or by their parents' immigrant status (Edwards & Romero, 2008; Zhou & Xiong, 2005). These experiences may also occur due to perceived language or cultural barriers (Edwards & Romero, 2008), or through being stereotyped as a foreigner or "not American" (Huynh & Fuligni, 2010). Other studies have found that among immigrant youth and adults, discrimination experiences may arise due to their English knowledge, immigration status, poverty, and skin color (Romero & Roberts, 2003; Gee, Ro, Shariff-Marco & Chae, 2009) and not necessarily due to their racial background. In sum, perceived discrimination has deleterious effects on health (Chae, et al., 2008; El-Sheikh, et al., 2016; Smart Richman, Pek, Pascoe, & Bauer, 2010), and may be adversely associated with depressive symptoms among second-generation immigrant adolescents.

Adverse Family Events

Adverse life events are transitional events that may be undesirable and involuntary (Thotis, 1995); they have been linked with deleterious health outcomes through increasing exposures to stress and through indirect pathways of creating or bringing to the forefront already persistent stressful life circumstances (Pearlin, Menaghan, Lieberman, & Mullan, 1981; Thotis, 1995). Pearlin and other colleagues (2005) have suggested that stressors, which include chronic strains and adverse life events that emerge from social disadvantage have been associated with psychological distress, including depression. Studies have found that major family life events

(e.g., job loss, leaving a job due to onset of an illness, divorce) have been associated with higher levels of psychological distress (Moore, et al., 1999; Matthews & Gump, 2002; Lantz, House, Mero & Williams, 2005; Pearlin, et al., 2005). Additionally, chronic stressors are often concentrated among low SES groups (Lantz, House, Mero & Williams, 2005), and may be critical in transmitting intergenerational social disadvantage, profoundly affecting the health of families and their children. Among immigrant families, coupled with adverse family circumstances and other psychosocial stressors, these stressors may also potentially affect the psychological well-being of second-generation immigrant adolescents.

Current Study

Research on family psychosocial stress and relationship dynamics on children's mental health outcomes have received growing recognition; however, scant literature has examined these links among diverse immigrant adolescents. Specifically, very few studies have investigated the impact of citizenship status, family protective factors, while considering other critical correlates of psychosocial stress on the psychological well-being of immigrant adolescents during a period of increased anti-immigrant sentiment. The current study, informed by the ecological life course perspective, seeks to fill this critical gap in the literature by examining parent citizenship status, risk and protective family factors (parent-child relationship quality, family cohesion, adverse family events) and psychosocial factors (perceived discrimination) on depressive symptoms among a diverse sample of second-generation immigrant adolescents.

Research Questions & Hypotheses

Research Question: Do depressive symptoms vary among second-generation immigrant adolescents by family level dynamics and stressors, discrimination, and parent citizenship status?

H3.1. Adolescents whose parents reported being a US citizen will report lower depressive symptoms compared to youth whose parents reported being a noncitizen.

H3.2. Adolescents who report higher parent-child relationship quality and more family cohesion will report lower depressive symptoms.

H3.3. Adolescents who report more perceived racial discrimination and adverse family events will report higher adolescent depressive symptoms.

Methods

Sample

The Children of Immigrants Longitudinal Study (CILS) was used to address the study research question. CILS was a large multi-city survey conducted in Miami/ Fort Lauderdale, FL and San Diego, CA, focused on the adaptation process of second-generation immigrant youth (Portes & Rumbat, 2001). These cities were selected as study sites due to high concentrations of immigrant and native-born populations. The study inclusion criteria were that these youth were either born in the United States or had lived in the US for at least 5 years (from the initial data collection period), with at least one foreign born parent. The sample was drawn from 49 schools, and students were surveyed with questions regarding immigrant family characteristics, academic achievement, and ethnic identity, among others. The study had three waves of data starting from 1992 (baseline; Wave 1; 8-9th grade), 1995 (first follow-up; Wave 2; junior/senior year of high school), and about a decade later, from 2001-2003 (second follow-up; Wave 3; young adulthood).

The sample for the study was comprised of adolescents with linked parent survey data, or parent-adolescent dyads (N=2090) from the second wave of the study. The sample included both second and 1.5 generation of immigrant youth (or came to the US before they were 12 years old),

with about 44.8% of the sample who were second-generation immigrant (or about 55.2% were 1.5 generation). Though not the primary focus of the study, descriptive statistics were computed (results not shown) to assess whether there may be potential patterns by generational status. Similar trends were noted by generational status and parents' citizenship status. Additionally, a relatively high correlation (0.34) was noted by generational status and parent citizenship status. The study used *parent reports* of US citizenship status, and all the other predictors were *adolescent reports* of their parent-child quality of relationship, family cohesion, discrimination, and adverse family events. The outcome for the study was adolescent depressive symptoms.

Measures

Dependent Variable

Adolescent Depressive Symptoms. Depressive symptoms were measured using a four-item version from the Center for Epidemiological Studies Depression Scale (CES-D, Radloff, 1977), which correlated well with the full 20-item measure (Melchior, et al., 1993). The full CES-D has been tested among adolescents and across diverse samples (Delgado, et al., 2009; Johnson & Galambos, 2014; McHale, Updegraff, Shanahan, Crouter, & Killoren, 2005). Prior studies have reported good reliability and internal consistency for this short CES-D scale (Delgado, et al., 2009; Johnson & Galambos, 2014; Kim, Thompson, Walsh, & Schepp, 2015; Ríos-Salas & Larson, 2015). Short forms of the CES-D have been used in previous studies and were reliable in accounting for majority of the variance compared to the full CES-D measure (Grzywacz, Hovey, Seligman, Arcury, & Quandt, 2006; Melchior, Huba, Brown, & Reback, 1993).

The four-items included were: "I felt sad;" "I could not get going;" "I did not feel like eating, my appetite was poor;" and "I felt depressed." Respondents reported the frequency of

symptoms within the previous week, with responses ranging from rarely (1) to most of the time (4). Scores were averaged, ranging from 1 to 4. Previous scholars have used a cut-point of 4 for the 4-item version, which is equivalent to a score of 16 on the 20-item scale, which has been used to indicate high depressive symptoms (Melchior, Huba, Brown, & Reback, 1993; Ríos-Ríos-Salas & Larson, 2015; Lopez, LeBron, Graham, & Grogan-Kaylor, 2016). Ríos-Salas and Larson (2015) tested the four-item scale among Latino adolescents and reported good internal consistency ($\alpha = 0.75$). The Cronbach's alpha for the current sample was the same ($\alpha = 0.75$) as reported by Ríos-Salas and Larson (2015).

Independent Variables

Parent citizenship status. Several studies have tested associations between citizenship status and health outcomes (Brabeck & Sibley, 2016; Brabeck & Xu, 2010; Perreira, et al., 2008; Gee et al., 2016). Researchers have posited that legal status may be a sensitive measure, with potential non-response or response bias (Bachmeier, Van Hook, & Bean, 2014). However, results from prior studies suggest that non-response or response bias was not a concern for legal status (Bachmeier, Van Hook, & Bean, 2014).

Citizenship status was assessed using a one-item dichotomous variable. Parent respondents were asked if they had citizenship status, with US citizenship status as the referent category.

Adolescent parent-child relationship quality. Parent-child relationship quality has been previously tested using several different dimensions of the relationship, from strength, closeness, and communication (Lopez Turley, Desmond, & Bruch, 2010). Prior studies have examined closeness to their parents (Bui, 2009; Johnson & Galambos, 2014), parent conflict or disagreements and differences in opinions around cultural traditions (Behnke, et al., 2010; Kim,

Thompson, Walsh, & Schepp, 2015), and parent support (Behnke, et al., 2010; Kim, Thompson, Walsh, & Schepp, 2015).

Parent-child relationship quality captures aspects of parent-child relationship quality dimensions that have been previously studied among adolescent populations and was measured as a continuous scale using the average of three items. Respondents were asked to rate from very true (1) to not true at all (4) for the following three statements: "My parents don't like me very much;" "My parents and I often argue because we don't share the same goals;" and "My parents are usually not very interested in what I say." Higher scores indicate better parent-child relationship quality, with scores ranging from 1 to 4. The Cronbach's alpha for the parent-child relationship quality scale demonstrates acceptable internal reliability (α = 0.69).

Adolescent family cohesion. Prior studies have tested family cohesion scales among immigrant populations (Marsigilia, Parsai, & Kulis, 2009; Rivera, et al., 2008; Singh, et al., 2011). Family cohesion has been defined as the emotional bonding among family members (Olson & McCubbin, 1982), and these scales have included statements around the family enjoying doing things together. Studies have reported good internal consistency for this scale among immigrant groups (Marsigilia, Parsai, & Kulis, 2009; Rivera, et al., 2008).

Family cohesion was examined as a continuous scale using the average of three items. Respondents were asked to rate how often each of the three statements is true regarding the immediate family (the people you live with?): "Family members like to spend free time with each other;" "Family members feel very close to each other;" "Family togetherness is important." Responses categories included from: never (1), sometimes (3) and always (5). Higher scores indicated higher family cohesion, with scores ranging from 1 to 5. The scale demonstrates good internal reliability (α = 0.85).

Adolescents' perceived discrimination. Across several decades of research, subjective measures of discrimination have been used to assess different aspects of discrimination: from initial to recent, global to specific, and intensity and frequency (Gee, Ro, Shariff-Marco, Chae, 2009; Krieger, 2000). Previous studies on general perceived discrimination were associated with deleterious effects on health (Chae, et al., 2008; El-Sheikh, et al., 2016; Smart Richman, Pek, Pascoe, & Bauer, 2010). The current study provides a contribution to the literature due to the limited research on general perceived discrimination and mental health among second-generation immigrant adolescents, with similar findings to be expected from previous research in the current study.

Perceived discrimination was assessed using a one-item global perceived discrimination measure where respondents were asked: "Have you ever felt discriminated against?" Perceived discrimination will be treated as a dichotomous variable.

Adverse family events. Researchers that have investigated stressful life events have used a count measure or the summation the number of life events, as the cumulative effects of adverse life events may be most salient on health (Bouma, Orma, Verhulst, Oldehinkel, 2008; Lantz, et al., 2005). Adverse life events in previous studies have included divorce, death of a loved one, severe illness family members, job loss, being robbed, and serious quarrel with a friend (Bouma, Orma, Verhulst, Oldehinkel, 2008; Lantz, et al., 2005).

Adverse family events were assessed using a continuous measure of the sum of six items. Respondents were asked to report if any of the following events occurred in the last three years: "My parents got divorced or separated;" "One of my parents lost his/her job;" "I became seriously ill or disabled;" "One of my parents died;" "One of my brother or sisters dropped out of school;" "A member of my family was the victim of a crime." Original response categories were

either a yes or no and all items were summed and collapsed into three categories of either none (0), 1 event (1), or 1+ adverse events (2).

Covariates

Adolescent demographic control variables. I controlled for adolescent reported socio-demographic variables, besides family income (reported by parents), that have been previously associated with depressive symptoms including, grade in school, gender, age, length of time in the US, youth employment status, English knowledge, bilingual language use, family living situation, and region/country of origin (Ayon, et al., 2010; Huynh & Fuligni, 2010; Portes & Rumbaut, 2001; Ríos-Salas & Larson, 2015; Zhang & Ta, 2009). **Grade in school** was an ordinal four-category variable of current grade in school. Categories included: ninth/tenth (1), eleventh (2), twelfth (3), high school graduate/ college/vocational school (4), with ninth/tenth grade as the referent category. **Gender** was a dichotomous variable with two categories, female and male, with male as a referent category. **Age** was a continuous measure from baseline ranging from twelve to eighteen years old. **Length of time in the US** was an ordinal three-category variable of adolescents reports of how long they lived in the US: all my life (0), ten years or more (1), five to nine years/ less than five years (3). All my life was the referent category. **Employment status** was a dichotomous variable of whether the adolescent currently has a paying job, with no job as the referent category. **Family income** was used as a continuous measure of total family income in the past year. Categories included $0-14,999; $15,000-24,999; $25,000-34,999; $35,000-49,999; $50,000-74,999; $75,000 or more. **Family living situation** was an ordinal five-category variable of the adolescents' present living situation. Categories included: living both with mother and father (1); parent and stepparent/father alone/alternates between father and mother (2); mother alone (3); another adult guardian (4); lives with spouse or

significant other/ other/ lives alone (5). The category living both with mother and father was the referent category. **Bilingual language use** was an ordinal four-category variable of the adolescents'' reported level of bilingual language use. Categories included: fluent bilingual (1), English dominant (2), foreign language dominant (3), and limited bilingual (4), with fluent bilingual as the referent category. **Region/country of origin** was an ordinal nine-category variable based on the adolescents' mother's report of her country of birth and was collapsed into nine categories of region/countries: Cuba (1), Mexico (2), Central America (3), South America (4), Caribbean (5), Philippines (6), Southeast Asia (7), Asia (8), Other (9). The referent category was Cuba.

Analytic Strategy

All statistical procedures were performed in STATA 14.0 (College Station, Texas). First, data cleaning and diagnostic procedures were undertaken to transform and recode variable distributions, examine non-normality and non-linearity of variables. I conducted hetereoskedasticity diagnostics and produced residual plots to check the distribution of the variance. Diagnostic results and residual plots confirm assumptions of homogeneity of variances. Multicollinearity diagnostics were performed to confirm assumptions of independence across each of the predictors or high inter-correlations. The variance inflation factor (VIF) and tolerance (TOL) were computed and assessed using standard cutoffs (VIF>10 and TOL <0.01) to assess for violations of independence (Cohen, Cohen, West & Aiken, 2003). Test results confirmed that a high degree of correlation did not exist across all the variables included in the study.

After diagnostic and missing data checks were conducted, bivariate relationships (e.g., correlations, t-tests, chi-square tests) and multivariate linear regression models were estimated.

Descriptive statistics and frequencies of key predictors and demographic control variables by parent citizenship status were generated (Table 3.1). Correlations were estimated across key variables see Table 3.2. Lastly, regression results including standardized β coefficients and standard errors for both unadjusted (predictors only) and adjusted models (predictors and covariates) were presented in Table 3.3.

Missing Data. Missing data existed across the study variables. Across all variables, family income had the highest missing number of observations (N=117), which comprised of approximately 5% of the overall sample. To identify whether any systematic bias existed in the missing data, I examined whether there were differences between missing and no missing data for family income with key variables in the model. Results signify that patterns of missing data did not appear to be significantly associated with key variables in the model, suggesting that missing data were likely to be missing at random. Total missing cases were low, with less than 5% for each variable except for family income and approximately 10% missing across the entire sample (Bennett, 2001; Schaefer, 1999), thus, listwise deletion was employed to estimate the multivariate regression model.

Results

Descriptive Statistics

Descriptive statistics of key predictors and demographic control variables of the adolescent sample and also by their parent citizenship status are provided in Table 3.1. Comparisons by citizenship status were conducted using two-tailed *t* and $\chi 2$ tests for each of the measures and with differences indicated in the most far right column (p†). A little more than half of the sample had at least one parent who was a US citizen.

Youth with a noncitizen parent reported slightly lower depressive symptoms compared to citizens. Respondents reported relatively high parent-child relationship quality, with no significant differences by parent citizenship status. Additionally, respondents reported high family cohesion, and youth with a noncitizen parent reported slightly higher levels of family cohesion. Approximately two thirds of respondents had reported perceived discrimination experiences and no significant differences were noted by parent citizenship status. For adverse family events, about half of respondents experienced at least one adverse life event in the past three years. No significant differences were noted by parent citizenship status.

The majority of the sample was either in the eleventh or twelfth grade, with no significant differences by citizenship status. Approximately an equal proportion of respondents reported either being female or male, with no significant differences by citizenship status. The average age of the sample (from baseline) was about fourteen years old, and youth with a noncitizen parent were slightly older compared to youth with a citizen parent. More than half of the sample was not currently employed and youth with a noncitizen parent were more likely to report not being employed compared to those with a citizen parent. About half of the sample reported family income levels below $24,999; however, about a third of youth with a citizen parent and more than two-thirds of youth with a noncitizen parent had family incomes below $24,999. Less than a quarter of the sample had family incomes of $50,000 or more; close to a third of youth with citizen parents versus less than 10 percent of youth with noncitizen parents had incomes of $50,000 or more. The majority of the sample reported living with both their parents, and close to a quarter reported living with at least one of their parents. Significant differences were noted by citizenship status where youth with a citizen parent were more likely to report living with both parents compared to those with a noncitizen parent. Regarding bilingual language use, most of

the sample was either fluent bilingual or English dominant. Significant differences were noted by parent citizenship status and language use, with more than half of adolescents with a citizen parent were more likely to report using English as their dominant language compared to those with a noncitizen parent. Close to two thirds of the sample were either from Southeast Asia (including Philippines), followed by Cuba, Mexico, Caribbean and Central America. Some differences were found by parent citizenship status where youth with a citizen parent were more likely from Cuba, Caribbean, Philippines, and Asia and those with a noncitizen parent were from Mexico, Central America, and Southeast Asia.

Table 3.1 Descriptive statistics of key predictors and controls by parent citizenship status

Variables		Full sample (N=2,324)		Citizen (N=1199)		Non-citizen (N=1124)		p†
	Range	M(SD)	%(N)	M(SD)	%(N)	M(SD)	%(N)	
Outcome								
Depressive symptoms	1-4	1.7 (0.6)		1.7 (0.7)		1.6 (0.6)		***
Total		2310		1193		1116		
Predictors								
Parent-child relationship quality	1-4	3.2 (0.7)		3.2 (0.7)		3.2 (0.7)		ns
Total		2307		1193		1113		
Family cohesion	1-5	3.6 (1.0)		3.6 (1.0)		3.7 (1.0)		**
Total		2314		1197		1116		
Adolescent ever discriminated								ns
Yes			63.7 (1472)		64.6 (773)		62.7 (698)	
No			36.3 (839)		35.4 (423)		37.3 (416)	
Total			2311		1196		1114	
Adverse family events								ns
None			50.3 (1148)		50.9 (604)		49.6 (544)	
1 event			33.5 (765)		32.2 (382)		34.8 (382)	
1+ more events			16.2 (371)		16.9 (200)		15.6 (171)	
Total			2284		1186		1097	
Covariates								
Grade in school								ns
Ninth/tenth			1.7 (38)		1.6 (19)		1.7 (19)	
Eleventh			48.8		47.1		50.7	

			(1112)		(553)	(559)	
Twelfth			45.6		46.8	44.2	
			(1038)		(549)	(488)	
High school grad/college/voc. school			3.9 (89)		4.4 (52)	3.4 (37)	
Total			2277		1173	1103	
Adolescent gender							ns
Female			50.1		48.6	51.6	
			(1164)		(583)	(580)	
Male			49.9		51.4	48.4	
			(1160)		(616)	(544)	
Total			2324		1199	1124	
Adolescent age (baseline)	12-18	14.2		14.0		14.3	***
		(0.9)		(0.8)		(0.9)	
Total		2323		1198		1124	
Adolescent employment status							**
Paying job			34.5		36.8	31.9	
			(799)		(440)	(358)	
No job			65.6		63.2	68.1	
			(1520)		(756)	(764)	
Total			2319		1196	1122	
Family income							***
$0-14,999			23.5		15.5	35.2	
			(519)		(142)	(377)	
$15,000-24,999			24.1		17.4	31.2	
			(532)		(198)	(334)	
$25,000-34,999			14.3		15.1	13.4	
			(315)		(171)	(143)	
$35,000-49,999			17.7		23.2	11.9	
			(390)		(263)	(127)	
$50,000-74,999			12.9		19.9	5.5	
			(285)		(226)	(59)	
$75,000 or more			7.5		11.9	2.9	
			(166)		(135)	(31)	
Total			2207		1135	1071	
Adolescent family living situation							**
Both mother and father			69.0		71.7	66.2	
			(1,596)		(857)	(739)	
Parent & other			12.7		12.7	12.6	
			(293)		(152)	(141)	
Mother alone/ Adult guardian			16.6		14.0	19.3	
			(383)		(167)	(216)	
Other			1.8		1.6	1.9	
			(41)			(21)	
					(19)		
Total			2313		1195	1117	
Adolescent bilingual language use							***
Fluent bilingual			24.3		22.3	26.3	
			(564)		(268)	(295)	
English dominant			41.8		54.4	28.5	
			(972)		(652)	(320)	
Foreign language dominant			10.2		4.8	16.0	
			(237)		(57)	(180)	
Limited bilingual			23.7		18.5	29.3	

	(551)	(222)	(329)	
Total	2324	1199	1124	
Adolescent region/country of origin				***
Cuba	15.7 (364)	21.1 (253)	9.9 (111)	
Mexico	14.3 (333)	7.5 (90)	21.6 (243)	
Central America	10.1 (235)	4.4 (53)	16.2 (182)	
South America	7.5 (174)	8.4 (101)	6.5 (73)	
Caribbean	10.2 (238)	11.7 (140)	8.6 (97)	
Philippines	15.9 (370)	26.2 (314)	5.0 (56)	
Southeast Asia	21.9 (508)	14.9 (179)	29.3 (329)	
Asia	2.9 (68)	3.5 (42)	2.3 (26)	
Other	1.5 (34)	2.3 (27)	0.6 (7)	
Total	2324	1199	1124	

Note: @p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Bivariate Analyses

Bivariate correlations (Table 3.2) suggest that parent child relationship quality, family cohesion, and parent citizenship status were all negatively associated with depressive symptoms, while perceived discrimination and adverse family events were positively associated with depressive symptoms. Parent-child relationship quality was positively associated with family cohesion, family income (marginal), and English knowledge and negatively associated with perceived discrimination and adverse family events. Additionally, family cohesion was positively associated with perceived discrimination and negatively associated with adverse family events. Perceived discrimination was positively associated with adverse family events and negatively associated with family income. A positive association was noted between youth with noncitizen parents and family factors (parent-child relationship quality, family cohesion) and negatively associated with family income and English knowledge. Lastly, family income

was negatively associated with adverse family events and positively associated with English knowledge.

Table 3.2 Correlation matrix of youth depressive symptoms, key predictors and controls

	1	2	3	4	5	6	7	8
1 Parent-child relationship quality	1.00							
2 Family cohesion	.42***	1.00						
3 Youth discrimination	-.14***	.06**	1.00					
4 Adverse family events	-.15***	-.14***	.13***	1.00				
5 Parent citizenship status	.04*	.06***	-.02	.00	1.00			
6 Family income	.04@	.01	-.05*	-.10***	-.40***	1.00		
7 Youth English knowledge	.06***	.00	-.02	.03	-.27***	0.26***	1.00	
8 Youth depressive symptoms	-.33***	-.22***	.10***	.14***	-.06***	-.02	-.02	1.00

Note: @p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Multivariate Linear Regression Results

Linear regression results for depressive symptoms and parent citizenship status, family dynamics, perceived discrimination, and adverse family events are presented in Table 3.3. The results indicated that the estimated regression model significantly predicts depressive symptoms, $F(27, 2062) = 16.52$, $p = .000$ and explained approximately 18% of the variation in depressive symptoms (adjusted $R^2 = 0.18$).

Results from the bivariate models (Table 3.3 Models 1a-e) across all key study variables suggests that adolescents with noncitizen parents ($\beta = -.06$, $p < .01$), parent-child relationship quality ($\beta = -.33$, $p < .001$), and family cohesion ($\beta = -.22$, $p < .001$) were associated with lower depressive symptoms, while perceived discrimination ($\beta = .10$, $p < .001$) and experiencing at least one ($\beta = .05$, $p < .05$) or one or more ($\beta = .16$, $p < .001$) adverse family event were associated with higher depressive symptoms.

The bivariate models were expanded to adjust for socio-demographic and immigrant covariates (results not shown in table), adolescents with noncitizen parents (β = -.06, p < .05), parent-child relationship quality (β = -.34, p < .001), family cohesion (β = -.20, p < .001), perceived discrimination (β = .09, p < .001) and adolescents who reported experiencing more than one adverse family event (β = .14, p < .001) were associated with adolescent depressive symptoms.

After further adjusting for all predictors and covariates (Table 3.3 Model 2), parents' citizenship status was no longer significantly associated (β = -.04, n.s.) with depressive symptoms. Though effect sizes were attenuated, parent-child relationship quality (β = -.29, p < .001) and family cohesion (β = -.07, p < .01) were negatively associated with depressive symptoms. Conversely, also attenuated, perceived discrimination (β = .05, p < .05) and experiencing more than one adverse family event (β = .08, p < .001) were positively associated with depressive symptoms.

Table 3.3 Linear regression of depressive symptoms among immigrant youth

Variables	Models 1 a-e* Bivariate β (SE)	Model 2 Adjusted β (SE)
Parent citizenship status		
Citizen	ref	ref
Noncitizen	-.06** (.03)	-.04 (.03)
Youth parent-child relationship quality	-.33*** (.02)	-.29*** (.02)
Youth family cohesion	-.22*** (.01)	-.07** (.01)
Youth discrimination	.10*** (.03)	.05* (.03)
Youth adverse family events		
None	ref	ref
1 event	.05* (.03)	-.01 (.03)
1+ more events	.16*** (.04)	.08*** (.04)
Grade in school		
Ninth/tenth		ref
Eleventh		-.06 (.10)
Twelfth		-.10 (.10)

High school grad/college/voc. school	-.07[@] (.12)
Age	.03 (.02)
Female	.17[***] (.03)
Youth employment status	-.01 (.03)
Family income	.03 (.01)
Youth family living situation	
Both mother and father	ref
Parent & other	.02 (.04)
Mother alone/ Adult guardian	.07[**] (.04)
Spouse/ significant other/ other/ lives alone	.03 (.10)
Youth bilingual language use	
Fluent bilingual	ref
English dominant	-.06[*] (.04)
Foreign language dominant	-.01 (.05)
Limited bilingual	-.02 (.04)
Country of origin	
Cuba	ref
Mexico	.05[@] (.05)
Central America	.05[*] (.05)
South America	.02 (.06)
Caribbean	.04 (.06)
Philippines	.11[***] (.05)
Southeast Asia	.03 (.05)
Asia	.03 (.09)
Other	.00 (.11)
Adjusted R^2	0.18

Note: [@] p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant
*Models 1 a-e examined each predictor separately on depressive symptoms

Discussion

The current study examines whether parent citizenship status in tandem with risk and protective family and psychosocial factors were associated with depressive symptoms among second-generation immigrant adolescents. Although initially significant, after adjusting for all predictors and covariates, parent citizenship status was no longer independently associated with adolescent depressive symptoms, which suggest that this relationship may potentially be mediated by family factors and income. However, it is critical to consider the temporal aspect of this study in relation to the historical context of the US to further understand the non-significant

finding. The data for this study was collected in 1995 prior to the enactment of both the PWORA and IIRIRA of 1996, which had deleterious consequences for noncitizen immigrants in accessing federal assistance (Broder, Moussavian, & Blazer, 2015). However, leading up to the passage of these policies, there were increasing levels of political tensions and interests in cutting federal benefits for immigrants due to the economic recession during the early to mid-1990s (Haskins, 2009; Singer, 2004). This result may also suggest that parent citizenship status and adolescent depressive symptoms may be mediated by psychosocial and family factors, signifying that parent citizenship status may indirectly influence adolescent mental health. Spillover effects of parents' legal status to their children may be magnified in the present day due to the passage of legislation and heightened immigration enforcement, and coupled with increased exposure to stressful life circumstances, as evidenced by several more recent studies (Landale, et al., 2015; Oropresa, Landale, & Hillemeier, 2015; Vargas & Ybarra, 2017). In addition, with the recent proposed legislation of the public charge rule, which further institutionalizes systematic differences in access to resources for a broader category of noncitizens, including those who are seeking to enter the US or applying for an adjustment in their legal status (Puhl, Quinn, & Kinoshita, 2018), this proposal may further increase exposure to stressful situations and have adverse consequences for immigrants and their descendants.

Notably, though not a primary focus of this study, parent citizenship status was highly correlated with family income in the sample. Citizenship status has been posited to be a fundamental cause for the health of immigrants (Oropresa, Landale, & Hillemeier, 2015); thus, future investigations are needed to understand the implications of citizenship status through structurally rooted disadvantages of income and other social resources for health. Previous research has primarily focused on mixed documentation status Latino families or families with

one parent who was undocumented with their citizen children (see Oropresa, Landale, & Hillemeier, 2015; Vargas & Ybarra, 2017). The sample for the current study was comprised of diverse second-generation immigrant youth and their families, which encompassed a broad category of noncitizen immigrants. Further assessment of these relationships is also needed among a broader and more recent sample of noncitizen immigrants (Oropresa, Landale, & Hillemeier, 2015; Lee, 2018). In sum, further investigations of these spillover effects are warranted in the current sociopolitical context among noncitizen immigrant parents and their children's health and mental health.

Researchers have emphasized the importance of understanding the role of human interactions (Bernal, Cumba-Aviles, & Saez-Santiago, 2006), specifically family processes for adolescent depressive symptoms (Hammen, Rudolph, Weisz, Rao, & Burge, 1999). Similarly, results of this study suggest family factors of family cohesion and parent-child relationship quality were protective for depressive symptoms among immigrant adolescents. Additionally, parent-child relationship quality appeared to have the highest magnitude of effect compared to family cohesion and other psychosocial stressors, which may suggest that higher parent-child relationship quality may offset the deleterious effects of psychosocial stressors on immigrant adolescents' mental health. These findings support the wide body of literature that has examined the protective influences of parent-child relationship quality and family cohesion for the mental health of adolescents (Branje, Hale, Frijns, Meeus, 2010; Connell & Dishion, 2008; Johnson & Galambos, 2014; Marsigilia, Parsai, & Kulis, 2009). Specifically, the quality of relationships among parents and other family members (or cohesion) has been associated with lower depressive symptoms (Branje, Hale, Frijns, Meeus, 2010; Connell & Dishion, 2008; Johnson & Galambos, 2014; Herman, Ostrander, & Tucker, 2007); with findings of this study supporting

these linkages among samples of immigrant families and youth. Broadly, the results suggest that the family context, specifically strong family relationships, have a significant and positive influence for second-generation immigrant adolescent mental health and may influence resilience across the life course.

As hypothesized, perceived discrimination was adversely associated with depressive symptoms. Across multiple types of perceived discrimination (e.g., everyday, racial), discrimination has been linked to mental health outcomes (Edwards & Romero, 2008; Greene, Way, & Pahl, 2006; Umana-Taylor, Vargas-Chanes, Garcia, & Gonzales-Backen, 2008). Most studies on perceived discrimination among adolescents have examined racial discrimination (see Edwards & Romero, 2008; Greene, Way, & Pahl, 2006; Ríos-Salas & Larson, 2015; Umana-Taylor, et al., 2008); however, children of immigrants may experience discrimination in part as being perceived as a foreigner due to their own or their parents' immigrant status (Armenta, et al., 2013; Edwards & Romero, 2008). The results of this study find support of the pernicious effects of perceived discrimination on depressive symptoms among second-generation immigrant adolescents. Park and colleagues (2018) found that adolescents were able to cope with experiences of discrimination through having strong family support. They found that high family support buffered the effect of discrimination and externalizing behaviors among Mexican American adolescents. Moreover, having high parent-child quality relationships and strong family bonds can potentially offset the deleterious effects of discrimination among adolescents. Other studies have found that resilience factors including ethnic-racial identity and cultural orientation buffer the harmful effects of youth adjustment and developmental outcomes (Neblett, Rivas-Drake, Umaña-Taylor, 2012; Serrano-Villar & Calzada, 2016). Additional studies are needed in assessing the role of protective factors in tandem including family and resilient factors

for depressive symptoms among second-generation immigrant adolescents with assessment in the current socio-political climate.

In addition, as hypothesized, experiencing more than one adverse family event was associated with depressive symptoms among the sample of immigrant adolescents in the study. Chronic stressors and stressful life events have been associated with poor health outcomes, including mental health (Lantz, House, Mero & Williams, 2005; Pearlin, et al., 2005; Thotis, 1995). Due to their undesirable and involuntary nature, these events may be associated with psychological distress through increased exposure to stress. Additionally, experiencing more than one adverse or traumatic event may further amplify levels of stress and, thus, have a higher magnitude of effect on mental health. Previous research has found that increases in stressful events were associated with higher depressive symptoms (Ge, et al., 1994; Larson & Ham, 1993). In particular, adolescents who experienced significant changes in their families, including parental divorce, onset of illness, and job loss, were more likely to report depressive symptoms (Ge, Natsuaki, & Conger, 2006). Adolescence is a vulnerable period for onset of depressive symptoms (Kessler & Walters, 1998), which may be amplified by multiple experiences of stressful life events, as supported by the findings of this study.

Limitations

Although this study provides a contribution to the literature, several limitations to the study should be noted. First, measures used in the study were one-item measures. Both parent citizenship status (citizen versus noncitizen) and perceived discrimination (yes versus no) measures were one-item dichotomous measures. One of the limitations in using a dichotomous measure for citizenship status is that it limits the ability to assess the impact of being a noncitizen and may conflate the findings. Immigrants who fall under the broad noncitizen category

includes a diverse spectrum of legal statuses of temporary visa holders, permanent legal residents, and potentially, undocumented immigrants. Scholars have hypothesized that different legal status categories may have varied implications for health (Torres & Young, 2016). Despite this limitation, previous studies that have examined citizenship status and health have relied on a one-item dichotomous measure and found significant differences for health (Goldman, Smith, & Sood, 2005; Huang, Yu, & Ledsky, 2006).

Additionally, perceived discrimination was measured using one question. Research has examined relationships between discrimination and health through measuring multiple domains, spanning from initial to recent experiences, global to specific, and intensity and frequency (Gee, Ro, Shariff-Marco, Chae, 2009; Krieger, 2000). Nevertheless, this one-item measure was able to capture some of the variation in depressive symptoms due to the salient experiences of perceived discrimination. Second, the data that was collected were based on self-reported information. Self-reported data may be susceptible to social desirability bias (Huang, Liao, & Chang, 1998). However, self-reported data was necessary due to the nature of the exposure, citizenship status, perceived discrimination and other family factors. Despite this limitation, self-reported measures have been predictive for health (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Reuben, Siu, & Kimpau, 1992).

Third, the overall study reflected a cross-sectional design and thus does not allow for causal inferences. Although risk and protective factors of family and psychosocial factors were associated with depressive symptoms, the reverse may be possible where depressive symptoms could influence family dynamics or enhance psychosocial stress. Additional studies are needed to examine these relationships using longitudinal analysis. However, very few datasets currently

include citizenship status measures and other family and psychosocial factors among immigrant samples, thus providing a foundation for future research.

Study Contributions

This study provides a contribution to the literature in examining parent citizenship status, risk and protective family and psychosocial factors and depressive symptoms among a robust sample of second-generation immigrant adolescents. No previous empirical study has examined parent citizenship in tandem with other critical factors among immigrant adolescents and their mental health. Although parent citizenship status and depressive symptoms were initially significantly associated, after the inclusion of other variables in the model this relationship was attenuated. This finding suggests the importance of further research to understand the ways that citizenship status may impact, for example, income and family dynamics, with implications for depressive symptoms among immigrant youth. In addition, more research is needed to understand implications of legal status during a period of heightened anti-immigrant rhetoric. The results of the study find support in the salience of the family context including family dynamics and stressful family events and perceived discrimination for immigrant adolescents' mental health. According to the ecological framework (Bronfenbrenner, 1979), individuals are influenced by multiple contexts, with the family context playing a critical role in adolescents' mental health (Hammen, et al., 1999), as supported by this study. Future research should examine how stressful experiences could be offset by protections (e.g., family support) for mental health among immigrant youth.

Adolescence has been noted to be a critical period in the formation of psychiatric mental health conditions (Kessler, et al., 2005), and thus, further assessment is needed among adolescents who may be vulnerable to experiencing adverse mental health outcomes and its

implications across the life course and into adulthood. Additional studies are also needed in understanding the effects of discrimination and other adverse and traumatic events for mental health within developmental periods (e.g., early vs. late adolescence; Seaton, Gee, Neblett, & Spanierman, 2018). Existing measures of discrimination or adverse events do not measure these chronic stressors simultaneously (Seaton, et al., 2018) with future studies considering the need to create a measure that examines these factors together. Researchers have found differences in mental health outcomes by citizenship categories, gender, and across racial and ethnic groups. According to the intersectionality theory, individuals with multiple marginalized identities may experience heightened marginalization (Crenshaw, 1989; Crenshaw, 1991), due to the clustering of psychosocial stressors and structural disadvantages (Gee, Walsemann, & Brondolo, 2012; Sternthal, Slopen, & Williams, 2011). Thus, more research is needed among immigrant adolescents who may have multiple marginalized identities and mental health outcomes.

Conclusion

The current study examined the association between parent citizenship status along with critical risk and protective factors for immigrant adolescents' depressive symptoms. Limited research has existed in investigating risk and protective factors together for mental health among immigrant adolescents. Legal status has been hypothesized to have spillover effects across generations and other family members; however, our study did not find support for this hypothesis, potentially due to the temporal timing of this study. Additionally, results of this study suggest that legal status may be indirectly linked with depressive symptoms through psychosocial stress and family factors.

Adolescence is a vulnerable period due to significant changes occuring all at once and heightened onset for mental health outcomes. This study found that family factors were

protective for depressive symptoms, while multiple psychosocial stressors were adversely associated with depressive symptoms. These results support the premise that the onset of symptoms among adolescents may be further enhanced by stressful events while the family context may serve as buffer in offsetting deleterious factors for depressive symptoms.

With the implementation of national punitive policies for communities of color in the present day (e.g., War on Drugs, mass incarceration of minority males) (Horwitz & Zapotosky, 2017), tied with increasing immigrant enforcement (Rubin, 2017) and passage of restrictive legislation, there are a number of important opportunities to consider in understanding conditions under which legal status may or may not have adverse effects on health among immigrants and their descendants. Furthermore, it is vital to understand the interplay between social exclusion and mechanisms of social disadvantage among ethnic minority (Seaton, et al., 2018) and immigrant youth. Due to the increased projections of children of immigrants by 2050 (Passel, 2011), understanding critical risk and protective factors together and the co-occurrence of stressors for second-generation immigrant adolescents' mental health continues to be a vital area for research.

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Chapter 4 Social Determinants, Psychosocial, and Citizenship Status on Self-rated Health

Self-rated health has become a key indicator to assess immigrant health (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010). This global measure has been predictive of mortality (Franks, Gold & Fiscella, 2003) and used with great utility among younger populations and across diverse racial and ethnic groups (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010). However, most of the research on immigrant health has primarily focused on samples of adults or adolescents with scant literature on immigrant young adults. As children of immigrants are the fastest growing population of children (Kalil & Chen, 2008; Passel, 2011) and soon to be transitioning into adulthood, understanding factors that are salient for the health of immigrant young adults is increasingly vital.

Drawing from a developmental and life course perspective, major social changes across a number of decades (e.g., manufacturing to service-based economy, higher education for secure jobs), have led to shifts and timing of events for youth as they transition from adolescence into adulthood from the late teens through the twenties (Johnson, Crosnoe, & Elder, 2011). These youth may be staying in school longer and delaying marriage or may also be living in a semi-dependent state or "extended adolescence" (Rumbaut, 2005; Johnson, Crosnoe, & Elder, 2011). Researchers have coined this stage as emerging or young adulthood (Johnson, Crosnoe, & Elder, 2011). Many young adults are going through major life transitions including post-secondary higher education, employment, and for some marriage (Rumbaut, 2005). Additionally, incarceration and early childbearing have been key turning points during this transition and can

disrupt education or employment opportunities (Rumbaut, 2005), which also has profound implications for their health. In tandem to these transitions, it is during this stage of early adulthood that young adults begin to take responsibility for their health through engaging in life style choices that may influence their health and access to health care (Lenz, 2001). Viewed from a life course perspective, understanding critical determinants that may influence health during young adulthood can have significant implications into adulthood.

Over the past several decades, a robust relationship between socioeconomic gradient and health has been well documented, with those with higher socioeconomic status (SES) reporting better health (Brunner, Marmot & Wilkinson, 2006; Lynch & Kaplan, 2000). Moreover, a wide body of literature has found despite their lower socioeconomic status, immigrants (across diverse ethnic groups) who recently immigrated to the US were found to be in better health compared to native-born counterparts; this finding is known as "the immigrant health paradox" (Markides & Rote, 2015; Mossakowski, 2007). However, across diverse immigrant groups, evidence of associations between self-rated health, immigrant-related factors (e.g., duration of time in the US, generational status), and socioeconomic status (e.g., educational attainment, income) have been less consistent (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Kimbro, et al, 2008; Padela & Heisler, 2010; Ro, et al., 2016; Zhang & Ta, 2009).

One line of research has posited that the poorer health found among immigrants who have been in the US for longer periods of time may be attributable to negative acculturation or "Americanization" (Antecol & Bernard, 2006; Kaplan, Huguet, Newsom, & McFarland, 2004; Markides & Gerst, 2011; Singh, Siapush, Hiatt, & Timsina, 2011). Other scholars have hypothesized that the erosion of health among immigrants may be due to the clustering of disparities related to social exclusion, exposure to racism and other forms of discrimination (Gee,

Walsemann, & Brondolo, 2012; Gee & Ford, 2011; Yoshikawa, Godfrey, & Rivera, 2008). Several literature reviews have called for assessing the role of contextual factors for immigrant health or social determinants of health including structural and psychosocial factors (Gee & Ford, 2011; Ro, 2014). A social determinants of health perspective focuses on macrolevel or structural factors or processes that are driven by social and economic policies that produce inequalities and have adverse consequences for health (Braveman, Egerter, & Williams, 2011). Citizenship status, as a social determinant of health (or fundamental cause), has been posited to determine access to economic (e.g., social capital, education) and social factors (including psychosocial stressors) that are linked to health (Gee & Ford, 2011; Virruell-Fuentes, Miranda, & Abdulrahim, 2012). In the US, legal status has become a critical dimension of stratification as a form of social exclusion through a set of hierarchical categories that are institutionalized through policies, practices, and laws (Gee & Ford, 2011; Oropresa, Landale, & Hillemeier, 2015; Virruell-Fuentes, Miranda, & Abdulrahim, 2012). For non-native born immigrants, naturalized citizens are positioned at the top of the hierarchy, where after a legal process they become naturalized and are conferred similar benefits as citizens by birth (Oropresa, Landale, & Hillemeier, 2015). All other legal designations (e.g., legal permanent resident, temporary visa, undocumented), other than naturalized citizens maintain some type of exclusion or limitation (e.g., access to public assistance, higher education, and employment opportunities including enlisting in the military), even if they may be lawfully present in the country (Virruell-Fuentes, Miranda, & Abdulrahim, 2012). Hence, immigration policy through legal status stratification is considered to be a form of social exclusion and structural racism (Gee & Ford, 2011), with profound implications on the health of immigrants.

The present study will investigate how some of the key contributors for self-rated health mirrored in the larger immigrant health literature may influence health among immigrant young adults. In considering the developmental stage of young adulthood, many of these youth are transitioning into social systems of higher education and the labor market, which have been noted to be critical drivers of disadvantage and health inequities (Link & Phelan, 1995; Walsemann, Geronimus, & Gee, 2008). In addition to these systems, legal status stratification may be a key driver for health disparities among immigrant populations. It is crucial to examine how citizenship status in tandem with risk (perceived discrimination, adverse family events) and protective (health insurance status, educational attainment) factors influence health among immigrant young adults. No other previous empirical studies have examined the interplay of these factors together for immigrant young adult health and will build upon the literature in this area.

Legal Status & Health

In understanding the relationship between citizenship status and health, scholars have begun to investigate how citizenship status is a fundamental cause for health and influencing health through multiple mechanisms including social capital (e.g., education, income) and other resources that are salient for health (Oropresa, Landale, & Hillemeier, 2015). Most of the research examining this relationship has largely focused on health care access and having health insurance (Castaneda, et al., 2015; Oropresa, Landale, & Hillemeier, 2015). Prior research has shown that the gap in insurance coverage among adults between immigrants and US born is mostly due to citizenship status (Goldman, et al., 2005; Huang, Yu, Ledsky, 2006). For children, this gap is attributed to their parents' citizenship status (Acevedo-Garcia & Stone, 2008; Huang, Yu, & Ledsky, 2006; Ojeda & Brown, 2005; Ziol-Guest & Kalil, 2012). With respect to the

literature focused on adult samples, compared to citizens, noncitizens were more likely to report discrimination in health care and were less likely to have health insurance (Carrasquillo, Carrasquillo, & Shea, 2000) and a usual source of care (Huang, Yu, & Ledsky, 2006). They were also more likely to work in occupations without health insurance (Goldman, et al., 2005). Studies on young children of immigrants found that both US-born and foreign-born children with noncitizen parents reported worse physical health and lower use of health services (Huang, Yu, & Ledsky, 2006). Additionally, immigrant children with non-citizen parents were more likely to lack health insurance coverage, regardless of their own citizenship status (Huang, Yu, & Ledsky, 2006; Ojeda & Brown, 2005; Ziol-Guest & Kalil, 2012). The results of these studies suggest that through multiple pathways of structural and institutional factors, citizenship status regulates access to medical care and health among immigrants (Torres & Young, 2016; Virruell-Fuentes, Miranda, & Abdulrahim, 2012); however, additional studies are needed to understand the direct relationship between citizenship status and health, specifically among immigrant young adults.

Health Insurance

It has been well established that foreign-born immigrants are less likely to have health insurance compared to native-born residents (Acevedo-Garcia, Bates, Osypuk, & Ardle, 2010; Goldman, et al., 2005). Differences in health insurance rates have been noted by immigrant generational status, where first- and second-generation immigrants were less likely to have health insurance compared to third-generation immigrants (Acevedo-Garcia, Bates, Osypuk, & Ardle, 2010). Although limited research exists in this area, Goldman and colleagues (2005) posit that immigrants may also be more likely to have gaps in their health insurance coverage. Additionally, young adults have lower rates of health insurance compared to other age groups (Holahan & Kenney, 2008). One in three young adults lack health insurance due to low access

to both employer-sponsored insurance and government subsidized insurance (e.g., Medicaid, SCHIP; Holahan & Kenney, 2008). Lack of insurance coverage has been linked to lower likelihood to receive preventive health care or have a usual source of care (Derose, Escarce, & Lurie, 2007; Vega, Rodriguez, & Guskin, 2009), and has adverse implications for health (Huang, Yu, & Ledsky, 2006). These findings suggest that second-generation immigrants and young adults are less likely to be insured, which may have adverse consequences for their health.

Educational Attainment

Education is one of the strongest predictors of health and mortality in the US (Derose, Escarce, & Lurie, 2007; Hummer & Lariscy, 2011; Mirowsky & Ross, 2008; Walsemann, Geronimus, & Gee, 2008; Walsemann, Gee, & Ro, 2013). With increasing levels of education, individuals experience better health outcomes, including lower depressive symptoms, better self-rated health, fewer functional limitations, and greater longevity (Hummer & Lariscy, 2011; Lauderdale, 2001; Mirowsky & Ross, 2003; Walsemann, Geronimus, & Gee, 2008). Each additional year of education confers consistent improvements in health; however, numerous studies have found that this relationship may be reflective of the degrees earned rather than years of education (Montez, et al., 2012; Rogers, Everett, Zajacova, & Hummer, 2010; Zajacova, 2012). As an example, greater differences in health have been noted between a high school graduate and a non-graduate compared to years of education such as those in eleventh versus twelfth grade. The educational gradient may be attributable to the credentialing and gatekeeping functions of the education system, with advancements through that system associated with improvements in health (Rogers, et al., 2010).

A growing area of research has demonstrated that there may be a bi-directional relationship between health and education, and that health in early life shapes educational

outcomes (Haas, 2006; Case, Fertig, & Paxson, 2005; Le, Roux, & Morgenstern, 2013). Several studies have found that adolescents with worse health are less likely to transition to post-secondary education (Haas & Fosse, 2008; Jackson, 2009; Johnson & Schoeni, 2011). However, the majority of studies on educational attainment have focused on native US born populations. The few studies that have examined critical correlates for post-secondary educational attainment among immigrants have reported mixed conclusions in the educational gradient with health across immigrant groups (Acevedo-Garcia, et al., 2010; Kimbro, et al., 2008; Ro, et al., 2016). Specifically, for many immigrant young adults they may be transitioning to pursuing higher education. One study found that second-generation immigrant youth who were working while going to school may delay, attend part time, or end up dropping out of school to financially support their family (Zhou, et al., 2008). These findings suggest that educational attainment may be influenced by multiple factors and have significant implications for the health of immigrants; thus, additional studies are needed among young adult populations.

Discrimination and Adverse Family Events

Across multiple decades of research, the relationship between stress and health has been well documented (Pearlin, Menaghan, Lieberman, & Mullan, 1981; Pearlin, et al., 2005; Thotis, 1995). Chronic stressors, which are triggered from various forms of environmental assaults, contribute to the "wear and tear" on the body and lead to premature illness and mortality (Seeman, et al., 2004). Specifically, adverse life events are deleterious to health through indirect pathways that may create or amplify persistent circumstances and increase stress exposures (Pearlin, et al., 1981; Pearlin, et al., 2005). Discrimination and chronic strains, including negative life events have been linked to poor physical health (Lantz, House, Mero & Williams, 2005; Matthews & Gump, 2002; Padela & Heisler, 2010; Williams, Neighbors, & Jackson,

2003). Along these lines, scholars have begun to examine associations between perceived discrimination and other psychosocial stressors on health among immigrants (Ayon, et al., 2010; Virruell-Fuentes, Miranda, & Abdulrahim, 2012; Gee, et al., 2006). Findings from this literature parallel the larger literature on stress, discrimination, and health (Virruell-Fuentes, Miranda, & Abdulrahim, 2012; Yip, Gee, & Takeuchi, 2008; Williams, Neighbors, & Jackson, 2003). Among Arab Americans, for example, experiences of discrimination and anti-immigrant sentiment after September 11, 2001 were associated with poor self-rated health and psychological distress (Padela & Heisler, 2010). Williams and Mohammed (2008) found a decline in health status among immigrants in California in 2001. They posited that the decline in health status was stemming from the increase in anxiety and fear due to the implementation of immigration policies after September 11, 2001 and the rise in anti-immigrant sentiment. Given that the transition to young adulthood may be a vulnerable period due to multiple and major life transitions and establishing independence, perceived racial discrimination and stressful family events may amplify their levels of stress and thus, have adverse consequences for their health.

Current Study

In considering the life course perspective, young adults are at a critical juncture where they are experiencing major life transitions in establishing independence, pursuing education, seeking employment, and/or may be facing changes in family structures (e.g., marriage, having children). Depending on the varied pathways, these transitions can have significant implications into adulthood. Understanding the interplay of multiple risk (e.g., psychosocial stress) and protective factors (e.g., educational attainment, health insurance status) and citizenship status can provide further insight regarding salient factors for their health. Of the scholarship that has examined these links, the majority of studies have focused on children or adults as opposed to

adolescents or young adult populations. Specifically, the relationship between citizenship status and health insurance has been examined among immigrant adults and their children (see Acevedo-Garcia & Stone, 2008; Huang, Yu & Ledsky, 2006; Ziol-Guest & Kalil, 2012), with no concurrent research on young adults. Similarly, scant literature exists on discrimination and health and even less for adverse family events among immigrant young adults.

Due to the limited research in this area for immigrant young adults, the current study seeks to expand the literature by examining the relationship between citizenship status and psychosocial and social determinants on self-rated health among second-generation immigrant young adults.

Research Question & Hypotheses

Research question: Does second-generation immigrant young adults' physical health status (self-rated health) vary by their socioeconomic status (e.g., educational attainment, health insurance availability), stressful life experiences (e.g., adverse family events, perceived racial discrimination), and citizenship status, after controlling for time in the US, English knowledge, and socio-demographic factors?

H4.1. Young adults with US citizenship status will be more likely to report excellent health compared to those without US citizenship status.

H4.2. Higher educational attainment and having health insurance will be associated with excellent health for young adults.

H4.3. Young adults who report more stressful life experiences, including adverse family life events or perceived racial discrimination will be less likely to report excellent health.

Methods

Sample

The Children of Immigrants Longitudinal Study (CILS) was used for the study. CILS was a large multi-city survey conducted in Miami/ Fort Lauderdale, FL and San Diego, CA. These cities were selected as study sites due to high concentrations of immigrant and native-born populations. The goal of the study was to examine the adaptation process of second-generation immigrant youth (Portes & Rumbat, 2001). The sample was comprised of immigrant youth who were either born in the United States or had lived in the US for at least 5 years (from the initial data collection period) and had at least one foreign born parent. A total of 49 schools were surveyed in the study with questions asked regarding immigrant family characteristics, academic achievement, ethnic identity, among others. The initial data collection began when the participants were adolescents (8-9th grade) and followed them as they transitioned into young adulthood. The study had three waves of data starting from 1992 (baseline; Wave 1), 1995 (first follow-up; Wave 2), and about a decade later, from 2001-2003 (second follow-up; Wave 3).

The study used data collected from the third wave of CILS, which was comprised of immigrant young adults (N=3,344) who were about 24 or 25 years old (Portes & Rumbat, 2001; Rumbaut, 2005). The sample included both second- and 1.5 generation of immigrant youth (or came to the US before they were 12 years old), with about 53.2% of the sample who were second-generation immigrant (or about 46.8% were 1.5 generation). Though not the primary focus of the study, descriptive statistics were computed (results not shown) to assess differences by generational status. Similar trends were noted by generational status and citizenship status; however, citizenship status demonstrated larger differences across key variables. Additionally, a relatively high correlation (0.90) was noted by generational status and parent citizenship status.

The study used *young adults' reports* of their self-rated health, educational attainment, perceived racial discrimination, adverse family life events, health insurance status, US citizenship status, and socio-demographic control variables. English knowledge was used from the second wave of the study.

Measures

Dependent Variable

Self-Rated Health. The self-rated health measure is a summary health measure that has been shown to be predictive of future mortality even after considering baseline physical health and lifestyle health behaviors (Idler & Kasl, 1995; Ferraro, Farmer, & Wybraniec, 1997). Past studies have demonstrated that either a categorical or dichotomized version of the health status measure has been predictive of morbidity and mortality and disability (Acevedo-Garcia, et al., 2010; Haas, 2006; Haas & Fosse, 2008; Le, Roux, & Morgenstern, 2013; Padela & Heisler, 2010; Zhang & Ta, 2009).

Participants' self-reported health was characterized using responses to one survey item: "In general, how is your health?" Respondents reported their health using a five-point scale: "Excellent," "Very Good," "Good," "Fair," or "Poor." This measure was reverse coded to reflect higher categories for better health. Due to the skewed distribution of responses, nearly 50% reporting excellent health, this measure was dichotomized with categories of Poor/Fair/Good/Very Good (0) versus Excellent (1; see Table 1).

Independent Variables

Citizenship status. Citizenship status has been predictive for health outcomes (Brabeck & Sibley, 2016; Brabeck & Xu, 2010; Perreira, et al., 2008; Gee, et al., 2016). Despite concerns

around the sensitivity of this measure, results from prior studies suggest that non-response or response bias was not a concern (Bachmeier, Van Hook, & Bean, 2014).

Citizenship status was measured using a one-item three-category ordinal variable. Respondents were asked about their citizenship status: "U.S. citizen by birth;" "U.S. citizen by naturalization;" "Not a U.S. citizen;" "Dual citizenship or nationality." Dual citizens that were born in the US were collapsed with the "U.S. citizen by birth category," and if they were not born in the US, they were combined under the "U.S. citizen by naturalization category." Due to the overall distribution of this measure, for the multivariate analysis, citizenship status was used as a dichotomous measure (citizen vs. noncitizen). Further details are discussed in the Results section below.

Health insurance status. Prior studies have used self-report measures to examine health insurance status (Goldman, Smith & Snood, 2005; Huang, Yu, & Ledsky, 2006; Ku & Matani, 2001). Additionally, several studies have examined health insurance status along with other immigrant-related factors among immigrant populations (Goldman, Smith & Snood, 2005; Huang, Yu, & Ledsky, 2006; Ku & Matani, 2001; Padela & Heisler, 2010).

Health insurance status was measured using a one-item dichotomous measure: "Do you have health insurance at present?" Respondents were asked either yes or no, with no health insurance as the referent category.

Educational Attainment. Self-reported educational attainment has been commonly used to measure outcomes for educational attainment and to understand linkages between education and health (Braveman, et al., 2010; Kimbro, et al., 2008; Acevedo-Garcia, et al., 2010; Ro, et al., 2016). Researchers have typically operationalized educational attainment as years of schooling or degree attained (Walsemann, Gee, & Ro, 2013). This measure has also been used as a proxy

for socioeconomic position as it may be less prone to nonresponse error compared to measures like income. Educational gradients have been found to be predictive for health (Braveman, et al., 2010; Ro, et al., 2016) including among immigrant populations (Acevedo-Garcia, et al., 2010; Kimbro, et al., 2008; Ro, et al., 2016).

Educational attainment was characterized as a three-item ordinal measure. Respondents were asked: "What is the highest grade or year of school you have completed?" Responses were categorized as follows: less than high school/high school graduate, some college/vocational school, and bachelor's degree or beyond (graduate degree).

Adverse family events. Studies on stressful life events have used a summation of the total number of life events as a cumulative count, which has been found to be salient for health (Bouma, Orma, Verhulst, Oldehinkel, 2008; Lantz, et al., 2005). Previous studies have included events such as divorce, death of a family member, severe illness of family members, losing a job, and being robbed (Bouma, Orma, Verhulst, Oldehinkel, 2008; Lantz, et al., 2005).

Adverse family events were examined using a three-item ordinal measure using a cumulative score across nine items to examine the additive effects of adverse family events on the outcome. Respondents were asked to report if "During the last five years, have and of the following life change events happened to you or your family?" These events included: "I was divorced or separated"; "I lost my job"; "I became seriously ill or disabled"; "One of my parents died"; "A member of my family was the victim of a crime"; "I was the victim of a crime"; "A member of my family was arrested"; "A family member spent time in a reform school, detention center, jail, or prison"; "I had to take responsibility for caring for a seriously ill or disabled family member." Response categories were either none (0), 1 event (1), or 1+ adverse events (2) and were summed together into one measure.

Perceived racial discrimination. Subjective measures of discrimination have been used to assess different aspects of discrimination: initial to recent, global to specific, and intensity and frequency of discrimination (Gee, Ro, Shariff-Marco, Chae, 2009; Krieger, 2000). This measure has been tested among diverse racial and ethnic groups (e.g., African Americans, Latinos) (see Krieger, 2000 and Williams & Mohammed, 2013), and immigrant populations (Padela & Heisler, 2010; Yip, Gee, & Takeuchi, 2008). Perceived discrimination has been predictive for health outcomes (Krieger, 2000; Padela & Heisler, 2010; Williams, Neighbors, & Jackson, 2003).

Perceived racial discrimination was assessed using a one-item global perceived measure where respondents were asked: "Have you ever felt discriminated against because of your race or ethnicity?" This measure was treated as a dichotomous variable, with never being discriminated against as the reference category.

Young adult demographic control variables

I controlled for young adults' reports of socio-demographic measures which have previously been associated with self-rated health, including gender, age, marital status, family income, English knowledge, and region/country of origin (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Gee, et al., 2016; Padela & Heisler, 2010; Ro, et al., 2016; Zhang & Ta, 2009). **Gender** was used as a dichotomous variable, with male as a referent category. **Age** was a continuous measure from baseline, ranging from twelve to eighteen years old. **Marital status** was a dichotomous measure of the young adults' reported current marital status. Categories included: married/engaged to be married/ living with partner (1), single/divorced/ separated (0). **Family income** was used as a continuous measure of total family income in the past year. Categories included $0-19,999; $20,000-34,999; $35,000-49,999; $50,000-74,999; and $75,000

or more. **English knowledge** was a dichotomous measure of how well the youth spoke, understood, read, and wrote English from the prior wave (Wave 2), with those who reported either not at all/not well (1) or well/ very well (0). **Region/country of origin** was a nine-category ordinal variable based on the respondents mother's report of her country of birth, and was collapsed into nine categories: Cuba (1), Mexico (2), Central America (3), South America (4), Caribbean (5), Philippines (6), Southeast Asia (7), Asia (8), and other (9).

Analytic Strategy

First, data cleaning and diagnostic procedures were undertaken to transform and recode variable distributions, examine non-normality and non-linearity of variables, and bivariate relationships. Procedures included conducting multicollinearity diagnostics to test assumptions of independence and model fit (e.g., AIC/BIC). After appropriate procedures were conducted, descriptive data using the original study variables were computed. Next, missing data patterns were assessed with imputation procedures detailed below. Bivariate analyses including correlations and chi-square tests were estimated using the original data (Tables 4.1 and 4.2). After the data were imputed, unadjusted (predictors only) and adjusted models (predictors and covariates) were estimated using the appropriate imputation estimates for logistic regression as shown in Table 4.3.

Missing Data. Missing data existed across the study variables. As standard procedure, key variables were tested in the model to identify any systematic bias in the missing data on the basis of socio-demographic variables (e.g., education, income) and bivariate regression conducted to determine missing data patterns. The analysis suggested that missing data were likely missing at random as the patterns of missing data did not appear to be significantly associated with key socio-demographic variables. Thus, the Multivariate Imputation by Chained

Equations (MICE) algorithms in STATA 14.0 (College Station, Texas) was used to replace missing data, where each variable was imputed based on its distribution and own imputation model. Multiple imputation using MICE is considered to be rigorous for producing statistically valid inferences (Liu & De, 2015).

Results

Descriptive Statistics

Descriptive statistics of the young adult sample by their citizenship status are provided in Table 4.1. Comparisons were conducted by citizenship status, citizen by birth, citizen by naturalization, and noncitizen, using two-tailed *t* and $\chi 2$ tests for each of the measures, with differences noted in the far right column (p†). Approximately three-quarters of the young adults were citizens by birth or naturalization.

Among these young adults, slightly less than half of the sample reported excellent health, with marginally significant differences noted by citizenship status. Citizens by birth and naturalized citizens were more likely to report excellent health, compared to noncitizens. This five percent difference between citizens and noncitizens in self-rated health may suggest that the distinction between citizens and noncitizens may be an appropriate comparison, as conducted in the multivariate analysis (Rosenthal & Rubin, 1982). Approximately three-fourths of respondents had health insurance. Significant differences were noted with noncitizens were more likely to not have health insurance coverage: over a third of noncitizen young adults in the present sample did not have insurance. Approximately three-fourths of respondents reported obtaining of either some college/ vocational training or a bachelor's degree and beyond. However, compared to citizens, noncitizens were more likely to report obtaining less than high school or high school diploma. More than half of respondents reported experiencing at least one

adverse family event in the past five years. Citizens by birth and also noncitizens were more likely to experience more than one adverse family event compared to the overall sample. Conversely, a little more than half the sample had reported experiences of perceived racial discrimination. While citizens by birth and naturalized citizens were more likely to report perceived racial discrimination compared to noncitizens; however, these differences weren't significant.

A little more than half the sample was female. The average age (from baseline) was about fourteen years old, with noncitizen youth to be slightly older compared to citizen youth (by birth and naturalization). In the overall sample, more than half were single and about less than a third of respondents were either married/ engaged/ living with their partner. A trend was noted where noncitizens were more likely to be married/ engaged/ living with their partner, compared to citizens by birth or naturalization. About one-fifth of young adults reported family income near or below the poverty level (2001: $17,650 for family of four) and less than half reported incomes above $50,000 or more. Significant differences were noted by citizenship status, with close to half of citizens by birth and more than two-thirds of naturalized citizens reported family income levels above $50,000 or more. Conversely, more than a fifth of the noncitizen sample reported income below the poverty level and more than half of the sample reported income levels below $35,000. The majority of the respondents reported having high levels of English knowledge. However, differences were noted by citizenship status, where noncitizens were less likely to report high levels of English acquisition, compared to citizens by birth or naturalization. A quarter of the overall sample was from Cuba, followed by the Philippines, Mexico, and Southeast Asia. Significant differences were noted by region/ country of origin where three-fourths of young adults from Cuba, Philippines, Mexico, or the Caribbean were US citizens by

birth. The majority of naturalized citizens were from Southeast Asia, Philippines, Cuba or Central America. Approximately half of noncitizens were from either Central America or Southeast Asia, followed by Mexico.

Table 4.1 Descriptive statistics of key predictors and demographic control variables on self-rated health

Variables	Range	Full Sample		Citizen (N=1819)		Naturalized (N=942)		Noncitizen (N=533)		p†
		M(SD)	%(N)	M(SD)	%(N)	M(SD)	%(N)	M(SD)	%(N)	
Outcome										
Self-rated health										@
Excellent			44.6 (1474)		45.9 (832)		44.4 (417)		40.0 (212)	
VG/ Good/ Fair/ Poor			55.4 (1828)		54.1 (979)		55.6 (522)		60.0 (318)	
Total			3302		1811		939		530	
Predictors										
Health insurance										***
Yes			73.9 (2433)		76.4 (1382)		74.0 (691)		65.4 (346)	
No			26.1 (858)		23.6 (426)		26.0 (243)		34.6 (183)	
Total			3291		1808		934		529	
Educational attainment										***
< high school/ high school grad			22.5 (735)		19.8 (353)		17.4 (161)		40.7% (213)	
Some college/voc.			50.7 (1,656)		51.5 (920)		50.6 (469)		48.7 (255)	
Bachelor's & beyond			26.8 (873)		28.8 (514)		32.0 (297)		10.7 (56)	
Total			3264		1787		927		524	
Adverse family events										***
None			44.7 (1,405)		41.8 (721)		51.6 (464)		42.0 (211)	
1 adverse event			24.9 (782)		24.7 (426)		24.6 (221)		25.8 (130)	
1+ adverse events			30.5 (959)		33.5 (577)		23.9 (215)		32.2 (162)	
Total			3146		1724		900		503	
Ever discriminated										ns
Yes			52.4 (1713)		53.0 (951)		52.9 (489)		50.0 (264)	
No			47.6 (1557)		47.0 (844)		47.1 (436)		50.0 (264)	
Total			3270		1795		925		528	
Covariates										
Gender										ns
Female			54.7 (1650)		53.6 (882)		55.9 (491)		57.5 (265)	
Male			45.3 (1367)		46.4 (764)		44.1 (387)		42.5 (196)	
Total			3017		1646		878		461	
Age (baseline)	12-18	14.2 (0.8)		14.0 (0.8)		14.3 (0.9)		14.5 (0.8)		***
Total		3343		1818		942		461		
Marital status										@
Married/engaged/partner			29.6 (980)		28.5 (517)		29.5 (278)		33.8 (180)	
Single/ divorced/			70.4 (2331)		71.5 (1296)		70.5 (664)		66.2 (353)	

separated					
Total	3311	1813	942	533	
Family income					***
$0-19,999	18.5 (549)	17.2 (282)	19.4 (163)	21.3 (100)	
$20,000-34,999	24.2 (717)	21.9 (359)	25.2 (212)	30.4 (143)	
$35,000-49,999	16.7 (496)	16.0 (262)	16.8 (141)	19.2 (90)	
$50,000-74,999	19.8 (588)	21.1 (346)	19.1 (161)	16.8 (79)	
$75,000 or more	20.8 (616)	23.8 (391)	19.5 (164)	12.3 (58)	
Total	2966	1640	841	470	
English knowledge					***
Well/ very well	96.6 (2909)	98.7 (1620)	94.7 (831)	93.1 (429)	
Not at all/ not well	3.4 (104)	1.3 (22)	5.3 (47)	6.9 (32)	
Total	3013	1642	878	461	
National origin					***
Cuba	24.2 (811)	31.9 (581)	16.5 (155)	11.8 (63)	
Mexico	12.7 (424)	14.7 (267)	8.0 (75)	13.3 (71)	
Central America	9.5 (316)	3.1 (57)	13.1 (123)	24.2 (129)	
South America	8.9 (296)	8.6 (156)	9.3 (88)	9.4 (50)	
Caribbean	9.3 (311)	10.2 (185)	7.8 (74)	9.4 (50)	
Philippines	17.7 (593)	20.9 (380)	17.8 (168)	7.5 (40)	
Southeast Asia	11.6 (388)	2.8 (50)	22.4 (211)	22.3 (119)	
Asia	3.4 (114)	4.0 (73)	3.4 (32)	1.3 (7)	
Other	2.7 (91)	3.9 (70)	1.7 (16)	0.8 (4)	
Total	3344	1819	942	533	

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Bivariate Analyses

Based on the bivariate analysis (Table 4.2), having health insurance and higher education were associated with better health, while perceived discrimination and adverse family events were both associated with worse health. Higher education was positively associated with having health insurance and perceived discrimination. Adverse family events were negatively associated with all the other factors, except for perceived discrimination, where a positive association was noted. Noncitizens were negatively associated education, health insurance, and self-rated health.

Table 4.2 Correlation matrix of young adult self-rated health and key study variables

	1	2	3	4	5	6
1 Education	1.00					
2 Family events	-.15***	1.00				
3 Discrimination	.08***	.13***	1.00			
4 Health insurance	.15***	-.14***	-.05**	1.00		
5 Noncitizens	-.22***	.02	-.02	-.09***	1.00	
6 Self-rated health	.10***	-.13***	-.07***	.06**	-.04*	1.00

Note: @p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant

Multivariate Logistic Regression Results

Results of the bivariate analyses are presented in the first column (Models 1 a-e) of Table 4.3 for all key study variables. Noncitizens had lower odds of reporting excellent health compared to citizens (OR=0.80; 95% CI: 0.66, 0.96). Young adults with health insurance (OR=1.31; 95% CI: 1.12, 1.54) and a bachelor's degree or more (OR=1.73; 95% CI: 1.42, 2.11) were more likely to report excellent health compared to either those without insurance or a less than high school or high school diploma. Conversely, young adults who experienced at least one (OR=0.61; 95% CI: 0.51, 0.73) or one or more adverse family events (OR=0.55; 95% CI: 0.46,

0.65) or perceived discrimination (OR=0.76; 95% CI: 0.66, 0.88) were less likely to report excellent health, compared to those who did not experience these stressors.

The bivariate models above were expanded to adjust for covariates of socio-demographic and immigrant factors (results not shown in table). Results suggest a marginally significant trend for citizenship status and health. Health insurance status was significantly associated with excellent health (OR= 1.20; 95% CI: 1.02, 1.42). For young adults with a bachelor's degree or more (OR=1.66; 95% CI: 1.34, 2.05), they were more likely to report excellent health, compared to those with less than high school or a high school diploma. Additionally, respondents who experienced at least one (OR= 0.61; 95% CI: 0.51, 0.72) or more than one (OR= 0.56; 95% CI: 0.47, 0.66) adverse family events, or perceived discrimination (OR= 0.81; 95% CI: 0.70, 0.93) had decreased odds of reporting excellent health compared to those who did not report any adverse family events or perceived discrimination.

After adjusting for all key predictors as well as socio-demographic covariates (Table 4.3 Model 2), results suggest that both citizenship status and health insurance status were not significantly associated with excellent health. For young adults, a bachelor's degree or more (OR=1.53; 95% CI: 1.23, 1.91) was associated with higher odds of reporting excellent health, compared to those with less than high school or a high school diploma. Results were also significant for psychosocial stressors, where young adults who experienced at least one (OR= 0.64; 95% CI: 0.53, 0.76) or more than one (OR= 0.61; 95% CI: 0.51, 0.73) adverse family events, or perceived discrimination (OR= 0.84; 95% CI: 0.72, 0.97) had decreased odds of reporting excellent health, compared to those who did not report experiencing these stressors.

Table 4.3 Logistic regression of self-rated health among immigrant young adults

Variables	Models 1 a-e* Bivariate			Model 2 Adjusted		
	OR	95%CI	p†	OR	95%CI	p†
Citizenship Status						
Citizen by birth	1	(1.00, 1.00)		1	(1.00, 1.00)	
Noncitizen	0.80	(0.66, 0.96)	*	0.90	(0.73, 1.11)	ns
Health insurance	1.31	(1.12, 1.54)	**	1.06	(0.89, 1.25)	ns
Education						
< high school/ high school grad	1	(1.00, 1.00)		1	(1.00, 1.00)	
Some college/voc.	1.03	(0.86, 1.23)	ns	0.99	(0.82, 1.20)	ns
Bachelor's & beyond	1.73	(1.42, 2.11)	***	1.53	(1.23, 1.91)	***
Adverse Family Events						
None	1	(1.00, 1.00)		1	(1.00, 1.00)	
1 event	0.61	(0.51, 0.73)	***	0.64	(0.53, 0.76)	***
1+ more events	0.55	(0.46, 0.65)	***	0.61	(0.51, 0.73)	***
Discrimination	0.76	(0.66, 0.88)	***	0.84	(0.72, 0.97)	*
Female				0.73	(0.62, 0.85)	***
Age				1.05	(0.96, 1.14)	ns
Marital status						
Married/ engaged/partner				1	(1.00, 1.00)	
Single/ divorced/ separated				1.12	(0.95, 1.31)	ns
Family income				1.05	(1.00, 1.11)	@
English knowledge						
Well/ very well				1	(1.00, 1.00)	
Not at all/ not well				0.84	(0.55, 1.28)	ns
Country of origin						
Cuba				1	(1.00, 1.00)	
Mexico				0.68	(0.53, 0.88)	**
Central America				0.87	(0.66, 1.15)	ns
South America				0.94	(0.72, 1.24)	ns
Caribbean				0.84	(0.64, 1.11)	ns
Philippines				0.67	(0.53, 0.84)	***
Southeast Asia				0.73	(0.56, 0.95)	*
Asia				0.87	(0.58, 1.31)	ns
Other				1.21	(0.77, 1.90)	ns

Note: @ p< .10, *p< .05, ** p< .01, ***p< .001, ns= not significant
*Models 1 a-e examined each predictor separately on self-rated health

Discussion

Citizenship status was initially significant for self-rated health; however, after adjusting for all predictors and covariates, this association was attenuated. This finding may be explained

by the fact that this association may be mediated by family income, educational attainment, and other psychosocial factors. In addition, the majority of the sample were citizens (by birth or naturalization: 83.8**%**) and were in excellent health (44.6**%**). Differences were noted in the bivariate analyses in educational attainment and health insurance status by citizenship status. Noncitizen young adults were more likely to report lower educational attainment and were less likely to have health insurance compared to citizen (by birth and naturalization) young adults. As previously mentioned, both having health insurance and educational attainment have profound implications for health (Derose, Escarce, & Lurie, 2007; Hummer & Lariscy, 2011; Mirowsky & Ross, 2008; Vega, Rodriguez, & Guskin, 2009; Walsemann, Geronimus, & Gee, 2008). Previous scholars have posited that citizenship status may be a critical determinant for health through access to social resources (Gee & Ford, 2011; Oropresa, Landale, & Hillemeier, 2015; Virruell-Fuentes, Miranda, & Abdulrahim, 2012), with findings of this study indicating that citizenship status may influence health indirectly through education. Nevertheless, the results of this study suggest though initially significant, the association between citizenship status and health was attenuated after accounting for educational attainment, adverse family events, and perceived discrimination. Thus, these factors may be more salient for the health for immigrant young adults. Furthermore, these results also suggest that the relationship between citizenship status and health may be mediated by educational attainment and psychosocial stressors. Future research is needed in assessing these pathways.

In addition, citizenship status may influence health differently across developmental periods; thus, citizenship during young adulthood may not be as strongly associated with health compared to other periods. Emerging literature has examined the relationship between citizenship status and health among either young children or adults. One study found that citizen

children with noncitizen parents were more likely to report poorer health (Huang, Yu, & Ledsky, 2006), which may indicate that parents' citizenship status may facilitate access to health care and health. However, for immigrant young adults, there may be other stressors that are directly associated with their health and stage in life. The present study provides further consideration of how citizenship status may be associated with health from a temporal and developmental perspective.

Some research suggests that the accumulation of disadvantages over the life course may influence health and contribute to disparities (Walsemann, Geronimus, & Gee, 2008; Ferraro & Shippee, 2009). Hurh and Kim (1990) posited that there may be two critical states of vulnerability regarding one's immigrant status; the first stage may be right after migration, where immigrants may face obstacles regarding language acquisition, employment, and potential social isolation. The second stage appears later (potentially 11-15 years later) due to social exclusion and being confronted by institutional barriers (e.g., lack of citizenship status privileges), which, ultimately, inhibits the immigrants' ability to successfully adapt to life in the US. Moreover, naturalized citizens do not have access to citizen privileges until they become naturalized. These findings also support the life course perspective in the accumulation of adverse effects across the life course, manifesting in health later in life. Thus, the timing of becoming a citizen later in life may have deleterious effects for health, when compared to obtaining citizenship status during one's youth (Torres & Young, 2016). Citizenship status may also be a privileged identity. Gee and colleagues (2016) found that citizenship status is considered an aspirational identity and contributes to differences in psychological distress, through one's view of their current perceived subjective social status compared to their future aspirations. For US-born immigrant young

adults, having access to resources and benefits tied to their citizenship status since birth has potential cumulative advantages for their health and over the life course.

Results also suggest that, though, initially significant in the bivariate analyses, the relationship between health insurance status and self-rated was no longer maintained, after accounting for socio-demographic and immigrant factors. To further understand the interplay of citizenship status with other factors, descriptive statistics of this sample suggest that compared to citizens (by birth or naturalization), noncitizens were less likely to have health insurance. However, this insignificant association in the multivariate analysis is surprising given the prior research that has shown that immigrants typically have lower rates of insurance and were least likely to received health care services (Derose, Escarce, & Lurie, 2007; Vega, Rodriguez, & Guskin, 2009). Differences have been noted by citizenship status, where noncitizens were less likely to have health insurance (Huang, Yu, & Ledsky, 2006) including through their employment (Goldman, et al., 2005). It is plausible that one's perception of physical health may not be influenced through just having health insurance, as insurance coverage typically varies across insurance plans. Additionally, previous studies have found that young adults, compared to older adults, place lower value on health insurance due to their health status, as they are more likely to be in excellent or very good health (Holahan & Kenney, 2008). These factors have been linked to both the demand and access to health insurance coverage among young adults. Once more, given that the majority of the young adults in the study were in either excellent or very good health, this may explain why health insurance status is not associated with their health above and beyond other critical determinants in the multivariate analysis.

For young adults, having a bachelor's degree or more was associated with excellent health compared to those with less than high school or a high school diploma. These results

support the broader literature regarding the educational gradient and health (Walsemann, Geronimus, & Gee, 2008). Previous literature that have examined these relationships have found mixed findings across different ethnic minority and immigrant groups (Ro et al., 2016; Farmer & Ferraro, 2005). Ro et al. (2016) found that the educational gradient was attenuated among Asian immigrants when compared to US born whites. Similarly, results of studies among other ethnic minorities suggest Blacks do not obtain the same health benefits from education compared to whites (Farmer & Ferraro, 2005). The noted mixed findings for education and health across immigrant groups in particular, may be due to the exclusion of legal status as scholars have posited that this may be a key component for why some immigrants and their descendants may attain higher education and social mobility (Lee, 2018; Pong & Landale, 2012). In this sample of second-generation immigrant young adults, after controlling for citizenship status and other critical factors (e.g., health insurance status, perceived discrimination, adverse family events), education appears to be associated with excellent health. Because the present sample is comprised of diverse second-generation immigrant young adults, primarily those who are US born (with at least one foreign-born parent) or those who immigrated to the US at a young age, similar associations may be exhibited as among US natives.

Lastly, second-generation immigrant young adults who experienced adverse family events and perceived racial discrimination were less likely to report excellent health. These results are consistent with the findings of the overall stress literature, specifically associations between adverse events and discrimination with health (Lantz, House, Mero, & Williams, 2005; Padela & Heisler, 2010; Williams, Neighbors, & Jackson, 2008). Previous empirical studies have not examined these factors concurrently among immigrants and specifically, immigrant young adults. With the analysis adjusting for both psychosocial stressors, the associations

remained significant, suggesting that they operate independently. Additionally, the results of this study underscore the importance of understanding how chronic stress influences health as these stressors may indirectly amplify or create prominent sources of stress.

Limitations

Despite strengths of this study, several limitations should be noted. First, some of the measures used in the study were either limited in response categories or were one-item measures. Youth citizenship status was comprised of three response categories of citizenship by birth, citizenship by naturalization, and noncitizen. One of the noted limitations with measuring citizenship status is the collapsing of noncitizens into one category. Immigrants who fall under the non-citizen category includes a diverse spectrum of legal statuses of temporary visa holders, permanent legal residents, and potentially, undocumented immigrants. Scholars have hypothesized that different legal status categories may have varied implications for health (Torres & Young, 2016). Despite this limitation, previous studies that have examined citizenship status and health have relied on similar measures and found significant differences for health (Goldman, Smith, & Sood, 2005; Huang, Yu, & Ledsky, 2006). Additionally, health insurance status and perceived racial discrimination were measured using one question. Research has examined relationships between discrimination and health through measuring multiple domains (e.g., initial to recent, global or specific domains, and intensity and frequency) (Gee, Ro, Shariff-Marco, Chae, 2009; Krieger, 2000). However, due to the salient experiences of perceived discrimination, this one-item measure was able to capture some of the variation in self-rated health. The current study used a dichotomous measure of whether respondents had health insurance or not. However, due to the variations in health insurance plans and potential changes in health insurance status over time, findings may be conflated from a dichotomous one-item

measure. Future research would benefit from having further detail in the length of time participants were insured, or whether participants have employer based or private insurance to assess the relationship between health insurance and health.

Second, the data that was collected were based on self-reported information. Self-reported data may be susceptible to social desirability bias (Huang, Liao, & Chang, 1998). However, self-reported data was necessary due to the reliance of participant perceptions. Despite this limitation, self-reported measures have been predictive for health (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005). Third, the study employed a cross-sectional design, which does not allow for causal inferences. Although the results suggest that education and psychosocial factors were associated with self-rated health, there may be a reciprocal association where one's health could affect education (Haas, 2006; Case, Fertig, & Paxson, 2005; Le, Roux, & Morgenstern, 2013) or enhance psychosocial stress (Dalton, Hammen, Brennan, & Najman, 2016). More research is needed to examine these relationships using longitudinal methods to discern causal pathways. However, given these limitations, very few datasets include citizenship status and other critical social determinant and psychosocial stressors with a robust immigrant sample, specifically immigrant youth; thus, providing a foundation for future research.

Study Contributions

The findings of this study provide insights into critical correlates of self-rated health among a diverse sample of second-generation immigrant young adults. Previous literature has largely focused on assessing the immigrant health paradox and negative acculturation where researchers have posited that immigrants are either healthier at lower levels of SES or that their health erodes the longer they are in the US. This study expands the scope of such work to

examine intersections of social exclusion through legal status, social determinant and psychosocial factors to explain differences in physical health outcomes among immigrant young adults.

The association between citizenship status and physical health among immigrant young adults was attenuated when considering other risk (discrimination, adverse family events) and protective factors (education). The life course perspective supports the premise that citizenship status may be critical for health across developmental periods and among specific ethnic groups. Future explorations are needed to investigate the relationship between citizenship status and health among diverse immigrant groups, including whether citizenship status and health may be mediated by psychosocial and social determinant factors and whether if citizenship status may influence health across time into adulthood.

With legislation that changed immigrant eligibility for federal assistance and more recent immigration enforcement and proposed legislation (e.g., public charge rule), these changes have institutionalized differences in access to resources and will further restrict access for noncitizen immigrants (Puhl, Quinn, & Kinoshita, 2018) and shape immigrant health outcomes (Oropesa, Landale, & Hillemeier, 2015; Torres & Young, 2016). These restrictions in accessing federal assistance and the onset of additional challenges may increase exposure to stressful situations and accrue over the life course (Torres & Young, 2016); thus, manifesting in adverse health outcomes among immigrants later in life. The study results find support for previous literature on social determinants like education to be protective for health, while psychosocial factors of stressful family events and perceived discrimination linked to adverse health among second-generation immigrant young adults, with implications into adulthood. Furthermore, this study suggests that the link between citizenship status and health may be amplified by risk and

protective factors. More recently, with the prominence of anti-immigrant rhetoric and immigrant enforcement, this may contribute to heightened consequences for health among both immigrants and US citizens (Morey, 2018), and bolsters the need for further research in assessing these relationships.

Conclusion

Despite the wealth of literature on self-rated health, limited research exists in investigating critical factors that contribute to immigrant young adults' health. Previous literature has not examined intersections between citizenship status, and risk (e.g., psychosocial stressors) and protective (e.g., education, health insurance) factors together on self-rated health. The current study expands the scope of the literature by validating our existing understanding of how citizenship status, health insurance status, education and psychosocial stressors influence self-rated health among a diverse sample of second-generation immigrant young adults. With increasing numbers of children of immigrants transitioning into young adulthood in this country, the current study reinforces the importance of understanding critical contributions to second-generation immigrant young adults' health.

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Chapter 5 Discussion and Conclusions

Extensive literature has focused on understanding cultural mechanisms and processes that are salient for health among immigrants (Derose, Escarce, & Lurie, 2007; Hale & Rivero-Fuentes, 2011; Ro & Bostean, 2015; Vega, et al., 1998). More recently, immigrant health scholars have shifted their focus from cultural processes to understanding how sociopolitical factors specific to the US context, specifically macro-level or institutional mechanisms, contribute to immigrant health inequities (Gee & Ford, 2011; Oropresa, Landale, & Hillemeir, 2015; Virruell-Fuentes, Miranda, & Abdulrahim, 2012). These mechanisms have included assessing the role of immigration policies and social exclusion through legal status (Torres & Young, 2016; Yoshikawa, Godfrey, & Rivera, 2008). At the same time, an increasing area of research has found that the manifestation of a health condition (or adverse health) is not due to risks that occur at one point in time, but rather through the accumulation of these risks over time (Gee, Walsemann, & Brondolo, 2012; Jones, et al., 2019). These contributors to health inequities are ever dynamic, changing across time and in intensity (Gee, Walsemann, & Brondolo, 2012). However, limited literature has examined the interplay of how risk and protective factors may be associated with citizenship status and ultimately, influencing immigrant health outcomes. Additionally, with projections of increasing numbers of children of immigrants, it is vital to understand how these processes and mechanisms contribute to health across generations and across the life course.

The primary aim of this dissertation was to investigate citizenship status as it may influence risk and protective factors that are salient for health among immigrant youth across the life course. Legal status is a critical variable that shapes immigrants' adaptation processes and with potential spillover effects across family members (Asad & Clair, 2018; Bachmeier, Van Hook, & Bean, 2014), ultimately contributing to immigrant health inequities (Gee & Ford, 2011). Understanding how legal status shapes immigrant adaptation processes would enable better positioning of the findings to inform policy (Bachmeier, Van Hook, & Bean, 2014; National Research Council, 2013). However, legal status has been understudied in social science research, which has been noted to be a major limitation in understanding its implications (Bachmeier, Van Hook, & Bean, 2014; Clark & King, 2008). Additionally, most studies in this area include limited immigrant samples, and typically do not include an array of critical health and psychosocial measures to assess links beyond just legal status and health (for example Survey of Income and Program Participation). In addressing these gaps, this dissertation presents one of the first few empirical studies to examine the implications of legal status for health outcomes among a diverse sample of immigrant children and their parents across the life course. In particular, I assessed intergenerational and multiple contextual factors including psychosocial stressors, and neighborhood and family factors that contribute to the health of second-generation immigrant youth. Across all three studies, the goal was to identify factors that may be salient for health including education for this population.

One innovative aspect of this dissertation was its use of data across time points for a diverse sample of immigrant families and youth. Secondary data analyses were conducted using data from the Children of Immigrants Longitudinal Study which included three waves of data, starting from when these youth were in middle school (8-9th grade; Wave 1), high school (11-12th

grade; Wave 2), and into young adulthood (about 24 to 25 years of age; Wave 3), with a subset of parents sampled in Wave 2 of the study. For the purposes of this dissertation, we examined parental data and the youth at Wave 2 and 3. This meant that we were able to follow the same cohort for a period of up to six years. The immigrant youth sample was drawn from 49 schools in two areas, Miami/ Fort Lauderdale, FL and San Diego, CA. Across the studies in this dissertation, I used different samples of either parent-adolescent matched samples or young adults. In addition, based on previous empirical findings and theories and frameworks, two analytic strategies emerged of either testing main effect associations on educational attainment and health or testing mediational pathways between citizenship status and other factors on educational attainment and health (see Figure 1.1). Due to the overall scarce investigations of citizenship status together with other contextual factors, main effect pathways were tested. Findings across studies in this dissertation lend itself to future investigations of mediational pathways. This issue will be further discussed in the following sections.

Study 1: Intergenerational Influences of Family and Psychosocial Factors, Neighborhood Context, and Citizenship Status on Educational Attainment

In this study (chapter 2), I examined both parents' and young adults' citizenship status along with the association between parental reports of family dynamics, neighborhood conditions and perceived discrimination, as a form of psychosocial stress, as predictors of their children's educational attainment approximately six years later. I focused on educational attainment, as a social determinant of health as it shapes access to other resources (e.g., employment, information), which are critical for maintaining optimal health (Braveman, Egerter, & Williams, 2011; Mirowsky & Ross, 2008). For legal status, only two studies to date have examined the relationship between parent legal status and their children's educational attainment (Bean, et al.,

2011; Lee, 2018). Bean and colleagues (2011) found that having mothers with an unauthorized status was associated with lower education for their offspring, while Lee (2018) found that having fathers who entered the US as a temporary/ tourist visa status was associated with higher education. Across both studies, however, researchers did not control for children's legal status, even though these youth may have a different status from their parents as they transition into young adulthood, and they also did not include other critical family, psychosocial, and neighborhood factors that may be influential for children's education. Thus, whether parents' legal status may have spillover effects on their children's education (Asad & Clair, 2018), while controlling for other family and neighborhood factors, has not been previously investigated. In response to these issues, one of the primary goals of this study was to examine intergenerational factors, specifically parent perceptions of multiple contextual factors (legal status, family and neighborhood factors), as prior research has found that parents are critical agents for their children's education (Fuligni & Fuligni, 2007; Paat, 2015; Yamamoto & Holloway, 2010).

I found that citizenship status (for both parent and young adults) and parent educational expectations and parent-child quality of communication were significant predictors of children's attainment of higher education. Unexpectedly, neither perceived discrimination nor living in an ethnic enclave and neighborhood safety were significant for educational attainment after adjusting for other critical parent factors and covariates. These results suggest that across multiple factors, citizenship status and parent relationship dynamics and expectations are salient for educational attainment even after adjusting for neighborhood and psychosocial factors.

Notably, a significant association for parent citizenship status suggests that legal status may be a potential pathway for how inequities are transmitted across generations, as supported by a recent study (Lee, 2018). Legal status may be linked to parent education and other

socioeconomic resources to financially support their children in addition to guiding and supporting their children for college preparation (Lee, 2018). In addition, citizenship status may be demonstrating significance through access to financial aid, which is key for attending a four-year university and other higher education opportunities, supporting the premise that citizenship status may be a fundamental cause through education and, as a result, contributing to immigrant health inequities (Oropresa, Landale, & Hillemeier, 2015).

Additionally, these results support previous literature on how parents and families play a critical role for their children's education (Flores, 2013; Fuligni & Fuligni, 2007; Paat, 2015), with findings extending to a diverse sample of immigrant families and immigrant young adult children. Citizenship status may also indirectly influence education through educational expectations and parent-child quality of communication, based on the linked lives concept from the life course perspective. Further assessment of how these parent factors may mediate the relationship between citizenship status and educational attainment is needed. In sum, Study 1, demonstrates the potential intergenerational transmission of social mobility through citizenship status and other critical family factors for educational attainment among immigrant young adults.

Study 2: Psychosocial family factors, discrimination, and parent citizenship status on depressive symptoms

In this second study (chapter 3), I investigated associations between parent citizenship status and adolescent perceptions of family dynamics, perceived discrimination, and adverse family events on adolescent depressive symptoms. Adolescent depressive symptoms have been considered influential for adolescent health and development including school dropout, teenage pregnancy, and substance use (Costello, Erkanli, & Angold, 2006; Kennan-Miller, Hammen, & Brennan, 2007), with significant implications across the life course (Edler, Johnson & Crosnoe,

2003). Additionally, adolescence is considered to be a critical period with increased prevalence of psychiatric conditions due to substantive developmental changes occurring all at once (Blakemore & Mills, 2014; Kessler, et al., 2005), which may be directly linked to the family context (Hammen, Rudolph, Weisz, Rao, & Burge, 1999). Legal status may have potential spillover effects across family members, and specifically, their children (Asad & Clair, 2018; Torres & Young, 2016), as supported by the linked lives concept from the life course framework (Gee, Walsemann, & Brondolo, 2012). Some studies have examined this link among samples of Latino and undocumented individuals (Oropresa, Landale, & Hillemeier, 2015; Valdez, Padilla & Valentine, 2013; Vargas & Ybarra, 2017); however, no previous study has assessed this relationship among diverse samples of immigrant adolescents. As a contribution to the literature, this study examined parent citizenship status together with risk and protective family and psychosocial factors for second-generation immigrant adolescent depressive symptoms.

Unexpectedly, parent citizenship status was not significantly associated with depressive symptoms in the multivariate models. Parent citizenship status was initially significant with depressive symptoms in the bivariate analysis; however, after controlling for family dynamics and psychosocial stressors, it was no longer significant. These results suggest that the relationship between parent citizenship and adolescent depressive symptoms may be facilitated by family social relationships, social cohesion, or psychosocial stressors, as depicted in Figure 1.1, with these pathways supported by previous studies (Valdez, Padilla & Valentine, 2013; Vargas & Ybarra, 2017; Parcel, et al., 2010). Landale and colleagues (2015) found that among mixed status families, children with undocumented parents have higher internalizing behaviors. These findings also support the premise that immigration policy may be operating through parent's legal status and thus associated with adverse consequences for their children (Valdez,

Padilla & Valentine, 2013). Immigration policy may instill fears around family separation among families, and as a result, spill over into their relationships with their children through compromised parenting practices (Parcel, et al., 2010). Future studies may want to examine these pathways to further understand the impact of citizenship status and its potential spillover effects across family members through family dynamics and psychosocial stressors.

To understand the non-significant finding for parent citizenship status, it is critical to also consider the temporal aspect of this study in relation to the historical context. The data was collected in 1995, which was prior to the enactment of PWORA and IIRIRA of 1996, both of which had had deleterious consequences for noncitizen immigrants in obtaining federal assistance (Broder, Moussavian, & Blazer, 2015). Since then, and especially after September 11, 2001, the US sociopolitical context has been increasingly shaped by anti-immigrant rhetoric and immigration policies that have reinforced the social hierarchy in the exclusion of immigrants and ethnic minorities or non-whites from citizenship (Gee & Ford, 2011). The implementation of several pieces of legislation since that time has further contributed to immigrant legal and health disparities (Gee & Ford, 2011; Boswell, 2003), suggesting the need for future studies to consider how changes across political contexts and enactment of immigration policies may contribute to immigrant health outcomes. In the recent wake of recent escalations of immigration enforcement and proposed new restrictive legislation, further assessment is warranted of how these immigration policies shape the health of immigrants and their descendants.

I also found that adolescent reports of parent-child relationship quality and family cohesion were protective for depressive symptoms, while perceived discrimination and experiencing more than one adverse family event were adversely associated with depressive symptoms. These results confirm findings of the broader literature of how family relational

factors are protective for adolescent depressive symptoms, while psychosocial stressors heighten depressive symptoms. According to the ecological life course perspective, families, and in particular parents, play a critical role in shaping health outcomes among adolescents, with these findings extending our understanding for immigrant families and their adolescent children. These results also suggest that families may be a source of resilience for adolescents who may be experiencing discrimination and other psychosocial stressors. This study contributes to the literature as no previous empirical study has examined the effect of parent citizenship status together with family factors and psychosocial stressors on depressive symptoms among a robust sample of immigrant adolescents.

Study 3: Social Determinants, Psychosocial, and Citizenship Status on Self-rated Health

The third study (chapter 4) investigated whether youth's own citizenship status, having health insurance, educational attainment, and psychosocial stressors of perceived discrimination and adverse family events were associated with their self-rated health as they transitioned into young adulthood. Though extensive research has assessed self-rated health among immigrant samples, limited research has focused on immigrant young adults. In particular, young adulthood represents a critical developmental period of major life transitions (e.g., higher education, labor market, changes in family structures) from adolescence, as most young adults begin to take responsibility for their own health. Viewed from a life course perspective, understanding critical determinants of health during this transitional period may have profound implications for their health in adulthood. Furthermore, emerging research has found erosion in health among immigrants the longer they are in the US (Derose, Escarce, & Lurie, 2007; Hale & Rivero-Fuentes, 2011; Ro & Bostean, 2015). It has been hypothesized that social exclusion, exposure to racism, discrimination and other stressors may be key contributors for this decline

(Gee & Ford, 2011; Gee, Walsemann, & Brondolo, 2012; Gee, Ryan, Laflamme, & Holt, 2006). Thus, the purpose of this study was to investigate citizenship status in tandem with critical protective (e.g., educational attainment, health insurance) and risk factors (e.g., perceived discrimination, adverse family events) that may be salient for the health of second-generation immigrant young adults.

Both citizenship status and health insurance status were initially significant with self-rated health in the bivariate analyses; however, the relationship between these factors with health were no longer maintained in models that were adjusted for key predictors and socio-demographic and immigrant covariates. Though citizenship status was not directly associated with health in the multivariate models, the results suggest that it may be indirectly influencing health (Oropresa, Landale, & Hillemeier, 2015; Torres & Young, 2016) through education and other social determinants (e.g., income), as posited by the Theory of Fundamental Causes (Link & Phelan, 1995). Additionally, these findings may be reflective of the fact that the majority of the young adults in the sample were already citizens and reported excellent health.

I also found that young adults with a bachelor's degree or more had higher odds of reporting excellent health; conversely, experiencing more than one adverse family event and perceived discrimination were associated with lower odds of reporting excellent health. The significant findings among this immigrant young adult sample support previous literature for how education and psychosocial stressors are influential for health. The adverse effects of these stressors may also accrue across the life course into adulthood and may occur as a function of legal status stratification (Suárez-Orozco, Yoshikawa, Teranishi, & Suárez-Orozco, 2011; Torres & Young, 2016).

Overall, this study provides additional nuance in understanding immigrant health through investigating the interplay between citizenship status as a form of social exclusion, social determinant factors of health insurance and education, and psychosocial stressors to explain differences in health. Future investigations are warranted on how citizenship status may influence health through multiple pathways and across the life course among diverse groups of immigrants.

Contributions

This dissertation provides a novel contribution to the literature for understanding how citizenship status may be a fundamental driver for health through pathways of risk and protective family and psychosocial factors, among diverse samples of immigrant youth, inter-generationally and across the life course. Collectively, across all three studies, I found that both parent and young adult citizenship status were significantly associated with young adult educational attainment. While citizenship status was not significantly associated with adolescent depressive symptoms and young adult self-rated health after accounting for other critical factors, educational attainment was associated with self-rated health. This set of findings, from chapters 2 and 4, suggest that as these youth are transitioning into young adulthood, lack of citizenship status (both parents and young adults) may be functioning through blocked opportunities for higher education and social mobility (Baum & Flores, 2011) and in turn, health. Additionally, though not a direct test of my hypotheses, these results also indicate that parents' citizenship status may have spillover effects for the health of the younger generation through opportunities to obtain higher education. The significant association between citizenship status and education may be reflective of the broader macro-level forces of immigration policies, which institutionalize legal status stratification, and in turn regulate education and other forms of social

capital that are influential for health (Oropresa, Landale, & Hillemeier, 2015; Torres & Young, 2016).

In this dissertation, citizenship status was not directly significant for health potentially due to the inclusion of mediating factors of family and psychosocial factors, which may have explained or absorbed the variation of the effect of citizenship status. In both chapters 3 and 4, citizenship status was initially associated with both mental and physical health; however, after the inclusion of family dynamics, psychosocial factors, and covariates, citizenship status no longer remained significant. These results suggest that citizenship status may have potential spillover effects through family relationships (quality and communication) and cohesion, and in turn, influence their children's education and health, or in other words, these factors may mediate the relationship between citizenship status and health, as depicted in Figure 1.1.

These findings should be viewed in the context of developmental transitions and the historical conditions during when the study took place, as explained above (Torres & Young, 2016; Gubernskaya, Bean & Van Hook, 2013). However, citizenship status may be influential for health, and its effects on education may be further exacerbated for education in the current sociopolitical climate and resulting conditions due to a number of restrictive pieces of legislation passed in the several decades (e.g., PWORA and IIRAIRA of 1996, Real ID Act of 2005). This climate has contributed to adverse consequences for immigrants and ethnic minorities (Gee & Ford, 2011). Furthermore, in both chapters 2 and 3, I found that parent citizenship status was highly correlated with family income; although not the primary focus of these studies, this provides an additional lens for understanding how citizenship status may have spillover effects across family members and influencing health. In sum, these findings support the premise that citizenship status functions as a social determinant of health and operates through structurally

rooted disadvantages such as education and income (Oropresa, Landale, & Hillemeier, 2015), as posited by the Theory of Fundamental Causes (Link & Phelan, 1995). These results call for ongoing attention to the ways citizenship status influences immigrant youth and their health through multiple mechanisms, especially in the current sociopolitical context.

As supported by the ecological life course perspective, it is crucial to consider the role of social settings, including the family and neighborhood, for adolescents and their health. Strong family relationships can buffer adverse outcomes for health among adolescents (Branje, Hale, Frijns, Meeus, 2010; Johnson & Galambos, 2014; Marsigilia, Parsai, & Kulis, 2009). In this dissertation, as hypothesized, I found that family factors were protective for adolescent mental health and educational attainment, highlighting the influential role that families play for youth across the life course. Specifically, I found that parent-child communication was associated with the child's educational attainment, and in turn, associated with self-rated health in young adulthood. These findings also further highlight the importance of the family unit for understanding education and health outcomes, as they do not live in isolation, with additional research needed in understanding factors including the sociopolitical context, as it may influence immigrant family dynamics. Additionally, families may also play a critical role for their health as these youth transition into adulthood. The findings of this dissertation can inform future programs and policies that strengthen families as a way to address health inequities among immigrants and their descendants.

Scholars have posited that discrimination and other psychosocial stressors often co-occur in higher levels among marginalized racial and ethnic populations (Sternthal, Slopen, & Williams, 2011). Results of this dissertation support the potential clustering of psychosocial stressors, as perceived discrimination and adverse family events were adversely associated with

poorer mental and physical health among immigrant youth starting from adolescence and into young adulthood. It appears that these stressors were salient for health across time, during different stages of development and critical transitions, with potential implications into adulthood as premised by the ecological life course perspective (Gee, Walsemann, & Brondolo, 2012; Gonzales, et al., 2011; Wickrama, Conger, Lorenz & Jung, 2008).

Additionally, these stressors were prevalent and significant for health even prior to the enactment of restrictive legislation (1995; Wave 2) and also during anti-immigrant upsurges (2001-03; Wave 3). The data collection occurred during the midst of the enactment of major legislation, presenting a unique opportunity to understand critical factors that influenced health and educational attainment among immigrant families and their children, and thus, may have potentially shaped these findings. Based on results of this dissertation, strong family relationships and cohesion may potentially offset the adverse effects of psychosocial stressors on health among immigrant youth, with future research to assess these links. As evidenced by several reviews and empirical studies, it is important for continued research in investigating the changes in experiences of discrimination over time (Gee, Walsemann, & Brondolo, 2012) and across various sociopolitical periods to understand how these mechanisms contribute to immigrant health disparities (Gee & Ford, 2011; Lebron, et al., 2018; Padela & Heisler, 2010).

In sum, this dissertation supports the premise that citizenship status may not directly affect health but operates indirectly through critical resources/mechanisms (e.g., family support, income), and pathways (e.g., access to education), which regulate health within and across generations. Collectively, this dissertation suggests that citizenship status and access to critical resources (e.g., education) along with risk (e.g., discrimination) and protective factors (e.g., family dynamics) may synergistically affect immigrant health and further contribute to

immigrant health disparities. In this sense, this dissertation exemplifies a recent trend of investigating multiple sources of risks and at the same time identifying protective factors that may alleviate these adverse risks on health across the life course (Jones, et al., 2019). Thus, this dissertation can be viewed as building a foundation for understanding the interplay between macro-level factors (legal status and immigration policies) and risk and protective factors at the individual and family level on health outcomes among ethnic minority populations. This understanding will be used to inform future research, policies, and programs to enhance family health in future generations.

Limitations

Although this dissertation methodology lends strengths to our findings, several limitations to the study should be noted. Across all three studies, CILS was used to conduct the analyses, which includes three waves of survey data and a subset of parents in the second wave. However, the CILS survey did not include repeated measures across time for some of the critical measures of interest for the study, including measures on parent citizenship status, family dynamics, neighborhood context, and health. Due to the lack of repeated measures, this resulted in a cross-sectional study design, which does not allow for causal inferences. For chapter 2, the youth's citizenship status cannot be assumed to precede their educational attainment as it was collected in the same wave. Also, for chapters 3 and 4, all the measures were collected in the same wave, and thus, family and psychosocial factors cannot be assumed to be a causal factor for depressive symptoms and self-rated health. In addition, the study had limited health measures of self-rated health and depressive symptoms. The purpose of CILS was to assess social mobility and thus, the primary focus of the study for which the data was collected was not focused on health. As a result, this restricted the scope in examining health outcomes; however, self-rated

health and depressive symptoms are strong predictive measures of health (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Costello, Erkanli, & Angold, 2006; Franks, Gold & Fiscella, 2003; Kennan-Miller, Hammen, & Brennan, 2007; Rumsfeld, et al., 2003), which provided a good opportunity to use these factors as measures of health outcomes.

Another limitation was regarding the number of items or categories with the measures including perceived discrimination and citizenship status (both one-item questions). Perceived discrimination was a binary measure (yes or no) and was not measured consistently across multiple waves (perceived racial discrimination vs. global perceived discrimination). However, in both chapters 3 and 4, perceived discrimination was salient for health and accounted for some of the variation.

Similarly, citizenship status was measured as either a binary (yes or no) measure for parents and a three-category measure for immigrant young adults. Both citizenship status measures included categories of either citizen or noncitizen; however, for young adults, an additional category of naturalized citizenship status was included. One limitation for the broad noncitizen category is that immigrants who fall under the non-citizen category include a diverse spectrum of legal statuses, including temporary visa holders, permanent legal residents, and potentially, undocumented immigrants. Different legal status categories have varied implications for education (Lee, 2018) and potentially for health (Torres & Young, 2016). In addition, youth may not even have been aware of their citizenship status (e.g., whether they were a naturalized citizen versus legal permanent resident, temporary visa, or undocumented). Prior studies found that undocumented youth may not be aware of their legal standing until they experience a normative life event, such as obtaining a driver's license, college enrollment, or employment (Gonzales, 2011). Based on these limitations, all three studies in the dissertation either used

parent or young adulthood measures to maintain accurate reporting of legal status. However, limitations with this measure (citizen versus noncitizen) can conflate findings on citizenship status and on the outcomes of interest. Additionally, the CILS study collected data from a subset of parents, and thus, only included the legal status of one of the parents or legal guardian who filled out the survey. Legal status implications may vary based on both parents' legal status. However, given the unique research questions regarding intergenerational and the life course perspective among immigrant youth and their health, these studies still provide a contribution in our understanding of the effects of legal status on health among immigrant families. Given these limitations, very few datasets include citizenship status measures and other family and psychosocial factors among immigrant samples, thus, providing an important contribution to literature.

Furthermore, the data that was collected were based on self-reported information. Despite these limitations, self-reported information has been predictive for health (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010; Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Reuben, Siu, & Kimpau, 1992). However, future studies may consider using biological measures of stress or through obtaining permission to access immigration and naturalization service (INS) records for immigration status. With these types of measures, this would require additional IRB approval and human subjects approval, which has potential implications for sample sizes.

Lastly, the CILS sample was mainly comprised of second-generation immigrants living in San Diego, CA or Miami, FL, who primarily were immigrants from Mexico, South and Central America, Caribbean, Asia, and Southeast Asia. While a wide-ranging sample, findings of this study may not be generalizable to other second-generation immigrants across the US. For

examples, large samples of second-generation immigrants from Africa, Europe, or Middle East, and immigrant populations living in rural or suburban areas were not represented in the sample. The parent sample was comprised of a subsample of the youth respondents, and thus, the parent sample may also not be generalizable across all immigrant parents. Future studies may want to consider assessing these relationships among immigrant youth from other states (beyond CA and FL) and from other countries that were not adequately represented in the study sample.

In spite of these limitations, using the CILS dataset was still advantageous for these studies. As one of the few surveys that collected citizenship status measures from parents and their children, psychosocial and health measures, all three studies in this dissertation provide multiple strengths. With the overall limited research on health among diverse samples of immigrant youth, this dissertation provides a critical contribution to the literature.

Implications for Research

Legal Status Overview

Overall, our understanding of the implications of citizenship status on immigrant health outcomes is complex, as it may not reflect a simple linear relationship. Firstly, citizens are not deportable, while noncitizens (e.g., permanent resident, temporary visa, or undocumented) could be deported. The potential for deportation can directly influence stress, and in turn, affect family dynamics and have spillover effects across other family members, as evidenced by several studies (Parcel, et al., 2010; Valdez, Padilla, & Valentine, 2013). In this dissertation I found that psychosocial stressors of perceived discrimination and adverse family events were salient for both physical and mental health among immigrant youth. Deportation stress was not included in these measures; however, future research may want to assess deportation stress as a stressor and its influences on the health of immigrant youth.

Secondly, citizenship status is linked to a set of benefits. After the restrictive immigration policies that were passed in 1996, noncitizens were no longer qualified to access federal assistance. One of the key findings of this study was that citizenship status was linked to educational attainment and also income, which suggests that citizenship status may be a proxy measure for access to financial aid. However, without the ability to assess access to financial aid in this study to test this hypothesis directly, additional research is needed to examine the extent to which citizenship status (as a precondition) may be a proxy measure for access to benefits.

A key factor to consider is that legal status has typically been measured using a dichotomous measure, of either citizen versus noncitizen. Due to the lack of a nuanced citizenship status measure, this has led to several challenges in unpacking the differential effects of legal status on health across legal status designations. With the noted nonsignificant findings in the multivariate regression analyses, this may be due to the fact that there may be a zeroing out of effects. For example, citizen children with undocumented immigrant parents may have higher depressive symptoms whereas children with parents who are legal permanent residents may have lower depressive symptoms; these distinctions, which were not captured in the dataset, thus, may contribute to a nonsignificant effect for parent citizenship status and adolescent depressive symptoms.

However, although a dichotomous measure was used for citizenship status, it serves as a starting point for understanding how legal status influences immigrant families and health. CILS is one of the few existing studies that measured legal status across time (with a subset of parent measures) along with critical family and psychosocial factors among immigrant youth. One limitation of the study was the reliance of self-reported data on youth's legal status. Discrepancies in the CILS data were noted between legal status measures among adolescents and

parents reports, and between adolescent and young adulthood reports. These discrepancies may be explained by the fact that youth who are in middle school and high school may not have an accurate understanding of their legal status for a variety of reasons including lack of disclosure from their parents. Previous studies found that undocumented youth may be unaware of their legal status until they experience a normative event, which requires disclosure of their status as they are transitioning from adolescence into young adulthood (e.g., obtaining a driver's license, college admission, employment; Gonzales, 2011). Despite the richness of the CILS dataset, due to the timing of this study (after the enactment of restrictive legislation) and a heightened anti-immigrant climate, more empirical studies beyond this dissertation are needed to assess these relationships in the present day.

Lastly, citizenship status has been posited to be a fundamental cause and linked with other critical factors that are influential for health, as supported by the findings of this dissertation. Citizenship was associated with educational attainment, a social determinant of health. Additionally, as shown across chapters 3 and 4 in this dissertation, citizenship status was initially associated with health; however, after controlling for family and psychosocial factors, this relationship was no longer significant. Given these potential mediational findings, further assessment of these pathways is needed to tease apart the complexity of how citizenship status may be influential for immigrant health. There are multiple avenues to pursue to enhance our understanding of these relationships, as some of these directions detailed below will illustrate.

Legal Status and Intergenerational and Mediational Pathways

In tandem with increasing projections of children of immigrants, these children are more likely to live among family members with different legal statuses (e.g., citizen children, noncitizen parents). Supporting the notion of the linked lives concept, conditions related to one

or both parent's legal status may influence the condition of their children (Asad & Clair, 2018; Gee, Walsemann, & Brondolo, 2012; Torres & Young, 2016). Thus, understanding the spillover effects of legal status across family members remains crucial.

Future research that aims to build off this dissertation would examine both parents' legal status and their children's status on outcomes of health. CILS collected legal status measures from a subset of parents and the youth's legal status; thus, a noted limitation was not being able to assess across both parents' legal status. Despite this limitation, chapters 2 and 3 in this dissertation provide a contribution to the literature by assessing at least one parent's legal status and its implications for their children. The findings of this dissertation suggest that even having one parent who was a noncitizen was associated with their children's education and other critical resources that are linked to their health. With the exception of a handful of studies (see Bean, et al., 2011; Lee, 2018; Oropesa, Landale, & Hillemeier, 2015), limited research has examined legal status implications using both parents' legal status. With few existing studies which collect both parents' and their children's legal status, future surveys should consider adding both parents' legal status.

Additionally, as individuals may not always be willing to disclose their legal status in surveys, conducting research using other methodological inquiries (e.g., qualitative) may be helpful to further advance our understanding of how legal status may have spillover effects among diverse immigrant families with precarious legal statuses (e.g., temporary visa). Specifically, investigating whether there are significant differences in having one or both parents who are noncitizens and the potential spillover effect to their children regarding health and access to health-related resources (through employment, income) is further warranted. Since no previous empirical research has examined whether immigrant children with parents who are of

temporary visa status and the implications on health and across critical domains of access to resources, and health and health care access, qualitative inquiries may provide further nuance in our understanding in this area.

Beyond theoretical and descriptive assessments of legal status and health, research regarding the mechanisms for how legal status may contribute to health has been scant and even more limited on examining intergenerational pathways. In this dissertation, I found that both young adult and parent citizenship status were significantly associated with young adults' educational attainment and in turn, young adults' educational status was associated with their self-rated health. Although not a primary focus of the study, it was also noted that family income was significantly associated with young adult educational attainment. These findings provide support that citizenship status and family income may indirectly contribute to health through critical resources and social capital, and in turn, contribute to disadvantage across generations.

As previously hypothesized, legal status is a potential fundamental cause for health through shaping access to health services and resources to manage their health (Oropresa, Landale, & Hillemeier, 2015; Torres & Young, 2016), and also through social capital including education and income, which may have implications for family dynamics and in turn, health. Future studies may consider mediational models to examine both indirect (e.g., social determinants of income, education) and direct pathways between legal status and outcomes of health. One study found that citizenship status may be associated with self-rated health through homeownership, a social determinant of health (see Miranda, et al., 2017). These mechanisms also need to be further clarified for how legal status contributes to disadvantage across generations. Specifically, understanding whether citizenship status may be functioning as a

proxy measure for access to resources is warranted. In sum, additional investigations of the relationship between legal status and health could consider integrating assessments of intergenerational and social determinant pathways (e.g., employment, income, and education), which will provide further nuance to our understanding of immigrant health disparities.

Legal Status Across the Life Course

To ascertain whether legal status contributes to health as a causal mechanism with long-term health implications, more longitudinal research is needed to unpack the effects of legal status across the life course. The dissertation examined implications of citizenship status among immigrant adolescents and as they transitioned into young adulthood. I found that citizenship status was not significantly associated with health among immigrant young adults, while controlling for educational attainment, having health insurance, and other critical psychosocial factors. Most of the immigrant young adults were in excellent health and/or had citizenship status; thus, citizenship status was not significant for their health. Nevertheless, not having citizenship may have adverse implications for health as these effects may remain latent until later in life. In support of this hypothesis, one study found that among foreign-born immigrants who immigrated to the US as children and young adults, naturalized citizens reported better health and lower activity limitations in older age, compared to noncitizens (Gubernskaya, Bean & Van Hook, 2013). They found that this relationship to also be partially mediated by education. Future research could employ longitudinal methods to assess implications of legal status and health across the life course spanning from childhood into adulthood.

As posited by the life course perspective, the lack of access to critical resources and the social disadvantages experienced by being a noncitizen may accrue throughout the life course and manifest later in life through adverse health outcomes. Thus, research that will build upon

my dissertation findings would further interrogate whether a critical period exists in whether having (or not having) citizenship status could be decisive for health. Additionally, it is important to consider that one's legal status may change over the course of the lives of noncitizen immigrants and may shape health later in life. Torres and Young (2016) posit that either being undocumented or having temporary status could result in delays in health care access or increased exposure to chronic stressors, which may also have long-term effects that last beyond changes in legal status, even after becoming a naturalized citizen or a permanent resident. Current and new survey research could consider including repeated legal measures and also examine changes in legal status across time.

Legal Status and Risk and Protective Factors

Previous scholars have hypothesized a clustering of psychosocial stressors among racial and ethnic populations (Sternthal, Slopen, & Williams, 2011). Legal status may induce other forms of discrimination, increase exposure to psychosocial stressors, and contribute to disadvantage (Brabeck & Sibley, 2016; Dreby, 2015) and poorer health among immigrants. Landale and colleagues (2015) posited that legal status may be associated with immigrant youth outcomes in tandem with other risk and protective factors. Investigations that examine legal status and health mediated by risk and protective factors such as family dynamics and psychosocial stressors, provides further nuance in understanding immigrant health disparities.

This dissertation was an initial step for understanding the relationship between citizenship status along with other critical psychosocial stressors and family factors on health and education among immigrant youth. Citizenship status was significantly associated with young adults' educational attainment but not with their health. Though initially significant, after the inclusion of psychosocial stressors (e.g., perceived discrimination, adverse family events), and

family factors (e.g., relationship quality, communication), citizenship status was no longer associated with health which suggest potential mediating mechanisms. Citizenship status may be influencing health through intermediate factors of psychosocial stressors and family dynamics (as depicted in Figure 1.1), and indirectly influence health through multiple mechanisms, as a fundamental cause for health (Oropresa, Landale, & Hillemeier, 2015).

Within the current sociopolitical climate, legal status may have enhanced effects for immigrants and their descendants, with legal status increasingly used to restrict access to critical resources for those without citizenship. Additionally, as previously discussed, legal status and specifically not having citizenship status may have varied implications across the life course and as a result, may induce additional stressors (Torres & Young, 2016). Given the complexity of how legal status may be linked with health, future research should investigate the interplay of legal status along with other risk and protective factors and across developmental periods using mediational and longitudinal methods. Further assessment of the role of the family in buffering stressful events and chronic sources of stress (e.g., legal status, discrimination) can also inform future programs and policies for immigrants.

Legal status and Other Critical Factors

Other avenues of research on intergenerational influences of legal status and health could consider examining differences by gender. This dissertation did not examine moderating effects of gender as it may conceal the effects of critical factors (Hou & Bonikowska, 2017; Stepick & Stepick, 2010) such as legal status on education and health. Rather, due to the limited research in this area, I chose in this dissertation to focus on examination of potential main effect pathways. There may be potential gender differences by legal status, specifically by naturalization and health, as previous research has found women are more likely to immigrate

through joining a spouse and experience increased rates of disability later in life (Gubernskaya, Bean & Van Hook, 2013). These differences in health may become pronounced over time and across generations. Additionally, according to the intersectionality theory, the interaction of having multiple marginalized identities (e.g., immigration status, religion, gender, sexual orientation) may further fuel marginalization and lead to adverse consequences for health. Understanding how legal status structure contributes to differences in patterning of immigrant health by gender is needed in future immigrant health research.

Implications for Practice and Policy

Children of immigrants are a rapidly growing population and their health and social mobility will influence the future of our nation. Findings from this dissertation study support previous research regarding the family being a critical socializing context in providing a positive environment for immigrant youth in their development and health, while also offsetting adverse effects for their health (Conger, Conger & Martin, 2010; Liu, et. al., 2009; Marsiglia, Parsai, & Kulis, 2009). I found that parent-child relationship quality, communication, and educational expectations were linked with adolescent depressive symptoms and educational attainment among young adults. Essentially, these findings suggest that youth do not live in isolation and families serve as an important context of support for both their education and health. Family-based interventions and programs that are based on cultural experiences could be developed for immigrant families and youth that focus on strengthening family relationships and communication around topics of psychosocial stressors, including immigration status and enforcement.

Previous family based-intervention programs focused on strengthening relationships between parents and their children among other racial and ethnic populations have been found to

be effective for positive changes in youth outcomes (Anderson, Jones, Navarro, McKenny, Mehta, & Stevenson, 2018; Caldwell, Rafferty, Reischl, De Loney, & Brooks, 2010). Future programs geared towards strengthening family bonds and improving immigrant youth outcomes could consider including program components focused on family communication and increasing support for navigating and coping with psychosocial stressors of perceived discrimination and adverse family events. Additionally, these programs could consider sessions where families can discuss implications of legal status (e.g., policy, access to resources), and expectations and plans for the future (e.g., higher education) with their children in an effort to protect their health and well-being. Furthermore, future programs could consider working with immigrant youth in providing support around navigating challenges they may be experiencing including psychosocial stressors and living with family members with different legal statuses.

On a broader scale, future policies could consider ways to support immigrant families in providing a context that are protective for their children (e.g., through enacting living wage policies or policies that permit noncitizens to access employment opportunities with greater compensation), which may in turn influence access critical resources and increase opportunities in spending quality time with their children. Despite displaying strong family dynamics, immigrant families also experience vulnerabilities due to potential economic challenges through the process of migration and encountering stressors related to adjusting to living in the US (Landale, Thomas, & Van Hook, 2011). Thus, developing programs and policies that support immigrant families and their descendants in navigating the socio-political context of the US remains vital.

The findings of this dissertation have also important implications for the development of future policies in providing in-state tuition opportunities for noncitizen youth and their parents.

After the enactment of PWORA and IIRIRA of 1996, these policies barred immigrants from having access to federal assistance including financial aid, resulting in profound ramifications for higher education opportunities. The results of this dissertation suggest that the ability to pay for college tuition may be a significant contributor for why noncitizen youth and youth with a noncitizen parent may be associated with lower educational attainment. Some states have enacted policies for undocumented immigrants to be eligible for in-state tuition; however, this policy does not apply to temporary visa status holders (Baum & Flores, 2011; Oropresa, Landale, & Hillemeier, 2015). Youth or immigrant parents with a temporary visa status do not have access to financial aid and often pay higher rates for tuition, which can have profound implications for being able to afford college tuition, while also limiting their ability to obtain financial support from their parents. Thus, future policies could consider instituting in-state tuition for immigrant youth with a temporary visa status or youth with noncitizen parents could be provided with additional financial mechanisms to support their children in accessing post-secondary higher education.

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