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The Effects of Perceived Discrimination on Immigrant and Refugee Physical and Mental Health

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Abstract

Purpose—Discrimination has been identified as a major stressor and influence on immigrant health. This study examined the role of perceived discrimination in relation to other factors, in particular, acculturation, in physical and mental health of immigrants and refugees.

Methodology/approach—Data for US adults (18+ years) were derived from the National Epidemiologic Survey on Alcohol and Related Conditions. Mental and physical health was assessed with SF-12. Acculturation and perceived discrimination were assessed with multidimensional measures. Structural equation models were used to estimate the effects of acculturation, stressful life effects, perceived discrimination, and social support on health among immigrants and refugees.

Findings—Among first-generation immigrants, discrimination in health care had a negative association with physical health while discrimination in general had a negative association with mental health. Social support had positive associations with physical and mental health and mediated the association of discrimination to health. There were no significant associations between discrimination and health among refugees, but the direction and magnitude of associations were similar to those for first-generation immigrants.

Implications—Efforts aiming at reducing discrimination and enhancing integration/social support for immigrants are likely to help with maintaining and protecting immigrants' health and well-being. Further research using larger samples of refugees and testing moderating effects of key social/psychosocial variables on immigrant health outcomes is warranted.

Originality/value—This study used multidimensional measures of health, perceived discrimination, and acculturation to examine the pathways between key social/psychosocial factors in health of immigrants and refugees at the national level. This study included possibly the largest national sample of refugees.

Keywords

immigrants; refugees; perceived discrimination; acculturation; health; SF-12

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The US foreign-born population continues to grow and is becoming increasingly diverse. The number of immigrants reached a historic record high of 43.5 million in 2015, is currently at 44.5 million, and is estimated to grow to 78 million by 2065 (Lopez & Bialik, 2017; Zong & Batalova, 2017). When most immigrants enter the United States, their health is generally better than that of US-natives. However, for many immigrants, the longer they stay in the US, the worse their health becomes (National Academy of Sciences, 2015; G. Singh, Rodriguez-Lains, & Kogan, 2013; G. K. Singh & Miller, 2004). Refugees – people who have fled their native country because of persecution, war, or violence – have unique health problems over and beyond the general immigrant population. Common concerns among refugees include poor mental health, nutritional deficiencies, pain problems, and undiagnosed chronic conditions (Eckstein, 2011; Mishori, Aleinikoff, & Davis, 2017). There are multiple challenges to optimal health status for immigrants and refugees in the US, such as linguistic and cultural barriers, socioeconomic limitations, access to health care, stress due to adaptation and everyday living, and social integration issues (e.g., isolation) (National Academy of Sciences, 2015).

One of the major stressors affecting the health of immigrants and refugees in the US, especially those from racial-ethnic minority backgrounds, is racism and discrimination (Ayon, 2015; Pascoe & Smart Richman, 2009; Takeuchi, 2016; Williams, 2012). Racial discrimination, along with other forms of social disadvantage, has detrimental effects on health and contributes to existing health disparities (Colen, Ramey, Cooksey, & Williams, 2017; Smedley, Stith, & Nelson, 2003; Williams, 2012). At the societal level, racism and discrimination operate through residential segregation and when individuals are unequally treated in accessing jobs, education, healthcare, social services, and so on, due to their foreign-born status, ethnic origin, and/or race (Ayon, 2015; Williams, 2012). At the individual level, discrimination "gets under the skin" as an acute and chronic stressor that activates physiological responses, such as elevated blood pressure, heart rate, and cortisol secretions, that trigger declines in mental and physical health (Clark, Anderson, Clark, & Williams, 1999; Williams, 1999). Perceived discrimination, defined as a behavioral manifestation of a negative attitude, judgment, or unfair treatment toward members of a group (Williams, 1999), has been associated with poor mental and physical health (Paradies, 2006; Pascoe & Smart Richman, 2009; Williams, 2012; Williams & Mohammed, 2009; Williams, Neighbors, & Jackson, 2003). Routine discrimination, in particular, may erode an individual's protective resources and increase vulnerability to physical illness through over- or underactivity of allostatic systems (Seeman, Singer, Rowe, Horwitz, & McEwen, 1997).

Racial/ethnic minority immigrants have been suggested to experience discrimination differently from their US-born counterparts (Gee, Ryan, Laflamme, & Holt, 2006). Immigrants acquire minority status within the US society after arrival. The longer immigrants stay, their reported levels of discrimination tend to increase (Finch, Frank, & Hummer, 2000; Goto, Gee, & Takeuchi, 2002). In addition, foreign-born status may interact with racial/ethnic background; for example, Black immigrants may be treated better than their US-born counterparts initially, but this advantage is likely to disappear over time (Read & Emerson, 2005; Waters, 2000). Furthermore, skin tone and English-language proficiency influence immigrants' experiences of discrimination, with darker skin tones and lower

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language proficiency being linked to greater levels of discrimination (Ayon, 2015; Frank, 2010).

Immigrants experience discrimination in work places (e.g., exploitation, immigration raids), housing (e.g., residential segregation), and access to and quality of health care (Ayon, 2015). One of the major way in which opportunities and discrimination operate among immigrants and refugees is through US citizenship. Citizenship grants immigrants similar rights and protections as US natives. Naturalized citizens do better than the non-citizens on some socioeconomic and mobility measures (education, jobs) and access to quality neighborhood living (Aguirre & Saenz, 2006; Bloemraad, 2000). In terms of health care, unauthorized immigrants and recent arrivals are often prevented from accessing public benefits such as Medicaid (Fortuny & Chaudry, 2011), and they are less likely than native-born and other immigrants to have a usual source of care, visit a medical professional in an outpatient setting, use mental health services, or receive dental care (Derose, Bahney, Lurie, & Escarce, 2009; Pourat, Wallace, Hadler, & Ponce, 2014; Rodriguez, Bustamante, & Ang, 2009). Even refugees, who are entitled to resettlement support including Medicaid, have problems with access and quality care because of long waits for or disruption in benefits, gaps in follow-up, and significant linguistic and cultural barriers (McNeely & Morland, 2016; Mishori et al., 2017; Philbrick, Wicks, Harris, Shaft, & Van Vooren, 2017). The foreign-born and non-English speakers are also less satisfied with their health care and report more discrimination (Derose et al., 2009).

There are growing concerns about the well-being of immigrants and refugees due to rising anti-immigrant sentiments (Gostin, 2017; Philbrick et al., 2017). In addition to a long-standing battle for immigration control and immigration reform, the issue of refugees, mainly Muslims, became a controversial topic during the 2016 US presidential election and continues today. During the campaign, derogatory language was used to describe immigrants from Mexico, and shortly after winning the election, President Donald Trump issued an executive order barring Syrian refugees indefinitely, other refugees for 120 days, and travel from seven Muslim-majority countries for 90 days, claiming the need for America to protect itself against terrorism. Many perceived this move as racist and discriminatory. The initial ban caused disruption of immigrant lives, separated families, stranded travelers, and prevented students, skilled workers, sick patients to enter the US, and the ban continues to be challenged in courts (Gostin, 2017).

Furthermore, protections for immigrants who came to the US as children and their families, the Deferred Action for Childhood Arrivals (DACA) program introduced by the Obama administration in 2012, are currently being dismantled. The issue has caused a stand-off in Congress and a government shut-down while Democrats and Republicans are negotiating DACA. Just when research is beginning to show favorable effects of DACA on immigrant physical and mental health (Venkataramani, Shah, O'Brien, Kawachi, & Tsai, 2017), anti-immigrant policies and continuing rise of racism and discrimination pose a real health threat to immigrants and refugees (Almeida, Biello, Pedraza, Wintner, & Viruell-Fuentes, 2016).

Considering the challenges that immigrants and refugees face in American society and gaps in knowledge regarding discrimination and refugee health, this study posed the following

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questions: (1) How does perceived discrimination -- overall and specifically in health care -- affect immigrant health and well-being? and (2) How does perceived discrimination affect the health and well-being of refugees, whose experiences and needs tend to differ from those of other immigrants? To answer these questions, this study used nationally representative data for US adults (18+ years) to estimate the direct, indirect, and total effects of perceived discrimination, acculturation, stressful life events, and social support on immigrant and refugee physical and mental health using structural equation models.

PROFILE OF US IMMIGRANT AND REFUGEE POPULATIONS

Immigrants

According to data from the US Census Bureau, 13.4 percent of the US population (44.5 million) in 2015 was foreign-born (Lopez & Bialik, 2017). This is the highest percentage of the foreign-born population in 94 years. A total of 18.7 million of new immigrants (legal and illegal) came to the US between 2000 and 2014, including 7.9 million who arrived between 2008 and mid-2014, during the Great Recession (Camarota & Zeigler, 2016). The majority of foreign-born are from Latin America (28% from Mexico and 24% from other Latin American countries) and Asia (26%, including 6% Chinese and 5% Indian); fewer immigrants have come from Europe and Canada (14%) and other countries (8%) (Pew Research Center, 2015). States with the largest increases of immigrants include North Dakota, Wyoming, Montana, Kentucky, New Hampshire, Minnesota, and West Virginia.

Many immigrants, especially those from Mexico/Latin America, have modest levels of education and limited skills. As a result, they often occupy low-paying jobs in the service sector; for example, 49 percent of maids, 47% of taxi drivers, and 35 percent of construction workers are foreign-born. This group of immigrants is more likely to live in poverty, lack health insurance, and have lower rates of home ownership than US natives (Camarota & Zeigler, 2016). However, the distribution of the immigrant population is socioeconomically bi-modal, and 40–51% of immigrants from South and East Asia, Middle East, Europe/ Canada, and South America have college degrees. Thus, the overall rates of completed college education for the native and foreign-born population are actually similar (31% and 30%, respectively) (Lopez & Bialik, 2017).

Although the US has the largest immigrant population in the world, Americans' views of immigrants are mixed. In 2014, 41% of Americans said that immigrants are a burden to American society because they take jobs, housing, and health care (Pew Research Center, 2015) and in 2015, 34% Americans believed that immigrants represent a threat to American customs and values (Cooper, Cox, Lienesch, & Jones, 2016). However, the current attitudes are actually more positive than a decade earlier, when 63% of Americans in 1994 called immigrants a burden. A little more than half (51%) of American today say immigrant make America stronger, an increase from 31% in 1994 (Pew Research Center, 2015). Attitudes toward immigrants also vary strikingly by age group, race, ethnicity, religious and political party affiliations, and region/state (Cooper et al., 2016). A total of 68% of people ages 18–29 and 53% of people ages 30–49 think that immigrants strengthen American society, compared with 42% and 36% of people ages 50–64 and 65+, respectively. This likely represents cohort change in attitudes. Also, not surprisingly, large majorities of Asian-

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Pacific Islanders (70%) and Hispanic Americans (67%) believe that immigrants are a benefit to American society compared with a minority (45%) of whites.

Refugees

A refugee is a person who has been forced to flee is their country. War and ethnic, tribal, and religious violence are the leading causes of refugees fleeing their countries (USA for UNHCR: The UN Refugee Agency). Approximately 3 million refugees have been resettled in the US since Congress passed the Refugee Act of 1980 (Krogstad & Radford, 2017). The origins of refugees to the US have changed over time. In the late 1970s, there was an influx of refugees from Vietnam, and many refugees from Asia continued coming to the US through the mid-1990s. Relatively few refugees came from Latin America and Africa during those decades. In the 1980s and 1990s, Europe joined Asia as the second largest region of origin of the refugee population; during that time, many refugees from the Soviet Union and the former Yugoslavia came over. Through the 2000s, the numbers of refugees from Europe have been dropping, with most refugees coming from Asia and Africa, and some from Latin America. The geographic distribution of the most recent refugee population in the US has been uneven. In 2016, California, Texas, and New York resettled nearly a quarter of all refugees.

Over the years, large segments of the US population have opposed admitting refugees and has not welcomed refugees from specific countries or regions (Krogstad & Radford, 2017). For example, in 1958, 55% of Americans disapproved of Hungarian refugees; in 1979, 62% disapproved of Indochinese refugees; and, in 1980, 71% disapproved of Cuban refugees. A third of Americans in 1999 also opposed admitting ethnic Albanians from Kosovo. The resistance toward refugees from countries where people are fleeing war and oppression has been growing in the recent years. Notably, 54% of registered voters in 2016 said that the US does not have responsibility to accept refugees from Syria. As noted earlier, these attitudes shaped the 2016 presidential election campaign and lead to the eventual ban efforts by President Trump and his administration.

WHAT DO WE KNOW ABOUT IMMIGRANT AND REFUGEE HEALTH?

There is a growing literature addressing immigrant health, especially mental health, in the contemporary US context. Research shows that despite a relative socioeconomic and cultural (e.g., linguistic) disadvantage, many immigrants have better health than their ethnic US-born counterparts (G. K. Singh & Miller, 2004). This phenomenon has been labeled as an “immigrant health paradox” (Tamara Dubowitz, Bates, & Acevedo-Garcia, 2010; Markides & Coreil, 1986). In this section, we briefly review evidence regarding physical and mental health of immigrants and refugees in the US, highlighting the differences between refugees and other immigrants.

Physical Health

Immigrants—Research examining eight national datasets (e.g., American Community Survey, National Health Interview Survey) has shown that immigrants have better infant, child, and adult health outcomes than their native ethnic counterparts and natives in general

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(Colen et al., 2017; National Academy of Sciences, 2015; G. Singh et al., 2013). Compared to natives, immigrants have a lower incidence of all cancers combined, fewer chronic health problems and functional limitations, and lower rates of infant mortality, obesity, and overweight status (G. Singh et al., 2013). This study also showed that immigrants had a 3.4 years higher life expectancy than natives. There were, however, conditions that were more common among immigrants from some ethnic backgrounds, compared to native counterparts. For example, deaths from stomach and liver cancers were more common among immigrants than natives. Also, Asian Indian, Chinese, Mexican, Cuban, Central American, and South American immigrants reported higher levels of poor or fair health compared with their native counterparts.

Few studies have considered both mental and physical health of immigrants. Jerant, Arellanes, and Franks (Jerant, Arellanes, & Franks, 2008) compared four Hispanic groups (Mexicans, Cubans, Puerto, Ricans, and Dominicans), both US- and foreign-born, on self-rated health and mental health using the SF-12 assessment. Mexicans had better outcomes than Whites and other Hispanic groups regardless of nativity, but nativity was associated with worse physical and mental health among Mexican Americans and better health/mental health among Cuban Americans. Furthermore, Cuban immigrants had the lowest mental health score of all groups while migrants from Puerto Rico had the lowest physical health score, after adjusting for socioeconomic status and sociodemographics.

Refugees—Refugees are an exception compared with the general immigrant population, in that they tend to have poorer physical health and some unique health problems and needs. Common health issues among refugees include nutritional deficiencies, chronic pain and musculoskeletal symptoms, and undiagnosed chronic conditions (e.g., asthma, diabetes mellitus, or hypertension) (Mishori et al., 2017). In addition, some refugees have higher risks of tropical and infectious diseases (e.g., tuberculosis and sexually transmitted infections). Poor oral health is also a big problem due dietary issues and limited or no access to dental services pre-, peri-, and post-immigration.

Primary care physicians are advised to assess refugees' circumstances – preflight, during flight/in camp/pre-departure, and at arrival/post-arrival (Mishori et al., 2017). Preflight health risks include low social position in the country of origin; exposure to violence, threats, torture, sexual violence, or imprisonment; or, limited access to age-appropriate preventive services. Women are also screened for female genital mutilation. Flight-related health risks include, again, traumatic experiences (e.g., loss of family members), limited access to food/shelter and other basic necessities, prolonged hiding and/or refugee camp stay, and lack of or limited health screenings and treatments during flight. Health screenings and treatments on arrival/post-arrival are also considered, along with the individual's current health status and access to health and social services and benefits (e.g., health insurance, case management, literacy).

Mental Health

Immigrants—Social epidemiological research using large national surveys (e.g., the National Survey of American Life or the National Latino and Asian American Studies) show

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that immigrants from minority racial-ethnic backgrounds have lower rates of mental disorders than their US-born counterparts (Szaflarski et al., 2016; Szaflarski, Cubbins, & Meganathan, 2017; Takeuchi, 2016). Most community studies that comprise both treated and untreated cases of mental disorders also tend to find lower rates of mental health problems among immigrants compared with US natives. However, rates of mental disorders among immigrants tend to increase over time in the US. For example, research has shown that third generation of Latinos has higher rates of psychiatric disorders than first and second generation (Alegria, Shrout, et al., 2007) while second and third generation of Asians (Takeuchi, Alegria, Jackson, & Williams, 2007) and Caribbean blacks (Williams et al., 2007) have higher rates of mental disorders than their respective first generation immigrants.

Refugees—Refugees are again an exception to the general pattern of mental health advantage among immigrants, as they tend to have significant mental health problems. For example, refugees have relatively high rates of depression, anxiety, posttraumatic stress disorder (PTSD), and suicide (Eckstein, 2011; Fazel, Wheeler, & Danesh, 2005; National Academy of Sciences, 2015). Refugees experience unique pre-and peri-immigration stressors compared to other immigrants, such as trauma of war, torture, terrorism, natural disasters, famine, and refugee camp living. These experiences combined with stresses of post-immigration make this group particularly vulnerable in terms of psychological well-being (Eckstein, 2011; Mishori et al., 2017; Pumariega, Rothe, & Pumariega, 2005). Refugees are known to present in medical practice with somatic symptoms, sleep disorders, fatigue, paranoia, and suicidal thoughts (Donnelly et al., 2011).

However, some research shows that refugees were significantly less likely than US-natives or non-refugee immigrants to report involvement in any non-violent or violent antisocial behavior (Vaughn, Salas-Wright, Zhengmin, & Wang, 2015), though multiple years of living as a refugee were associated with higher likelihood of reporting involvement in violence. This research suggests that the immigrant health paradox may apply to some mental health issues among refugees.

WHAT DO WE KNOW ABOUT FACTORS SHAPING IMMIGRANT AND REFUGEE HEALTH?

Several explanations have been offered for the immigrant health advantage, including immigrant selection, home country's lower disease risks, unhealthy American lifestyles, and changes in somatization of psychological and mental problems (National Academy of Sciences, 2015; Takeuchi, 2016). Early research focused on the role of assimilation and acculturation to explain declines in immigrants' health over time (e.g., (Berry, 1992)), but the focus has now been shifting to social structural conditions (racism, residential segregation) and social psychological factors such as discrimination experiences (Almeida et al., 2016; Takeuchi, 2016; Williams, 2012). We lay out our conceptual framework for the study (Fig. 1) by considering the immigrant assimilation and acculturation perspectives first, as it is the experience of being an immigrant or a refugee that creates conditions for experiences with discrimination (see the causal path from acculturation to discrimination in Fig. 1).

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Acculturation and Acculturative Stress

Acculturation, the process of learning and adapting to the host country's culture while maintaining the values, norms, beliefs, language, etc. of the country of origin, has received much attention (Berry, 1992, 2001). Acculturation has been found to have complex and mixed effects on health of US immigrants (Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005). For example, acculturation has been associated with some negative health behaviors and outcomes, such as substance abuse, poor dietary habits, and preterm births. However, acculturation is also associated with higher health care use and self-perceptions of health, as well as with higher satisfaction with health care and less discrimination (Derose et al., 2009; Lara et al., 2005)

One explanation for these mixed findings is that acculturation is not a linear or unidimensional process. In fact, different acculturation models exist (Lara et al., 2005). Generally, the acculturation mode that involves both adapting to the new culture and retaining and maintaining elements of the old culture (bi-culturalism) leads to more positive health outcomes for immigrants (Berry, 1992, 2001). Acculturation modes may vary at the individual or family level, but also at the group level. For example, some ethnic groups may follow one acculturation mode more likely than others. There is also an intricate relationship between acculturation, socioeconomic status, ethnicity, and health. Acculturation can be associated with socioeconomic gains such as educational achievement. Education has been viewed as a major causal factor in higher/improved health status (Mirowsky & Ross, 2003), but these gains are uneven across racial and ethnic groups. For example, the relationship between education and health has been weaker for Latino and Asian immigrants than non-Hispanic whites (Acevedo-Garcia, Soobader, & Berkman, 2007; Goldman, Kimbro, Turra, & Pebley, 2006).

One aspect of acculturation often examined is the time spent in the US, but its influence on health outcomes is mixed. Research has shown that health problems such as hypertension, chronic illness, smoking, diabetes, and heavy alcohol use increase with US tenure (Alegria, Mulvaney-Day, et al., 2007; Jackson et al., 2007; National Academy of Sciences, 2015; O'Brien, Alos, Davey, Bueno, & Whitaker, 2014; Ro, 2014; G. Singh et al., 2013; Takeuchi et al., 2007). However, continued interactions with members of the host-dominant society also expose immigrants to stress in the form of prejudice and discrimination, as well heightened aspirations (Finch & Vega, 2003; McKeever & Klineberg, 1999), which are often harmful to health. Research shows that the accumulated stress from discrimination, poor working conditions, undocumented legal status, and limited English proficiency are linked with negative health outcomes, including self-reported health and mental health problems (Finch & Vega, 2003; Yoo, Gee, & Takeuchi, 2009).

Another aspect of acculturation is the ability to speak English. Language proficiency helps immigrants to gain access to jobs, education, and social and health services, and it has been strongly associated with health among Asian, black, and Latino immigrants (Gee, Walsemann, & Takeuchi, 2010; Kimbro, Bzostek, Goldman, & Rodriguez, 2008; Okafor, Carter-Pokras, Picot, & Zhan, 2013). However, being bilingual – speaking both English and one's ethnic language – is also linked with positive health outcomes. Bilingual proficiency

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has been shown to provide access to resources and create opportunities for social mobility (Chen, Benet-Martinez, & Bond, 2008).

Discrimination

While acculturation has been central to sociocultural explanations for immigrant health, its measures have been debated and it diverts attention from the historical, political, and economic contexts of migration (T. Dubowitz et al., 2007). In particular, discrimination has been identified as one of the mechanisms preventing successful integration of immigrants, and resulting in poor health outcomes (Takeuchi, 2016; Williams, 2012). Racial and ethnic discrimination has been proposed as a key explanation for health disparities in the US (Ayon, 2015; National Academy of Sciences, 2015). Individual and institutional measures of racial discrimination have associations with minority and immigrant health, even after controlling for a range of social and psychosocial factors, including acculturation (Gee, 2008).

Perceived discrimination is a type of stressor that can cause wear and tear on the body and spirit and lead to premature illness and death (Williams & Mohammed, 2009). Perceived discrimination has been associated with a wide range of health behaviors and outcomes such as smoking, alcohol use, obesity, hypertension, breast cancer, depression, anxiety, psychological, distress, substance use, and self-reported health across ethnoracial groups (Gee, Ro, Shariff-Marco, & Chae, 2009; Paradies, 2006; Pascoe & Smart Richman, 2009; Williams, 2012; Williams & Mohammed, 2009; Williams et al., 2003), as well as physical health problems including hypertension, self-reported health, and breast cancer, as well as health risk factors, such obesity, high blood pressure, and substance abuse (Colen et al., 2017; Pascoe & Smart Richman, 2009; G. Singh et al., 2013; Williams & Mohammed, 2009). A meta-analytic review showed consistent associations between perceived discrimination and various mental and physical health outcomes, although evidence regarding physical health was more limited (Pascoe & Smart Richman, 2009). The review also identified potential mechanisms underlying these relationships including stress response, health behaviors, social support, personal coping, and group identification, but significant gaps in this knowledge remain.

Discrimination may vary by race, ethnicity, and nativity. For example, most studies find that discrimination is associated with poorer health among Asian Americans, though there is more evidence for mental health than for physical health (Gee et al., 2009). Also, Caribbean Blacks appear to have fewer experiences with discrimination than their native counterparts, and their health is also relatively better (Williams, 2012; Williams et al., 2007). However, with time in the US, Caribbean Blacks experience more discrimination, and the protective effects of foreign birth on health is likely to decrease or disappear. Also, few studies have focused on discrimination among immigrants specifically, but the available research shows patterns similar to those reported for ethnoracial groups (Gee et al., 2006; Ryan, Gee, & Laflamme, 2006; Yoo et al., 2009). For example, Yoo and colleagues (Yoo et al., 2009) have found that perceived language-related discrimination had a strong association with health among Asian immigrants living in the US 10 years or longer.

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More and more research suggests that discrimination is intertwined with acculturation as an acculturation stressor (Williams, 2012). Discrimination, legal status, and language conflict have been identified as some of the acculturation stressors that affect Latino immigrants' health and well-being. Finch and Vega (Finch & Vega, 2003) found these stressors to be linked with fair/poor health ratings (positive gross effect). In their study fair/poor health ratings also decreased with social support, including religious support, and social support moderated effects of discrimination on health. Other literature also points to an important role of social support in buffering the effects of discrimination on health, but the evidence is uneven and further studies are needed to clarify these relationships (Pascoe & Smart Richman, 2009), especially among immigrants and refugees, for whom little contemporary data are available.

Other Social Stress/Stressors

Stress is a multifaceted, multilevel concept. In biological terms, stress is a physiological response of the body in the presence of stressors, "conditions of threat, challenge, demands, or structural constraints (p. 300) (Blair Wheaton, Young, Montazer, & Sttuart-Lahman, 2013). Stress is a major factor in racial/ethnic and socioeconomic disparities (R. Jay Turner, 2013). Acculturation stress and discrimination are two dimensions of social stress experienced by immigrants and refugees. These stressors tend to persist and contribute to chronic stress. A more acute type of stress often results from stressful life events, such as death of a loved one, losing a job, or experiences of violence (B Wheaton, 1999). It is not entirely clear if events stress is experienced in the same way across race, ethnicity, and nativity groups. For example, some researchers have reported racial-ethnic differences in responses to stressors, but the differences were small (R. J. Turner, Taylor, & Van Gundy, 2004). In another study, the impact of stressors, including stressful life events, on depression was lower for Cuban Americans and African Americans compared to non-Hispanic whites and other Hispanics, but the impact of immigration was not considered (R. Jay Turner & Lloyd, 2004). Little is also known about events stress shapes health and wellbeing of refugees. Refugees are more likely than other populations to experience traumatic events, which can turn into chronic and be even more detrimental to health (Blair Wheaton et al., 2013).

Social Support

There is long-standing evidence of the importance of social relationships in people's lives. Social support has become the key phrase to refer to the beneficial effects of social relationships (their presence and quality) to health (J. B. Turner & Turner, 2013). Although much of the literature focuses on social support as buffering stress, with less attention given to its main effects on health, a review of literature indicates that the buffering effects are actually less consistent than the direct effects (Thoits, 2011; J. B. Turner & Turner, 2013).

Social support is an important factor shaping immigrant and refugee health. Finch and Vega (Finch & Vega, 2003) found social support, including religious support, to be associated with lower levels of fair/poor health ratings among immigrants, but to social support also buffered the effects of discrimination on health. Other literature also points to an important role of social support in buffering the effects of discrimination on health, but the evidence is

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uneven (Pascoe & Smart Richman, 2009). Among immigrants, maintaining ties with one's own racial-ethnic group seems to protect against poor mental health (Banchevska, 1981; Koranyi, 1981). However, evidence of living in ethnic enclaves (effects of ethnic density) on immigrant health has been mixed, both positive and negative effects noted (Liechty & Lee, 2013; National Academy of Sciences, 2015). Others have noted that the effects of ethnic density may depend on nativity, developmental state, health outcomes, and the history of the group in the community (Osypuk et al., 2012). Earlier research found that crossing racial-ethnic lines in social relations may promote psychological well-being, especially among immigrants (Quizumbing, 1982). Having native friends may also help with navigating the health care system and, through care, lead to better health outcomes (Lara et al., 2005).

Study Aim and Hypotheses

Drawing on past theory and research, we tested a conceptual model (Fig. 1) of perceived discrimination and other influences on physical and mental health of first-generation immigrants and refugees. We hypothesized that perceived discrimination would be directly linked with lower levels of physical and mental health and that perceived discrimination would mediate the effects of immigrant background and acculturation measures. We expected that the effects of discrimination may be greater for refugees immigrants, considering the current political climate. We also hypothesized that stressful life events would have negative effects on health, independent of discrimination, and possibly have greater effects in refugees, who are more likely than other immigrants to have experienced traumatic events. Furthermore, social support was expected to have a direct positive effect on health, and also mediate the effects of discrimination on health.

METHODS

Data

Data for US adults (18+ years) were derived from Wave 1 (2001–2002; n=43,093) and Wave 2 (2004–2005; n=34,653) of the *National Epidemiologic Survey of Alcohol and Related Conditions* (NESARC; see http://pubs.niaaa.nih.gov/publications/arh29-2/74-78.htm). The NESARC data include detailed measures of immigrant background, acculturation, discrimination, other social and psychosocial factors, and physical and mental health. Wave 1 of the NESARC (2001–2002; n=43,093; 81% response) was conducted with one randomly selected person from each household/group quarter in a face-to-face, computer-assisted personal interview (CAPI). A total of 34,653 (80.4%) cases were re-interviewed at Wave 2 (2004–2005). NESARC sampling procedures included over-sampling of non-Hispanic Black and Hispanic households, and within households it over-sampled 18 to 24 year olds. The NESARC provides sample weights to adjust for its complex sampling design and non-response at the household- and person-level.

Measures

Most of the measures used in this study were included in both Wave 1 and Wave 2 of the NESARC. The exceptions are refugee status, acculturation, perceived discrimination, and social support, which were only assessed at Wave 2.

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Mental health and *physical health* were assessed using scales based on the SF-12v2 summary measures (Ware, Kosinski, Turner Bowker, & Gandek, 2002) that have been shown to be reliable and valid measures in a variety of populations. Health is a multidimensional concept that recognizes more than simply the absence of disease and includes well-being across physical, mental, and social domains. It is quite possible to be "healthy" in one domain and not others and to have different determinants of health across domains. Thus, it is valuable to analyze more than one domain of health in keeping with this broad WHO-based definition of health (World Health Organization, 1946/1948).

The SF-12v2 measure has two component scores: the Mental Component Summary (MC12) and the Physical Component Summary (PCS12), which represent the latent concepts of mental and physical health. The PCS12 assesses participants' general overall health; limitations in mobility, work, and other physical activities; and, limitations due to pain. The MCS12 assesses participants' limitations in social activity, emotional state, and level of distraction. In this study, we used the MCS12 and PCS12 obtained from Wave 2 of the NESARC.

Perceived racial-ethnic discrimination was assessed by asking respondents about how often they experienced discrimination related to their race or ethnicity in a variety of situations during the last 12 months. These include experiencing discrimination in their ability to obtain health care or health insurance; in how they are treated when they got health care; in public, (on the street, in stores, or in restaurants); in any other situation (jobs, school or training program, in courts or with police, or obtaining housing); being called a racist name because of their race-ethnicity; and, being made fun of, picked on, pushed, shoved, hit or threatened with harm because of their race-ethnicity. Factor analysis was used to generate two factors indicating perceived discrimination related to health care (Cronbach's alpha = 0.75) and other aspects of life (e.g., in jobs, schooling, housing, in businesses, or by police; Cronbach's alpha = 0.73).

First-generation immigrant was defined as born outside of the United States versus US-born. *Refugee status* was assessed with the item: "Were you ever a refugee – that is, did you flee your home to a foreign country or place to escape danger or persecution?" (yes/no). *Racial-ethnic origin* was categorized as: African, Asian/Pacific Islander, Hispanic, European, and other.

Indicators of acculturation included language preference, racial-ethnic social preference, and racial-ethnic orientation. Measures of *language preference* and *racial-ethnic social preference* were constructed based on the Brief Acculturation Rating Scale II (ARSMA-II) (Coronado, Thompson, McLerran, Schwartz, & Koepsell, 2005; Cuellar & Roberts, 1997; Deyo, Diehl, Hazoda, & Stern, 1985; Solis, Marks, Garcia, & Shelton, 1990) and the East Asian Acculturation Measure (Barry, 2001). Seven questions on language preference asked respondents about which language they generally read and speak; spoke as a child; usually speak at home; usually think in; usually speak with friends; and, watch/listen in TV/radio programming. Response categories used a 5-point scale and were: only non-English language; more non-English language than English; both equally; more English than non-English language; and, only English. The average of the seven items was calculated as a

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scale for language preference with higher values indicating greater acculturation (Cronbach's alpha = 0.96).

The NESARC questions on *racial–ethnic social preference* asked respondents about the race–ethnicity of their close friends; people at the social gatherings and parties they prefer to attend; the people they visit with; and, their children's friends if they could choose. The pattern of possible responses was coded as: all from my racial–ethnic group; more from my racial–ethnic group than other racial–ethnic groups; about half and half; more from other racial–ethnic groups than from my racial–ethnic group; and, all from other racial–ethnic groups. The average of the four items was calculated as a scale for social preference with higher values indicating greater acculturation (Cronbach's alpha = 0.85).

For *racial-ethnic orientation* we used questions in the NESARC that were adapted from other scales of racial-ethnic identity (Barry, 2002; Phinney, 1990; Rahim-Williams et al., 2007). Respondents were asked how strongly they agreed or disagreed that they have a strong sense of self as a member of their racial-ethnic group; identify with other people from their racial-ethnic group; racial-ethnic heritage is important in their life; and, are proud of their racial-ethnic heritage. The average of the four items was calculated as a scale for racial/ethnic identity with higher values indicating greater acculturation (Cronbach's alpha = 0.87). Data on acculturation were collected for all respondents regardless of nativity.

Stressful life events was the total number of the following 12 events that respondents reported experiencing in the 12 months prior to the interview: any family member or close friend died; any family or close friend had serious illness or injury; moved/anyone new came to live with you; fired or laid off from a job; unemployed and looking for a job for more than a month; trouble with their boss or a coworker; changed job, job responsibilities, or work hours; marital separation or divorce or breakup of a steady relationship; had problems with neighbor, friend, or relative; financial crisis, declaration of bankruptcy, or being unable to pay their bills; respondent or family member had serious trouble with the police or law; and, respondent or family member being crime victim.

Social support was assessed by using the Interpersonal Support Evaluation List (ISEL12; (Cohen & Hoberman, 1983; Cohen, Mermelstein, Kamarck, & Hoberson, 1985) which had six questions on how true it is respondents could find someone to help them or join them in a variety of situations, including: help with daily chores if sick, seek advice about handling problems with family, go to a movie, deal with personal problems, have lunch, and get ride if stranded 10 miles from home. The average of the six items was calculated as a scale for social support with higher values indicating greater social support (Cronbach's alpha = 0.79).

Several socioeconomic factors were also assessed. *Education* was defined as the highest grade level completed. *Work status* was divided into three categories: not working, working part-time, and working full-time. NESARC assessed *household income* by using 21 categories. We created a continuous income variable by recoding the income categories to their midpoint values (divided by $10,000); the top category was determined by a Pareto approximation (Hout, 2004). Sociodemographic variables included age, gender, US region,

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and community type (center Metropolitan Statistical Area [MSA], not center MSA, and not MSA).

Procedure of Analysis

The analysis relied on structural equation models (SEMs) to estimate the various associations among the covariates depicted in Figure 1 separately for first-generation immigrants and refugees (Bollen, 1989). In addition to the pathways included in Figure 1, the model specifications permitted correlations among the error terms for the two discrimination measures and the two health measures respectively. These correlations account for the possibility that there are common unmeasured factors that influence each of these domains (e.g., variables not included in the model that affect both discrimination measures). Finally, a SEM approach also facilitates the decomposition of the total effects of the two measures of discrimination on physical and mental health into direct and indirect effects.

Stata 15 was used to prepare the data for analysis and estimate the parameters for the SEMs (StataCorp, 2017). Stata's survey suite of commands was used to address NESARC's complex sampling design and to incorporate the sample weights into the analysis. Standard errors for indirect and total effects were obtained using the delta method. All of the Stata code for preparing the data and conducting the analysis is maintained at a publicly available repository (identifying link omitted).

FINDINGS

The descriptive statistics for both analytic samples, first-generation immigrants and refugees are shown in Table 1. SEM results are presented in Figures 2–3 (see Appendix Tables A1 and A2 for the full set of estimates).

First-Generation Immigrants

Figure 2 reports selected unstandardized regression coefficients from the SEM for first-generation immigrants. Beginning with experience stressful life events, there is a positive association with the language component of acculturation (b = 0.10). Turning to the two measures of discrimination, there is a negative association with the language component of acculturation and health care related discrimination (b = –0.02). With respect to discrimination in general, there are positive associations with the social component of acculturation and with stressful life events (b = 0.04 and b = 0.04 respectively) and a negative association with the racial/ethnic identify component of acculturation (b = –0.02). Further, discrimination in health and discrimination in general have negative associations with social support (b = –0.09 and b = –0.10, respectively). Finally, turning to health, discrimination in health care has a negative association with physical health (b = –0.97), while discrimination in general has a negative association with mental health (b = –1.63). It is worth noting that social support has positive associations with both physical (b = 1.07) and mental (b = 3.82) health. Given the relationships between both forms of discrimination and social support, this suggests that discrimination also has an indirect association with physical and mental health, which is explored in more detail below.

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Refugees

Figure 3 reports unstandardized regression coefficients from the SEM for refugees. Beginning with experience stressful life events, there is a negative association with the social component of acculturation (b = −0.33) and a positive association with the racial/ethnic identity component of acculturation (b = 0.37). Stressful life events, however, are unrelated to perceived discrimination with respect to health care and only modestly positively related to perceived discrimination in general (b = 0.05). Furthermore, none of the acculturation measures are related to either dimension of discrimination.

Similar to first-generation immigrants, among refugees discrimination in general has a negative association with social support (b = −0.26), but discrimination in health care does not have a significant association with social support. In addition, neither dimension of discrimination have significant associations with either dimension of health. It is notable, however, that the direction and magnitude of the associations are similar to those found for first-generation immigrants, which suggests that these associations might be observed as statistically significant in a larger sample of refugees. Finally, social support, on the other hand, has positive associations with both physical (b = 2.74) and mental (b = 4.53) health.

Effect Decomposition

Table 2 reports unstandardized estimates of the direct, indirect, and total effects for discrimination in health care and discrimination in general on both physical and mental health based on the models for first-generation immigrants and for refugees (also shown in Figures 2 and 3, respectively). The estimates of the indirect effects and the comparisons with the direct effects provide measures of the extent to which social support mediates effects of discrimination on health.

First-generation immigrants—Among first-generation immigrants, there are significant indirect effects operating through social support for discrimination in health care (indirect b = −0.09 for physical health and indirect b = −0.33 for mental health) and discrimination in general (indirect b = −0.11 for physical health and indirect b = −0.39 for mental health) for both physical and mental health (see Table 2). This is consistent with the hypothesis that a reduction in social support is one mechanism through which discrimination can shape health (though we note the estimates are associations and not interpretable as causal effects).

Refugees—Among refugees, there are significant indirect effects operating through social support of discrimination in general (indirect b = −0.72 for physical health and indirect b = −1.20 for mental health) on physical and mental health (see Table 2). The imprecision in the estimates, particularly from the direct effects, leaves the total effects as non-significant. Thus there is limited evidence that social support is an important pathway connecting discrimination and health refugees, though as noted above, the estimates are almost all in the expected direction and the lack of statistical significance may reflect the relatively small sample size.

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DISCUSSION

This study tested a model of relationships between acculturation, perceived discrimination, stressful life events, social support, and physical and mental health among first-generation immigrants and refugees aged 18 years and older, while controlling for immigrant background characteristics, including race-ethnicity. Among first-generation immigrants, we found a negative association of perceived discrimination in health care with physical health and a negative association of perceived discrimination in general with mental health. In addition, we observed indirect associations of perceived discrimination in health care and in general to both mental and physical health through social support (i.e., lessened impact of discrimination on health). Also, higher English language use was associated with decreased health-care related perceived discrimination while stronger ethnic identity was associated with decreased perceived discrimination in general. However, acculturation measures (language, social preference, and ethnic group identity) typically had no direct associations with health. These findings suggest that perceived discrimination shapes immigrants' health in two ways: it mediates the effect of acculturation on health, and it influences health directly and indirectly through social support (the direct effects depend on the dimension of discrimination and the health component).

Among refugees, we did not observe direct associations between either measure of discrimination and physical or mental health. We did, however, find that discrimination in general had a negative association with social support and social support had strong positive associations with both physical and mental health. These findings for refugees suggest that perceived discrimination has the potential to shape health through social support.

The strengths of this study include a large national sample, multidimensional measures, and the SEM analytic procedure. Specifically, the study used a large, nationally representative sample of immigrants, and possibly the largest available sample of refugees, aged 18 years and older. In addition, multiple dimensions of acculturation, perceived discrimination, and health were assessed. Health was based on a subjective assessment, which allowed for individual perceptions of their health and functioning to be considered (versus clinical diagnoses, for example). Finally, the SEM procedure allowed the examination of direct, indirect, and total effects of the hypothesized covariates on both physical and mental health.

The study also had some limitations. One limitation was testing a limited conceptual model to streamline the interpretation of findings from SEM, a complex analytic procedure. Additional potential variables, for example, health behaviors or other health outcomes (e.g., clinical diagnoses) can be tested in future studies. Furthermore, the analysis was cross-sectional because the key study variables -- perceived discrimination, acculturation, social support, and refugee status -- were assessed only at Wave 2 of the NESARC. Some of our key concepts and measures also were limited. For example, we measured two types of perceived discrimination and three acculturation components, and thus did not cover the full breadth of these concepts.

Despite these limitations, this study adds to the mounting evidence that perceived discrimination is bad for health outcomes among ethnic minorities and immigrants (Pascoe

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and Richman 2009). Our study is unique compared to earlier studies of discrimination and immigrant health in that it used a comprehensive measure of subjective health including mental and physical health. Earlier research has focused on perceived discrimination in relation to mental health diagnoses or symptomology and/or physical health conditions or risks among ethnogroups and less often among immigrants specifically (G. Singh et al., 2013; Takeuchi, 2016), and such data on refugees are largely lacking. Also, when subjective measures of health were used in prior studies, they were based on a single indicator (e.g., self-reported health) (Finch & Vega, 2003). Our study extends the literature by documenting that two types of discrimination are negatively associated with subjective mental and physical health components either directly or indirectly through social support. These associations have previously been documented in many studies that used other health measures (Pascoe & Smart Richman, 2009). Furthermore, we modelled these relationships for not only for immigrants in general but for refugees specifically, too. The findings for refugees are novel, but need to be treated with caution and examined further with larger sample sizes.

In terms of associations between acculturation measures and perceived discrimination, we found that discrimination in general was positively associated with the social component of acculturation while it was negatively associated with racial-ethnic orientation. This finding suggests that the higher preference for socializing outside one's ethnic group (greater acculturation) is associated with greater perceived discrimination. This may be due to more opportunities for immigrants to experience discrimination through socializing with natives, some of whom may have negative attitudes toward immigrants. In terms of racial-ethnic orientation, higher values on this measure indicated less identification with one's own racial-ethnic group, reflecting greater acculturation and assimilation. So, in case of this variable, the results suggest that weakening of the feeling of belonging to an ethnic group is associated with lower perceived discrimination. This is in contrast to a previous study that reported that a strong ethnic identity among Filipino Asian Americans decreases perceived discrimination and buffers the positive association between discrimination and depressive symptoms (Mossakowski, 2003). However, we found no direct association of the social preference or identity with mental or physical health in our sample first-generation immigrants. These relationships may differ for ethnic minorities and immigrants because immigrants have a relatively good health compared with other US populations, but more research is needed to reconcile these inconsistencies.

There are several recommendations for future research. First, longitudinal research is urgently needed to better understand the effect of discrimination on immigrant health over time. In this line of research, it will also be important to consider immigrant arrival-cohort effects. Hamilton and colleagues (Hamilton, Palermo, & Green, 2015) have documented that omitting cohort effects may result in overestimates of the declines in self-reported health among Latino/Hispanic immigrants.

Furthermore, more data on refugees as well as on undocumented immigrants and non-citizens would be helpful. Previous studies have shown that the undocumented legal status of Hispanic immigrants is associated with high emotional distress, poor quality of health, and low healthcare access and utilization (Bustamante et al., 2010; Cavazos-Rehg, Zayas, &

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Spitznagel, 2007; Derose et al., 2009; Wallace, Torrens, Nobari, & Brown, 2012). Other research suggests that psychological well-being of undocumented immigrants may suffer due to the stigma of their legal status and related stressors (Gonzalez, Suarez-Orozco, & Dedios-Sanguineti, 2013; Sullivan & Rehm, 2005; Takeuchi, 2016; Yoshikawa, 2011). Thus, discrimination through unequal rights likely plays a role in shaping immigrant health outcomes. Naturalization status also deserves more attention because of certain rights and access to more resources that immigrants acquire with citizenship that may lead them to better health outcomes (Derose et al., 2009; Logan, Oh, & Darrah, 2012; National Academy of Sciences, 2015).

Further testing of potential moderating relationships, including moderated mediation, between discrimination and health among immigrants and refugees is also warranted while considering other psychosocial factors, including social support and mastery (see, for example, (Miller, Rote, & Keith, 2013). Finally, any of the above recommendations require more detailed data collection on race, ethnicity, language, and nativity. Stepping up these efforts in US public health surveillance and monitoring systems has been recognized as one key strategy (Rodriguez-Lainz et al., 2018)

This research is timely and important considering the historically high and still growing numbers of immigrants, special support for refugees as a human right issue, and the heightened anti-immigrant and anti-refugee attitudes. The study specifically draws attention to the effects of discrimination on immigrant and refugee well-being and could drive interventions to curb discrimination against and enhance supports for vulnerable immigrant groups. This work contributes to the overall effort to eliminate health disparities, a national goal per *Healthy People 2020* (Healthy People 2020).

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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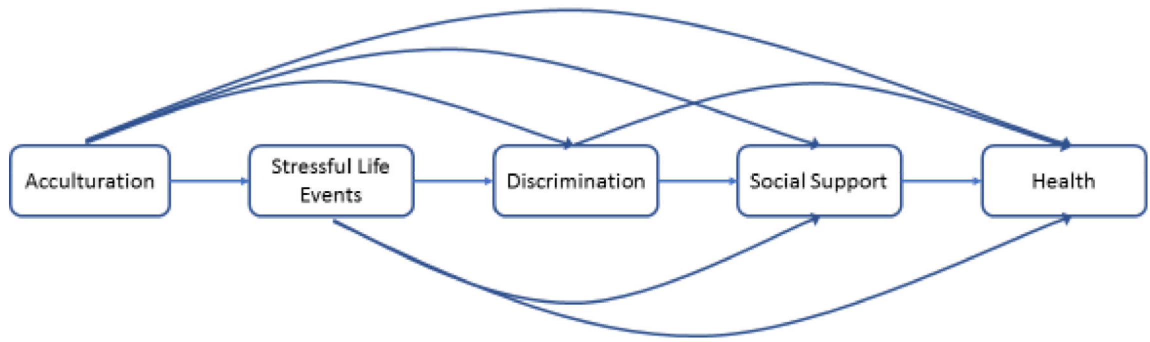

FIGURE 1.
Conceptualized Effects of Discrimination, Acculturation, Stress, and Social Support on Health among Immigrants and Refugees

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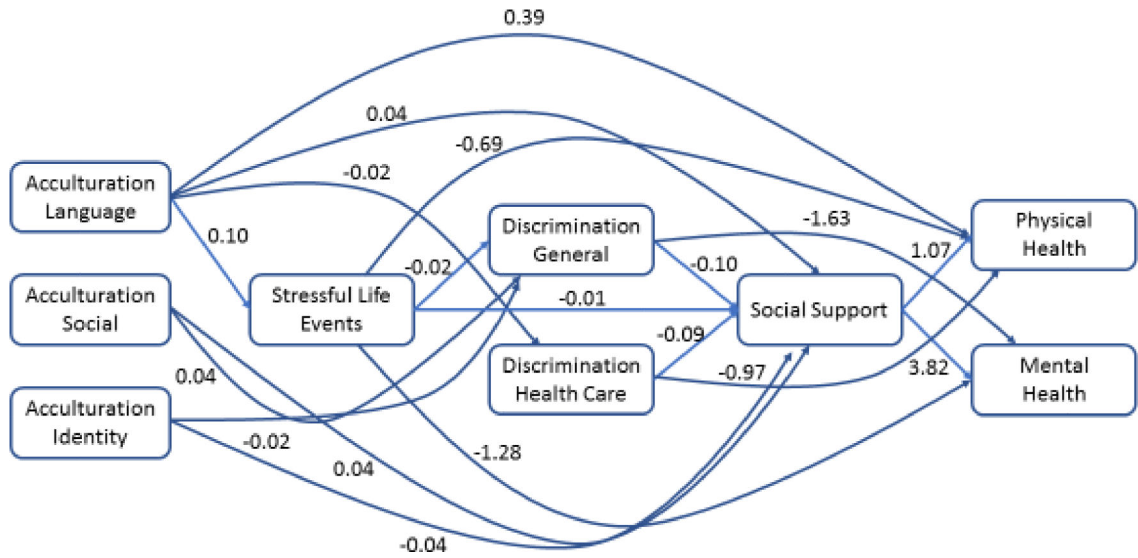

FIGURE 2.

Selected Estimates of Unstandardized Effects of Discrimination, Acculturation, Stress, and Social Support on Physical and Mental Health among Immigrants

Notes: Only statistically significant estimates at $p < 0.05$ are reported. All estimates are net of sociodemographic correlates. The estimates and standard errors are adjusted for the complex sample design and incorporate the sample weights. See Table A1 (Appendix) for complete set of parameter estimates including standard errors.

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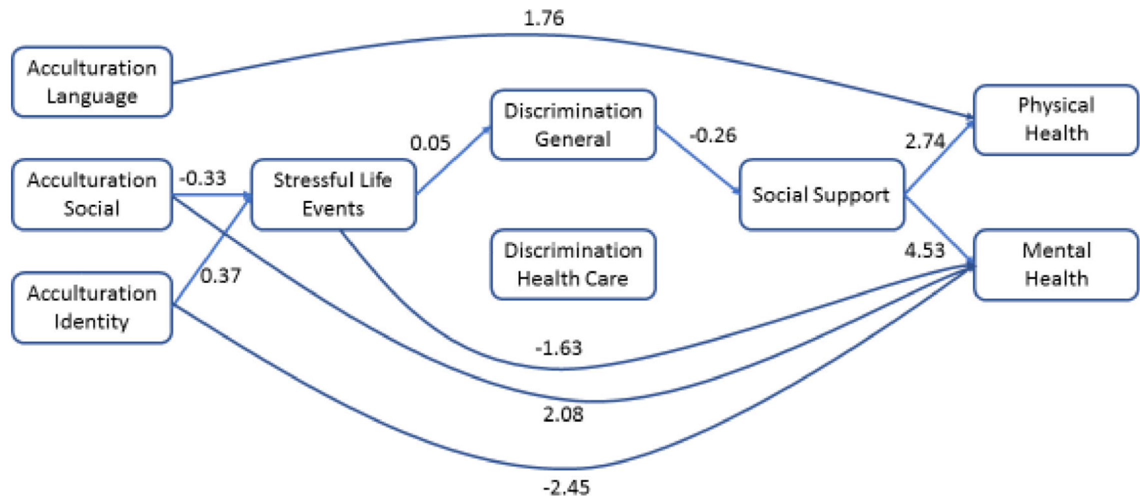

FIGURE 3.

Selected Estimates of Unstandardized Effects of Discrimination, Acculturation, Stress, and Social Support on Physical and Mental Health among Refugees

Notes: Only statistically significant estimates at $p < 0.05$ are reported. All estimates are net of sociodemographic correlates. The estimates and standard errors are adjusted for the complex sample design and incorporate the sample weights. See Table A2 (Appendix) for complete set of parameter estimates including standard errors.

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Table 1.

Descriptive statistics for two analytic samples.

	1st gen imm N = 5285		Refugee N = 421	
	Mean	SD	Mean	SD
Outcomes				
W2 Physical health (SF12-2)	50.97	9.57	49.14	10.77
W2 Mental health (SF12-2)	51.75	9.80	51.60	10.43
Covariates				
W2 Perceived discrimination--health care (a = 0.75)	1.10	0.39	1.09	0.31
W2 Perceived discrimination--general (a = 0.73)	1.16	0.41	1.18	0.42
W2 Acculturation language scale (a = 0.96)	2.81	1.34	2.67	1.14
W2 Acculturation social preferences scale (a = 0.85)	2.51	0.90	2.52	0.93
W2 Acculaturation racial identity scale (a = 0.87)	1.98	0.86	2.07	0.91
W2 Social support scale (a = 0.83)	3.43	0.52	3.39	0.54
W2 Stressful life events	1.23	1.42	1.15	1.33
Racial/ethnic group				
African	0.09		0.10	
Asian	0.13		0.20	
Hispanic	0.57		0.45	
European	0.17		0.20	
Other	0.03		0.05	
W2 Age	46.49	15.89	51.82	17.32
Female	0.57		0.46	
W1 Highest grade completed	8.85	3.19	9.66	3.22
W1 Work status				
Not working	0.36		0.39	
Working part-time	0.10		0.06	
Working full-time	0.54		0.55	
W1 Household income ($10,000)	4.46	4.54	4.50	4.88
W1 Region				
Northeast	0.24		0.15	
Midwest	0.10		0.12	
South	0.32		0.44	
West	0.34		0.28	
W1 Community type				
Center MSA	0.45		0.39	
Not center MSA	0.49		0.59	
Not MSA	0.06		0.02	

Notes: Unweighted descriptive statistics.

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Table 2.

Effect decomposition for discrimination measures.

	Physical Health		Mental Health	
	est	**se**	**est**	**se**
First-Generation Immigrants (N = 5,285)				
Discrimination--Health Care				
Direct	−0.97**	(0.37)	−1.04	(0.59)
Indirect	−0.09*	(0.04)	−0.33**	(0.11)
Total	−1.07**	(0.37)	−1.38*	(0.60)
Discrimination--General				
Direct	−0.13	(0.41)	−1.63**	(0.51)
Indirect	−0.11*	(0.04)	−0.39***	(0.09)
Total	−0.24	(0.42)	−2.01***	(0.54)
Refugees (N = 421)				
Discrimination--Health Care				
Direct	−1.19	(1.80)	−3.87	(2.37)
Indirect	0.43	(0.39)	0.71	(0.51)
Total	−0.76	(1.88)	−3.15	(2.18)
Discrimination--General				
Direct	−0.61	(1.27)	−1.28	(1.87)
Indirect	−0.72*	(0.36)	−1.20**	(0.42)
Total	−1.33	(1.63)	−2.47	(1.66)