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Immigration and Mental Health

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Abstract

Purpose of review—While the experience of migration and resettlement in a new country is associated with mental health risks, immigrants generally demonstrate better mental health than expected. This review describes patterns in mental health outcomes among immigrants. We discuss a conceptual model of the potential underlying mechanisms that could buffer the stress and disadvantage experienced by this substantial and growing population.

Recent findings—While epidemiological studies have established a general pattern of lower risk for mental health disorders among first-generation (foreign-born) immigrants in the U.S., recent studies highlight how this pattern varies substantially by the intersection of race, ethnicity, national origin, gender, and socioeconomic status. Contextual factors including the family and neighborhood context; an immigrant's social position; experiences of social support and social exclusion; language competency and ability; and exposure to discrimination and acculturative stress further influence the relationship between immigration and mental health.

Summary—We conclude with an emphasis on social resilience processes, with a focus on how immigrants develop social relations, social capital and social networks. We recommend future directions for research that prioritize identifying and understanding social adaptation strategies adopted by immigrant groups to cope with immigration stressors.

Keywords

immigration; mental health; psychiatric; culture; social resilience; epidemiology

Introduction

The sizeable and quickly growing number of immigrants in the US over the past 35 years continues to have a significant societal effect, with a central role in terms of productivity and economic growth in the last two decades of the 20th century.[1] Immigration remains a significant driver of population growth. Estimates in 2014 suggest that approximately 42 million immigrants were living in the U.S., representing 13% of the total population, projected to increase to 22% by 2060.[2] More than a third of the U.S. Latino population and two-thirds of the Asian population is foreign-born.[3] Of the 56.6 million individuals who

identified as Hispanic or Latino, roughly 36 million further described themselves as Mexican[4], while of the 20.3 million individuals who identified as Asian, 4.5 million labeled themselves as Chinese.[5]

While the term “immigrant” encompasses a broad range of distinct nationalities, cultures, races, and ethnicities, it is not a monolithic group. Immigrants differ in various personal factors and social determinants, such as primary language, social resilience, and occupation, socioeconomic status, culture, and religion. However, first generation immigrants generally have an initial health advantage over their U.S.-born counterparts that erodes the longer they reside in the U.S. This phenomenon has been labeled the acculturation hypothesis.[6] The established conclusion is that as immigrants become more assimilated or acculturated into U.S. social and cultural norms, the more their health status resembles that of the U.S.-born. Yet, there appear to be common risk and protective factors for mental health outcomes that result from the immigrant experience. This review aims to elucidate commonalities and differences among immigrant groups in an effort to identify key social determinants that can be addressed to reduce disparities in mental health outcomes. While our focus is on immigrant groups in the U.S., we also discuss relevant international findings that may shed light on these processes.

Research on the health and mental health of immigrant groups has established that first generation immigrants (those born in one country, the “home” country, that migrated to the U.S., here denominated as the “host” country) are healthier, in terms of most physical and mental health outcomes than their U.S. born counterparts.[7] This initial advantage is often described as the “immigrant paradox” due to the presumption that relatively lower socioeconomic disadvantage among immigrants should be reflected in poorer health.[7] A second group of immigrants is categorized as the “1.5 generation” to describe a group that falls in the middle – those who are foreign-born but arrived in the U.S. at a young age, such that the majority of their life has been spent in the host country.[8] Second generation immigrants were born in the host country to one or two foreign-born parents. Both of these two later groups typically show lower health status as compared to the first generation, suggesting what has been called the acculturation hypothesis.

Research conducted over the past decade has aimed to unpack these findings by investigating the epidemiology of mental health outcomes among specific immigrant subgroups (e.g., those defined by race/ethnicity, nationality, age at immigration) and by exploring the mechanisms presumed to account for differences among groups. We first present an overview of recent key findings in the epidemiology of mental health conditions among immigrants in general and then discuss findings of interest for specific mental health disorders. We then present a conceptual framework integrating these findings into an understanding of mental health risk and resilience among immigrants, and close with a discussion of short and long-term research goals for the field.

Overview of Risk and Protective Factors

National studies of the two largest immigrant groups in the U.S., Latinos and Asians, have found lower rates of psychiatric disorders among foreign-born respondents compared with

U.S. born.[9–14] The general pattern of findings is that those who migrated during childhood have rates of psychiatric disorders similar to U.S. born respondents of the same ethnicity, while those who migrated during adolescence or later have lower rates.[12] The longer immigrants live in the U.S., the more their risk for psychiatric disorders approaches that of U.S. born.[15, 11]

An analysis of the Asian-American sample within the National Epidemiological Survey of Alcohol and Related Conditions (NESARC) found that foreign-born Asian-Americans had significantly lower risk of psychiatric disorders compared to their U.S. born counterparts. [13] Risk of psychiatric illness was lowest for immigrants who arrived in the U.S. after age 14 compared to those who arrived prior. Across all disorder classes, risk for first onset of disorder was lowest prior to migration, and after migration, risk increased until it was comparable with the U.S. born. A study of the Asian-American respondents in the National Latino and Asian American Study (NLAAS) found the same pattern of lower lifetime prevalence of any disorder among immigrants overall compared to U.S. born, with an analysis by age at immigration demonstrating that this difference in prevalence was present only among immigrants who arrived at the age of 12 or later.[14]

Analysis of prevalence rates among the Latino sample of the NLAAS also found support for the immigrant paradox in psychiatric illness, with foreign-born Latinos having lower lifetime prevalence rates of mood, anxiety, and substance use disorders.[9] In a separate study of the NLAAS, analysis of risk of disorder found no difference in risk of psychiatric disorders between immigrants who arrived before the age of 7 and U.S. born Latinos.[10] However, arriving at age 7 or older was linked to later onset of depressive disorders among immigrant men and of substance use disorders among both men and women. Overall, it appeared that the longer immigrants resided in their home country, the less cumulative risk of onset of psychiatric disorders they experienced, leading to overall lower prevalence rates among the foreign-born population of Latinos in the U.S.

Research has also demonstrated the importance of analyzing subgroups within each ethnic category. The analysis of the nativity effect across a greater number of immigrant groups participating in the NESARC study found lower risk for mood and anxiety disorders among immigrants from Mexico, Eastern Europe, Africa, and the Caribbean (excluding Puerto Rico and Cuba) who arrived in the U.S. at age 13 or older, and no difference in risk for those who arrived before age 13 when compared to the U.S. born.[12] There was no difference in psychiatric disorders based on nativity for immigrants from Western Europe or Puerto Ricans born in Puerto Rico.¹

Furthermore, in another study, there was a particularly large discrepancy in lifetime prevalence of substance use disorders between immigrants (7%) and U.S. born Latinos (20.4%); however, when examining the effect by subgroup, lower prevalence across disorders was only observed for Mexican and Cuban immigrants.[9] There were no

¹Puerto Rico is part of the U.S. and Puerto Ricans born in Puerto Rico are U.S. citizens; therefore, migration from Puerto Rico to the continental U.S. is best classified as internal migration. However, cultural and linguistic differences between Puerto Rico and the continental U.S. result in a migration process that is more similar to migration from other Latin American countries than it is to internal migration between U.S. states.

significant differences between Puerto Ricans and non-Latino whites from the U.S. In an analysis of lifetime prevalence of psychiatric disorders by Latino subgroup, Puerto Ricans had the highest prevalence across disorders of all groups.[16] These results suggest that the protective effect of being foreign-born may vary depending on the country of origin for Latinos, and that analyzing multiple nationalities under the umbrella of one ethnic group may obscure such differences.

Categorization on the basis of race in epidemiological studies also makes it challenging to identify differences in the mental health status of immigrants who are categorized as White in national surveys. In particular, there is a dearth of nationally representative data on the mental health status of Middle Eastern immigrants. A subgroup analysis of the National Health Interview Survey (2000–2010) found that foreign-born Whites from the Middle East were nearly twice as likely to report serious psychological distress when compared to US-born Whites, and more than twice as likely to report serious psychological distress when compared to foreign-born Whites from Europe.[17]

We next detail the differences observed across immigrant groups for some prevalent psychiatric disorders.

Depressive Disorders

As a whole, immigrants are less likely to suffer from a depressive disorder compared with their U.S. born counterparts, but when broken down by subgroup, this finding becomes more complex.[12] For example, literature supports that immigrant Latinos are at a significantly lower risk of any depressive disorder than U.S. born Latinos[9]; however, this finding only remains significant for Mexican immigrants when further evaluated. Despite these findings, the literature appears to be mixed with others reporting that Mexican immigrants are at a significantly higher risk than U.S. born Mexicans.[18, 19] In a study comparing Arab-Americans, Chaldean-Americans (a Catholic Christian subgroup from Iraq), and African-Americans in the Midwest, Arab-American participants reported the highest rates of depression and Chaldean-Americans the lowest. The highest risk among Arab-Americans was for those of Iraqi descent, who in this study were also Muslim. A smaller study of Iraqi refugees in the U.S. reported that more than a quarter of participants met DSM-IV criteria for depression.[20, 21]

Among Asian-Americans, lower risk of any depressive disorder has been found for foreign-born women, but not men. English-language proficiency is protective against depressive disorders for men, but not for women.[14] Only one significant subgroup difference was found, with Filipina women having a significantly lower risk for depressive disorders when compared to Chinese women. In a study of Black Americans, the National Survey of African-American Life (NSAL), no overall difference in risk of lifetime mood disorder is found for foreign-born respondents when compared to U.S. born.[22] Among Black immigrants, men who have been in the U.S. more than 11 years have a substantially lower risk of a mood disorder compared to the U.S. born, as do those who immigrated between ages 13 and 17. Comparably, women who have been in the U.S. 6–10 years and who immigrated between ages 18–34 also have this advantage.[22] These results suggest that the impact of immigration and acculturation to the host society may impact mental health

differently based on gender, ethnic or racial subgroups, religious affiliation, time in the U.S., and age of immigration.

Anxiety Disorders

Patterns observed for anxiety disorders are similar to those seen for depressive disorders for Latinos and Asians, but somewhat different for Black immigrants. Among Latinos, being foreign born is associated with lower prevalence of any anxiety disorder, and in particular with lower prevalence of social phobia and post-traumatic stress disorder – but when disaggregated by subgroup, again, the finding only holds for Mexican immigrants.[9] Among Asians, as seen with depressive disorders, being foreign-born is associated with lower risk of anxiety disorders for Asian women, but not men, while English-language proficiency is associated with lower risk of anxiety disorders for Asian men, but not women. No subgroup differences are found in the risk for anxiety disorders in Asians.[14] Foreign-born Black men are at lower risk of lifetime anxiety disorders than U.S. born men; while no difference is observed for women. Risk is lower for men who have been in the U.S. 11 to 20 years and for those who immigrated between ages 13 and 34. Among women, no differences are found based on years in the U.S., but those who migrated to the U.S. after age 18 are at lower risk for anxiety disorders.[22]

Substance Use Disorders

According to Pena and colleagues[23], rates of problematic alcohol use and repeated drug use increase across generation status, with second and later generations reporting higher rates than first generations. Overall, Latino immigrants are at a significantly lower risk for alcohol abuse, drug dependence and drug abuse when compared with U.S. born Latinos. However, similar to depressive disorders, these findings only remain significant for Mexican immigrants and are challenged by other findings in the literature.[24, 25] In contrast, there seems to be a protective effect for nativity status in relation to substance disorders among Cubans and other Latinos. A similar protective effect is observed among Asian and Black immigrants, with foreign-born men and women having a lower risk of developing a lifetime substance use disorder.[14, 22] While risk for Asians increases for both men and women in the second and third generations, the increase in risk of a lifetime substance use disorder is much greater for women.[14] In a subgroup analysis, no differences are found between Chinese, Filipino, Vietnamese, and other Asians, with the exception of a higher risk for substance use disorders among Filipino men. For Black immigrants, risk increases for both men and woman and is highest for men in the second generation and women in the third generation. Migrating to the U.S. between ages 18 and 34 for men and between ages 13 and 34 for women is associated with substantially lower risk of a substance use disorder when compared to the U.S. born.[22]

Psychotic Disorders

While migration is associated with higher rates of self-reported psychotic symptoms, immigrants from developing nations, particularly those from the Caribbean where a preponderance of the population is black, demonstrate the highest rates.[26–28] Similarly, in a study examining the immigrant population in Italy, researchers found that immigrants have higher rates of all psychotic disorders compared with the general population.[29] Likewise,

another international study found that immigrants were at a higher risk of schizophrenia when compared with native-born individuals.[30] Specifically, those who immigrate as youth are at higher risk[31, 30] than those who immigrate at older ages.[31] This is particularly true for immigrants from Eastern, Caribbean, and South American countries. [30] Hospitalization risk due to schizophrenia is significantly increased for adolescent immigrants as well as second generation immigrants with one or two immigrant parents.[32] Risk is also higher among females than males [30] Although there is not a singular reason to explain the higher incidence of schizophrenia among immigrants, several factors have been identified as possible contributors, such as low socioeconomic status and acculturative stress. [33]

Suicidality

In analyses of the Collaborative Psychiatric Epidemiology Surveys (CPES), a group of nationally representative surveys of U.S. adults, prevalence of suicidal ideation is highest in U.S. born respondents overall, followed by those who migrated as children, and then those who migrated at older ages. Across all four ethnic groups (Asians, Latinos, non-Latino Blacks, and non-Latino Whites), immigrants who migrated as adolescents or adults have a lower prevalence of both suicidal ideation and attempts when compared to the U.S. born respondents of their same ethnic group. Among Asian and non-Latino Black immigrants, those who migrated as children have a higher lifetime prevalence than the U.S- born of the same ethnicity, a pattern different than that observed in the full sample.[15] In an international study, 27 out of the 56 immigrant groups are shown to have higher suicide attempt rates than their host country counterparts, with only four groups having significantly lower rates.[34] This suggests the importance of understanding differences across immigrant groups and by age of arrival.

Conceptual model

Several authors have attempted to explain these differences in risk for psychiatric illness between immigrants and native born groups. For example, some authors describe immigrants' unique set of challenges that may alter their social, economic and health experience.[35, 36] Changes in practices (i.e. use of their primary language; or dietary practices), values (i.e. values related to collectivism and familism vs. individualism), social factors (i.e. affiliation to elders), and cultural identification (i.e., ethnic identity) have been identified as potential risk factors that change health behaviors.[37] Other authors suggest that these changes in health can be accounted for by: the immigrant's migration experience, their social adjustment, and achieved socioeconomic status; social supports in the host country; neighborhood characteristics; access to care; and level of perceived discrimination. [38] Gee and Ford [39] add to these factors the effects of structural racism against different groups of immigrants and the potential intergenerational effects of racism on health. Lee and colleagues [40] delineate long-term factors from both the individual's home country (genetics, lifestyle, culture, language) and the United States (social network, age, gender, occupation, access to healthcare, lifestyle) that could cumulatively affect the health of immigrants at different stages in life. These authors underscore that health differences across immigrant groups are the product of a myriad of social and cultural factors, such as group-

specific stereotypes, the family's involvement in health, and the congruence between health behaviors in the country of origin and the U.S.

The cross-national framework conceptualized by Acevedo-Garcia and colleagues [41] connects and integrates different frameworks to understand immigrant health, including the life course approach as well as push-pull factor theories and transnational theory, reflecting the interdisciplinary nature of studying immigrant health. Push-pull factor theories imply that aside from forced geographic dislocation, immigrants leave their country of origin for more favorable life circumstances in a new country (the host or receiving country), and as such there may be some health selection bias, in that healthier and more resilient individuals are more likely to immigrate. Ultimately, differences in the health status of immigrants thus depend on the context of migration that can vary between immigrant groups and within groups by age and gender.[42] Transnational theories imply that immigrants often maintain ties to family and communities in their homelands, which can impact health through both social remittances (exchanges of ideas and social capital) and monetary remittances (investments in one's prior community's growth).

In order to conceptualize the complexity of the immigrant experience in relation to mental health, we propose a model that prioritizes social processes and how these interact with experiences of migration, the social-ecological context of the home and host countries, and acute and chronic stressors to produce better or worse mental health outcomes. Social processes presumed to positively impact mental health fall under the umbrella of social resilience and include the development and maintenance of interpersonal relationships, accumulation of social capital, and expansion of social networks. These processes provide avenues through which to cope with and repair the inherent disruptions and disconnections caused by migration. Social processes presumed to negatively impact mental health are forms of social exclusion, such as discrimination and opportunity restriction, which impede the ability of immigrants to become integrated into a new environment, access resources equally, and develop a sense of self as valued in relation to the larger context.

These social processes play out differently in the lives of individuals, and furthermore interact with experiences that vary by immigrant group. The migration experience itself is characterized by at least three distinct time periods – pre-migration, during migration, and post-migration – that are very different depending on country of origin, reasons for migration, and the context of reception once in the U.S. For example, an immigrant fleeing political violence may have experienced a great deal of trauma prior to arriving in the U.S. The experience of migration will then vary depending on whether U.S. entry is as an undocumented immigrant or as a politically protected refugee. Context of reception might include settling in an ethnic enclave near family members and in a state with large numbers of the group, or it might mean settling in a location with low levels of ethnic diversity. On the other hand, immigrants that arrive as highly skilled workers or for educational purposes may have vastly different experiences integrating into U.S. society. Below we detail various constructs suggested by the literature and our own studies central to immigrants' mental health.

Factors that may enhance or diminish mental health

Family context

Across studies, family conflict has been found to be a risk factor for a number of psychiatric disorders among immigrants, while family cohesion has generally been found to be a protective factor.[43, 44] Research on immigrants emphasizes that family cohesion is associated with developing resilience. These findings are consistent with a conceptualization of the predominant immigrant groups in the U.S. as having a collectivistic worldview in which family connectedness and obligation are highly valued. However, findings are not uniform across studies and may vary by ethnic group in terms of which psychiatric disorders are most affected. For example, in one study [45], having a high level of family cohesion decreased the risk of last year and lifetime depressive disorders among Latino immigrants, while having a low level of family cohesion increased risk of last year and lifetime anxiety disorders among Asian-American immigrants. Family cohesion was protective for both groups, but for different psychiatric disorders. Furthermore, the effect was in the opposite direction for substance use disorders among Latinos; low levels of family cohesion were actually associated with lower levels of substance use disorders among this group.

It is also possible that higher levels of connection and obligation to family may create additional stressors from experiences such as caring for family members, being exposed to their struggles, or working to align one's own goals with that of the family. In a cross-national study, Borges and colleagues [24] found that not only was the prevalence of alcohol and substance abuse higher among migrants to the U.S., but also among family members of migrants who remained in Mexico when compared to those from non-migrant families. Familism, the term for the value of placing family well-being above individual well-being among Latinos, was found to be linked to lower levels of parent-adolescent conflict but higher levels of internalizing behavior in a study of Latina adolescents.[46] This implies that familism is not uniformly protective against psychiatric disorders.

Social position and social capital

An individual's social position or place in the social structure emerges as a key determinant of mental health. A sizeable amount of research relates lower social position with overall lower self-reported health.[47, 48] Most studies on social position and health, however, assume the universality of mainstream American culture, with limited integration of the perspectives of immigrant populations. Nonetheless, there is some evidence to suggest that nativity may mediate the relationship between social status measures and mental or physical health.[49] The lack of consistency among social position indicators across countries suggests that culture and local worlds may play an important role in how one attributes social status.[50]

Neighborhood context

Neighborhoods can shape health behaviors and consequently have significant implications on risk for psychiatric illness and resource allocation that can protect against hardship. Members of ethnic minority groups may have better behavioral health when residing in neighborhoods with a high density of members of the same group.[51] This relationship has

been observed for adolescents[52] and for adults, particularly among Latino populations.[53] These effects seem to mitigate the negative effects of concentrated disadvantage that characterize racially-segregated neighborhoods.[54, 55] Yet results are inconsistent across studies. A study of Puerto Ricans ages 45 to 75 years old found that living in a neighborhood with higher ethnic density of Puerto Ricans was protective against depression symptoms at a 2 year follow-up, but only for men.[56] In contrast, a national study of neighborhood effects on mental health showed that Latinos residing in neighborhoods with greater Latino immigrant concentration were at increased risk for depression and anxiety disorders; Puerto Ricans had the highest risk among Latino subgroups.[57]

Social supports and social exclusion

Ruiz and colleagues [58] describe how immigrant Latinos living in the United States create larger social networks within families and the community that confer respect, advice, acceptance, and interpersonal relationships generally lessening the negative influence of external stressors on health. Residing in a location that is a newer receiving site for the immigrant group may exacerbate the risk for psychiatric illness. In one study of 150 Mexican immigrants who moved to a non-traditional receiving site, 68% met clinical thresholds for anxiety or depression symptoms, or both.[59] Greater social support was associated with lower depression and comorbidity. While social support may be protective across contexts, it may also be more difficult to obtain in a non-traditional receiving setting. In a mixed-methods study in Canada that sought to characterize the role of organizations providing settlement services to immigrants, social support was independently associated with better self-rated mental health and was also higher in smaller urban centers when compared to larger urban centers. Qualitative interviews indicated that more intensive social supports were available in these smaller urban centers due to the presence of more personal relationships and greater ease in coordinating between agencies, and also highlighted the importance of social support in a successful resettlement. However, despite the availability of more social supports, residing in a smaller urban center was associated with poorer self-rated mental health in adjusted models; qualitative interviews suggested that barriers presented by low cultural and linguistic diversity in these areas (e.g., discrimination and language barriers) may account for this result.[60]

Transnational ties

The development of transnational ties implies maintaining social, economic, political, or cultural ties across national borders on a frequent and ongoing basis.[61] While it is possible that the maintenance of transnational ties may be threatened by increased restrictions on immigration, it is also the case that advances in communication technology (mobile phones, affordable international calling, and social media) have made frequent international contact a possibility for the vast majority of immigrants.[62] Interestingly, an analysis of the influence of transnational economic ties (represented by remittances burden, or percentage of remittances sent home relative to household income) and transnational social ties (represented by number of annual visits to the home country) on the mental health of Latino immigrants found that an increase in remittances burden was associated with decreased odds of past year major depressive episode, while a higher number of visits back home was associated with increased odds. The link between visits home and depression was stronger

for women than for men.[63] Similarly, a study of transnational ties among Arab-Americans in Detroit found they can constitute both a risk and a protective factor. Transnational social ties and positive attitudes towards connections with the Arab world were associated with greater odds of psychological distress for first through third generation Arab Americans, while involvement in cross-border community organizations was associated with less distress. [64] While further empirical research on transnational ties is needed, these results suggest a complex relationship between connections to the country of origin and psychiatric illness.

Language use and ability

Limited English proficiency has been linked to poor health outcomes.[65, 66] On a practical level, not speaking English proficiently and needing interpretation services are two major barriers to accessing and remaining in healthcare[67], including mental health care.[68–70] A study of French immigrants in Canada found specific healthcare concerns resulting from language and communication difficulties including fear of being misunderstood, experiencing emotional distress prior to the visit, feeling unsatisfied with the care received, delaying seeking care, and the potential for harm or medical errors.[71] Thus, language barriers are not simply a challenge of communicating specific information, but rather impact both instrumental and emotional aspects of the patient-provider encounter. Indeed, inability to communicate in the dominant language has been posited to influence health outcomes by producing social isolation, insecurity, lack of access to relevant information, and difficulty establishing social relationships, which in turn impacts self-esteem and position within family and other social systems.[66]

Discrimination and acculturative stress

There is some evidence that Latino and Asian immigrants may experience less exposure to discrimination than their U.S. born counterparts, possibly due to less exposure to diverse ethnic groups.[45] However, those who do experience discrimination, along with other stressors related to acculturation in the host society, may be at greater risk for psychiatric disorders. Evidence suggests that lower acculturation together with acculturative stress can increase risk of suicidal behaviors, including thoughts and attempts.[72] A study of Korean immigrants in New York City found that higher exposure to discrimination was associated with higher depression symptoms.[73] Among Arab-Americans, discrimination was reported more frequently by those who were Muslim, identified as non-White, and lived within ethnic enclaves; however, the association between discrimination and psychological distress was stronger for their counterparts who were Christian, identified as White, and lived outside of ethnic enclaves.[74]

A recent study[75] distinguished between legal acculturative stress, related to concerns about legal status, and discrimination acculturative stress, related to being discriminated against for ethnicity/race, language, or national origin. More than 45% of Asian American immigrants reported experiences of discrimination stress, and almost 20% reported experiences of legal stress. There was a strong positive relationship between discrimination stress and lifetime incidence of major depressive disorder, even after controlling for sociodemographic variables. Age at immigration and years in the U.S. moderated this

relationship, such that the discrimination stress was more predictive of a major depressive episode for immigrants who arrived after age 18 and who had lived in the U.S. less than 10 years. Legal stress was also associated with depression in a separate model, and was more predictive for immigrants who arrived before age 18. These results imply that acculturation stress does not operate as one single risk factor, and that types of stress impact mental health risk differently for immigrants who arrive in the U.S. as children versus as adults.

Other factors that appear to matter

There are other factors that seem to be correlated to increased or decreased risk for immigrants' mental health, as exemplified in a study of Mexican Americans.[59] Having grown up in a rural area prior to migration and engaging in recreational or church activities at baseline resulted in lower depression symptoms at follow-up. The reasons for immigration also appear to matter, since having migrated for personal or family problems was associated with greater depression symptoms compared to those who migrated for economic reasons. Everyday stressors (not specifically linked to immigration) were related with higher risk for psychiatric disorders, particularly among women, while acculturation stressors were associated with depression and comorbidity. In an interaction model, the association between acculturation stress and depression only held for those immigrants that had fewer years in the U.S. These results accentuate how immigrants' risk for mental health problems is complex and linked to a myriad array of factors that can be buffered or exacerbated given the residing context, the migratory experience, the age at migration and the social processes that evolve in the host environment.

Conclusion and future directions

A different optic is emerging examining the role of social resilience in the migration-environment nexus, defined "as the degree of disruption a system experiences in response to changing circumstances." The study of social resilience examines how one develops social relations, social capital and social networks to adapt to the new environment after migration, including how immigrants access resources and assistance from the wider socio-political arena. It seeks to understand how immigrants cope with and overcome adversities, learn and adapt to new experiences and adjust their livelihoods to subsist. Considerable research demonstrates how social ties and social relationships (exemplified by social support, social networks, and relationships to institutions), influence health.[76–79] Yet, there is a void of information on social resilience and its impact on immigrant health, and more importantly how adapting and adjusting to the US might lead to a health disparity linked to a social or economic disadvantage, rather than an advantage. Our first recommendation is to conduct studies that evaluate factors that exclude or include immigrants from social opportunities and social relationships and investigate the benefits and costs of integrating into US society. This might require investigating how to increase social mobility and economic opportunity without disrupting existing social networks with peers and family that provide benefits to mental health and wellbeing. It also emphasizes the role of undocumented versus documented status and how different statuses might lead to different lives and privileges or institutional benefits. What happens when immigrants have to become invisible or

camouflage to survive? How does it influence mobility and integration in civic society? How does it impact mental health?

A question of interest is whether maintaining transnational ties in the country of origin while integrating in social spheres in the host country is adaptive (i.e. might confer professional mobility) or if it is psychologically and economically draining and overburdens immigrants? Does maintaining ethnic identity and affiliation with family and peers while at the same time expanding opportunity outside one's cultural group create tensions, and what type of tensions? How does it influence mental health?

A third area of relevance for future study is the role of family and extended kin networks in shielding or aggravating adversity in the host country. How do these networks help mold ethnic identity, aspiration and expectations? Are intergenerational relationships a source of conflict that increases the risk for mental health problems? Are they a valued source of support and connection to the culture of origin that cushions hardship? What is the opportunity cost of maintaining a high level of social connection? How do family dynamics become a risk factor? Is affiliation always good for immigrants' mental health, or is there a cost?

More needs to be assessed on the role of segregated versus integrated neighborhoods where immigrants reside and their role in immigrants' mental health. We are limited in our knowledge of whether segregated versus integrated neighborhoods are protective against cross-group tensions or if they confer isolation from broader community resources. Do ethnic enclaves allow for collective action and power to better community conditions that enhance mental health, or do they promote alienation and social stagnation that erodes well-being? Are they central in reducing discrimination and racism for immigrants that might be protective for mental health?

Finally, understanding of how immigrants perceive the attitudes of persons in the social milieu where they live and work and how these attitudes impact policy and, consequently, the mental health of immigrants is paramount. The moral discussions of who legally deserves or not to receive government benefits, security and a long term presence in the US have been hotly debated but not well understood.[80, 81] How are different immigrant groups determined to be "desirable" or not desirable and for whom? What factors into the decision of deserving these benefits and how does it impact integration into the US? How do immigrants perceive that those surrounding them (i.e. their neighbors, their work colleagues) view whether they do or do not deserve opportunities for promotion in the workplace, public healthcare, good living conditions or public education? How does this affect how they feel about institutions and their trust in them? Does this impact their mental health? Overall, there are more questions worthy of attention to advance knowledge and action that will promote immigrants' mental health and living circumstances.

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