Psychiatry Research 229 (2015) 784–790

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Immigration and psychotic experiences in the United States: Another example of the epidemiological paradox? ☆

Hans Oh [a,*], Jennifer Abe [b], Nalini Negi [c], Jordan DeVylder [c]

[a] Columbia School of Social Work, 1255 Amsterdam Avenue, New York, NY 10027, USA
[b] Loyola Marymount University, School University Hall Suite 4600, 1 LMU Drive, Los Angeles, CA 90045, USA
[c] University of Maryland, School of Social Work, 525 West Redwood Street, Baltimore, MD 21201, USA

ARTICLE INFO

Article history:
Received 18 December 2014
Received in revised form
14 July 2015
Accepted 1 August 2015
Available online 10 August 2015

Keywords:
Psychosis
Migration
NCS-R
NLAAS
NSAL

ABSTRACT

In Europe, it is widely established that immigration increases risk for psychotic disorder. However, research has yet to confirm this association in the United States, where immigrants paradoxically report better health status than their native-born counterparts. Further, few studies have examined this topic with respect to sub-threshold psychotic experiences, which are more common than psychotic disorders in the general population. This study analyzes the (1) National Comorbidity Survey-Replication, (2) the National Latino and Asian American Survey, and (3) the National Survey of American Life, in order to determine whether generation status had any impact on risk for lifetime and 12-month PE, and whether these associations vary across racial/ethnic groups, adjusting for demographic variables and socioeconomic status. We found an absence of an immigration effect on PE across various ethnic groups and across various geographic areas, and found that immigration is actually protective among Latinos, supporting the idea that the epidemiological paradox extends to the psychosis phenotype.

1. Introduction

1.1. Does the pattern of immigration risk for psychosis in Europe extend to the US?

In Europe, immigrants have higher rates of psychotic disorder when compared with native-born populations (Bhugra, 2000; Hutchinson and Haasen, 2004). This relationship is pronounced and widely established. Cantor-Graae and Selten (2005) meta-analysis found that immigrants are 2.9 times more likely to develop schizophrenia than their native-born counterparts, which corroborates prior effect sizes reported in systematic reviews (McGrath et al., 2004; Saha et al., 2005). Interestingly, second generation immigrants, who by definition are excluded from many of the stressors associated with immigration, are approximately 4.5 times more likely to develop schizophrenia than non-immigrants (Cantor-Graae and Selten, 2005), which implicates social risk factors that may shape the habitus of psychosis for immigrants and their progeny over time (Bhugra, 2000).

Immigrants are at greatest risk for schizophrenia when relocating to European countries where they will be racial minorities (Selten et al., 2007). Black (especially darker-skinned) immigrants to Europe have much higher rates of psychosis when compared with white immigrants or nonwhite/nonblack immigrants to varying degrees (Cantor-Graae and Selten, 2005), even though psychosis rates are not relatively higher in the African or the Caribbean countries of origin (Hickling and Rodgers-Johnson, 1995; Bhugra et al., 1996; Mahy et al., 1999; Saha et al., 2005). It appears that the receiving context – be it favorable or adverse to a particular immigrant group – can interact with immigrant attributes and influence the morbidity of psychosis (see Schwartz et al., 2010) and may help explain the unevenness of risk within countries. For example, there is elevated incidence of schizophrenia in the state of Israel among first- and second-generation immigrants (especially from Ethiopia) (Weiser et al., 2008), but not in Jerusalem (Corcoran et al., 2009). European studies have also found that immigrants who reside in areas consisting of high densities of their own ethnic groups often experience buffering effects from the social risk factors for psychosis (Boydell et al., 2001; Das-Munshi et al., 2012; Kirkbride et al., 2007; Schofield et al., 2011; Veling et al., 2008a, 2008b), though it is possible that neighborhood segregation can be associated with increased risk for psychosis, as found among Black minorities in the US (March et al., 2013).

Does the pattern of risk for psychosis among immigrants in

☆Hans Oh served as the main writer, and conducted all statistical analyses. Jennifer Abe, Nalini Negi, and Jordan DeVylder served as statistical and theoretical consults and helped guide the preparation of manuscript by revising drafts. All authors contributed to and have approved the final manuscript.

* Corresponding author.
E-mail address: hansoh@gmail.com (H. Oh).

http://dx.doi.org/10.1016/j.psychres.2015.08.002
0165-1781/

Europe extend to the US? In the 1930s, Ornulv Odegaard posited that Norwegians who were genetically predisposed to schizophrenia (as evidenced by their poor social adaptation) selectively migrated to the US. Dealberto (2010) noted the absence of recent data to corroborate Odegaard's supposition, and surmised that there may be "a hidden epidemic of schizophrenia and psychosis in immigrants to North America," (p. 1), especially since risk for psychotic disorders may be pronounced in countries with long-standing immigration when compared with countries of recent immigration. However, research in Europe over the past two decades does not seem to suggest that unhealthy individuals are any more likely to migrate than healthy individuals (van der Ven et al., 2014; Lundberg et al., 2007; Selten et al., 2002; Cantor-Graae et al., 2003). Also, for over half of a century, the US epidemiological literature has shown that immigrants, who despite higher socioeconomic and demographic risk, paradoxically report similar or lower rates of several chronic health conditions and mental health outcomes when compared with native-born populations (Alegria et al., 2007b; Alegría, 2008; Jasso et al., 2004; Forbes and Frisbie 1991; Markides and Coreil, 1986).

1.2. Psychotic experiences

Epidemiological studies have found that people report psychotic experiences without reporting distress and impairment that would constitute a psychiatric disorder, revealing a continuum of the psychosis phenotype. While psychotic disorder occurs in about 1% of the US population, sub-clinical psychotic experiences (PE) have been reported in an estimated 7.2% of the general healthy population (based on meta-analysis; Linscott and Van Os, 2013). Studying PE has become increasingly important over the years because people who report PE may in fact feel distress and feel the need for help (DeVylder et al., 2014; Murphy et al., 2010; Oh et al., 2014; Yung et al., 2006; Armando et al., 2010), and may have higher risk for developing a full psychotic disorder (Fisher et al., 2013; Kaymaz et al., 2012; Werbeloff et al., 2012) or higher risk of attempting suicide (DeVylder et al., 2015; Kelleher et al., 2013).

Research on migration and psychosis in Europe has focused primarily on psychotic disorders and not on PE. A notable exception is King et al. (2005) study that analyzed a community-based probabilistic sample of 4281 adults, and found higher prevalence of psychotic symptoms among multiple immigrant groups (excluding Bangladeshis) in the UK when compared with native-born populations. Their study did not stratify by generation, but did show that the associations between immigration and psychotic symptoms mirror the associations between immigration and full psychotic disorder in Europe. A similar finding emerged in Italy (Tarricone et al., 2009) and in Australia (Scott et al., 2006). Vega et al. (2006) are the only researchers to have examined the association between immigration and PE in the US, and their findings showed that when compared with native-born populations, Mexican immigrants reported lower rates of PE.

1.3. Aims and hypotheses

The psychosis literature from Europe and the epidemiological paradox literature from the US lead us to two competing hypotheses: (1) Given the robust findings that immigration is a risk factor for psychosis in Europe, we would expect similar relationships to be present in the US; however, (2) Findings that immigration appears to be a protective factor for several mental health conditions in the US suggest that this paradox may extend to psychosis as well. This study analyzes one nationally representative sample and three race/ethnicity-specific national household probability samples, exploring the overall relationship between immigration and PE in the US, as well as the variability of this relationship across ethnic/racial groups.

2. Methods

2.1. Participants

We separately analyzed four samples from the Collaborative Psychiatric Epidemiology Surveys (CPES; Alegría et al., 2007a, 2007b), which consists of three US population-level surveys: (1) the National Comorbidity Survey Replication (NCS-R; Kessler and Merikangas, 2004), (2) the National Latino and Asian American Study (NLAAS; Alegria et al., 2004; 2007a) and (3) the National Survey of American Life (NSAL; Jackson et al., 2004), following a previously utilized analytic plan (DeVylder et al., 2014). All surveys used a common core questionnaire based on the World Health Organization's Composite International Diagnostic Interview, and used similar methodology and multi-stage sampling designs, drawing adult participants from households in the 48 contiguous states.

The NCS-R is a nationally representative survey of 9282 individuals (predominantly White, reflecting the general population of the USA), of which a random subsample ($n=2322$) completed the psychosis screen. The NLAAS is a survey of Latino ($n=2554$) and Asian ($n=2095$) Americans, which for the purposes of this study was analyzed as two separate samples divided by race/ethnicity. Finally, the NSAL is a nationally representative sample of African-Americans ($n=3570$), with Afro-Caribbean ($n=1621$) and Caucasian ($n=891$) respondents drawn from the same source neighborhoods, though Caucasians did not receive the psychosis screen. Response rates were 70.9% for the NCS-R, 75.5% for the NLAAS Latino sample, 65.6% for the NLAAS Asian sample, and 72.3% for the NSAL, which are consistent with other large-scale psychiatric epidemiology studies.

Participants were excluded if they were missing data for any of the variables of interest or socio-demographic confounders. To establish consistency across the surveys, the NCS-R sample was restricted to white respondents, and the NSAL was restricted to Black respondents. After exclusion, the analytic sample sizes were: NCS-R (White) ($n=1663$), NLAAS Latino ($n=2539$), NLAAS Asian ($n=2089$), and NSAL (Black American) ($n=4906$).

2.2. Measures

2.2.1. WHO-CIDI 3.0 psychosis screen

PE were assessed using the WHO-CIDI 3.0 psychosis screen, which is a reliable and valid measure used across cultures (Nuevo et al., 2010; Kessler et al., 2005; Lewis-Fernandez et al., 2009; Haro et al., 2006). The screen included items assessing the lifetime and 12-month occurrence of: (1) visual hallucinations, (2) auditory hallucinations, (3) thought insertion, (4) thought control, (5) telepathy and (6) delusions of persecution. Individuals were coded positively for PE if they reported having at least one of the six experiences, but not if the experiences took place solely within the context of falling asleep, dreaming, or substance use. Twelve-month occurrence captures recent PE and tends to be more reliable than lifetime estimates (Takayanagi et al., 2014). Further, 12-month occurrence likely takes place after immigration, since most people in the samples have lived in the US for longer than one year. However, 12-month measures are confounded by persistence, which makes lifetime occurrence valuable.

2.2.2. Immigration status

We examine generational status (first, second, third+) using a variable that asked whether the respondents were US born (i.e. native-born) vs. foreign born. All foreign-born respondents were