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Immigration, Educational Attainment, and Subjective Health in the United States

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Abstract

Objectives: Although educational attainment is a major social determinant of health, according to Marginalization-related Diminished Returns (MDRs), the effect of education tends to be weaker for marginalized groups compared to the privileged groups. While we know more about marginalization due to race and ethnicity, limited information is available on MDRs of educational attainment among US immigrant individuals.

Aims: This study compared immigrant and non-immigrant US adults aged 18 and over for the effects of educational attainment on subjective health (self-rated health; SRH).

Methods: Data came from General Social Survey (GSS) that recruited a nationally representative sample of US adults from 1972 to 2022. Overall, GSS has enrolled 45,043 individuals who were either immigrant (4,247; 9.4%) and non-immigrant (40,796; 90.6%). The independent variable was educational attainment, the dependent variable was SRH (measured with a single item), confounders were age, gender, race, employment and marital status, and moderator was immigration (nativity) status.

Results: Higher educational attainment was associated with higher odds of good SRH (odds ratio OR = 2.08 for 12 years of education, OR = 2.81 for 13-15 years of education, OR = 4.38 for college graduation, and OR = 4.83 for graduate studies). However, we found significant statistical interaction between immigration status and college graduation on SRH, which was indicative of smaller association between college graduation and SRH for immigrant than non-immigrant US adults.

Conclusions: In line with MDRs, the association between educational attainment and SRH was weaker for immigrant than non-immigrant. It is essential to implement two sets of policies to achieve health inequalities among immigrant populations: policies that increase educational attainment of immigrants and those that increase the health returns of educational attainment for immigrants.

Background

Associations between socioeconomic status (SES) indicators such as educational attainment and health are very well established[1-3]. Individuals with high levels of educational attainment report better health and lower depression[4], anxiety[5], suicidal ideation[6], and psychological distress[7,8]. Individuals with higher educational attainment are more likely to be happy[9]. High educational attainment is also predictive of subjective health (self-rated health; SRH)[10-14].

Discrimination serves as a catalyst for the pervasive issue of marginalization, creating a cycle that amplifies the struggles faced by various social groups marked by marginalizing identities, including but not limited to the LGBT community, racial minorities, ethnic minorities, religious minorities, and immigrants. The roots of marginalization often lie in prejudiced attitudes, stereotypes, and systemic biases that perpetuate unequal treatment. These marginalized groups encounter barriers to equal opportunities, representation, and access to resources, exacerbating their social and economic challenges. Discrimination, whether overt or subtle, reinforces societal norms that marginalize individuals based on factors beyond their control, fostering a sense of exclusion and alienation. As a result, members of these communities may face higher rates of poverty, limited educational prospects, and restricted access to healthcare.

Indeed, social conditions are complex and multifaceted, influenced not by a singular social identity but by the intricate intersections of various identities. The Social Economic Status (SES) is a prime example, as it significantly shapes life conditions and impacts social mobility and health outcomes in marginalized populations within the United States. However, the effects of SES are not uniform across different social groups. The intersectionality perspective underscores the importance of considering the simultaneous impact of various social identities such as race, gender, ethnicity, and more. It recognizes that the compounding effects of multiple identities can create unique experiences and challenges. For instance, the enhancement of life conditions through SES may manifest differently for different social groups, emphasizing the necessity of a nuanced understanding when addressing population health. This perspective encourages a more comprehensive approach to policymaking and social interventions that acknowledges the intricate web of identities influencing individuals' lived experiences and health outcomes.

According to Marginalization-related Diminished Returns (MDRs) theory[15,16], the educational gradient in health is weaker for marginalized populations. Research has shown that almost all types of social marginalization (e.g., based on race, ethnicity, sexual orientation, and immigration) reduce the strength of the protective effect of educational attainment on health outcomes[17-20]. A few studies have also shown that immigration may also be associated with weaker health effects of educational attainment[14,21-26].

Marginalization is shown to weaken the educational attainment - health association[27-30]. Marginalization also weakens the effects of other SES indicators on health[31-33]. For example, the educational attainment[34] in mental health[35,36] and physical health[37,38,39,40] are weaker for minoritized populations when compared to majority groups. Although most of this literature is about comparison of Black[28,29] Hispanic[12,41], Asian American[42], and Native American[43] with White population, some research has replicated these weakened effects for lesbian, gay, bisexual, and transgender (LGBT) communities as well[44,45,46].

While there is convincing evidence on weakened health benefits of educational attainment[37] for racial, ethnic, and sexual minorities, very little is known about such diminished returns (MDRs) for immigrants. There is a need for studies that assess immigrant and non-immigrant status and effects of educational attainment on health. The term immigrant is a broad group that encompasses a wide range of different identities (e.g., country of origin; amount of time since immigrating to the US)[47]. Despite the heterogeneity of the population[48], there are commonalities across immigrant groups that make us study them as a group[49]. While future research can study heterogenous aspects of and nuances[50], this does not mean that we can not study immigrants as a group that is marginalized and have less access to resources[51].

Aim

This is a cross-sectional study to compare immigrant and non-immigrant US adults for the association between educational attainment and SRH. Built on MDRs, and conceptualizing immigration status as one type of social marginalization, we expected diminished association between educational attainment and SRH among immigrant than non-immigrant people.

Methods

Design and Setting

This was a cross-sectional study. We used data from the General Social Survey between the years 1972 to 2022. The GSS, conducted annually by the National Opinion Research Center at the University of Chicago, is a nationally representative, full probability sample of non-institutionalized US adults aged 18 years and older. The survey serves as a continuous means of tracking the societal changes and trends within American Society over time. The interviews were carried out in person and consisted of a consistent set of questions asked each year[52]. For more information on the GSS sample frame and sample design across years, please see elsewhere[53,54].

Analytical Sample

For this study, we included any participant with complete data on educational attainment, race, age, gender, marital and employment status, and SRH. The final analytical sample included 45,043 US adults aged 18 years or older, with 79.3% White (n=35,425), 12.9% Black (n=6,607), 7.8% other race (n = 3,011) people.

Study Measures

Independent Variables

Educational attainment was the independent variable. The original question was the following: What is the highest grade or level of school you have completed or the highest degree you have received? (Box 1) Similar questions were asked for partner/spouse education. Educational attainment was used as a categorical variable (11 or less years of schooling, 12 years of schooling, 13-15 years of schooling, 16 years of schooling, and 17 or more years of schooling). This classification is commonly used in public health research[55,56]. We used 13-15 years as a separate category[57] because research has shown that some college education without completing a college degree may operate as a risk factor for health[58].

Box 1: Wording of the education question in the GSS

What is the highest grade in elementary school or high school that (you/your father/ your mother/your [husband/wife]) finished and got credit for? CODE EXACT GRADE. B. IF FINISHED 9th-12th GRADE OR DK*: Did (you/he/she) ever get a high school diploma or a GED certificate? C. Did (you/he/she) complete one or more years of college for credit--not including schooling such as business college, technical or vocational school? IF YES: How many years did (you/he/she) complete? Do you (Does [he/she]) have any college degrees? (IF YES: What degree or degrees?) CODE HIGHEST DEGREE EARNED.

Dependent Variables

The dependent variable was SRH. The question read as "Would you say your own health, in general, is excellent, good, fair, or poor?" Responses were merged to good health (excellent, good) vs. poor health (fair, poor). Good health was coded as 1 and poor health as 0.

Moderator

Immigration status was a moderating variable. This variable was 0 for US-born and 1 for immigrants.

Covariates

The study covariates included age (18-29 years, 30-49 years, 50-64 years, 65 years or more), gender (=1, if male, =0, if female), race (=0, white people, =1, black people, =2, Other), employment (=1, if employed; =0 if unemployed), marital status (=1, if married, =0, if un married), and year of the survey. These confounders are based on literature and common sense on social and demographic determinants of health.

Statistical Analyses

We used Stata 15.0 (Stata Corp, College Station, TX: StataCorp LLC) for the data analysis. First, we performed univariate and bivariate followed by multivariable analyses. The results of the univariate analysis were presented as frequencies and percentages. For bivariate analysis, we used the Pearson Chi-square test to compare immigrant and US-born adults. Two survey logistic regression models were estimated for multivariable analysis. *Model 1* was the main effect model and did not include the interaction term. This model included the main effects of immigration, educational attainment, and all confounders. We estimated the immigration-by-educational attainment interaction in *Model* 2. The only difference between *Model 1* and *Model 2* was inclusion of interaction term in *Model 2*. Taylor series were used to estimate standard errors. Given our data was from a long period, for sensitivity analysis, we divided the survey years into two 25-year periods. In addition, we controlled for the effect of year of survey. The logistic regression results were presented as adjusted odds ratios (ORs), 95% confidence intervals (CIs), and significant *P* value. We set the significance levels at $P \leq 0.05$.

Ethics

The University of Chicago Institutional Review Board (IRB) has approved the GSS study protocol. Informed consent had been obtained from all the survey participants. The current study used publicly available fully de-identified data of GSS and was not human-subject research.

Results

Descriptive Data

Approximately 9.4% of our sample of 45,043 reported being immigrants (Table 1). About 11% of non-immigrant US-born adults had 17 or more years of schooling; the rate was 15% for immigrant adults. Most immigrant adults and non-immigrant US-born adults were female, White race, and married. Employment rate was slightly higher among non-immigrant US-born than immigrant adults (51.7% vs. 49.4%). The prevalence of good SRH was similar among immigrant adults and non-immigrant US-born adults. The age distribution was skew in immigrants and US-born towards 30-49 at however, this is more pronounced in the immigrant group (45.9%) compared to non-immigrant group (36.3%).

Intersectional Data

Table 2 describes SRH across groups based on immigration status and educational attainment intersections. About 89% of the non-immigrant US-born adults with 17 or more years of schooling reported being in good health, while 80.5% of immigrant adults with the same years of schooling reported being in good health. Among the non-immigrant US-born adults with 11 or less years of schooling, 56.1% reported good health. The rate was 52.1% for immigrant adults with 11 or less years of schooling.

Table 1: Descriptive Statistics in the Overall Sample and by Immigration Status.

Variables	All (n=45,043)	Non-immigrant US-born (n=40,796)	Immigrants (n=4,247)	p
	N (%)	N (%)	N (%)	
Age (years)***				<0.001
18 – 29	8,660 (23.4)	7,901 (23.7)	759 (21.5)	
30 – 49	17,553 (37.6)	15,515 (36.3)	2,038 (45.9)	
50 – 64	10,026 (21.9)	9,166 (22.1)	860 (20.5)	
65 or more	8,804 (17.1)	8,214 (17.9)	590 (12.1)	
Gender				0.196
Female	25,184 (52.3)	22,880 (52.5)	2,304 (51.1)	
Male	19,859 (47.7)	17,916 (47.5)	1,943 (48.9)	
Educational Attainment***				<0.001
11 years or less	8,432 (20.2)	7,391 (73.9)	1,041 (25.8)	
12 years	13,015 (29.5)	12,139 (30.6)	876 (21.9)	
13-15 years	11,359 (25.8)	10,426 (26.2)	933 (22.7)	
16 years	6,583 (13.4)	5,901 (13.2)	682 (14.8)	
17 years or more	5,654 (11.1)	4,939 (10.6)	715 (14.8)	
Employment*				0.022
No	22,785 (50.3)	20,752 (50.6)	2,033 (48.3)	
Yes	22,258 (49.7)	20,044 (49.4)	2,214 (51.7)	
Marital status ***				<0.001
Not married	22,774 (43.9)	20,861 (44.5)	1,913 (40.0)	
Married	22,269 (56.1)	19,935 (55.5)	2,334 (60.0)	
Race***				<0.001
White	35,425 (79.3)	33,159 (83.0)	2,266 (54.3)	
Black	6,607 (12.9)	6,090 (13.1)	517 (11.7)	
Other	3,011 (7.8)	1,547 (3.9)	1,464 (34.0)	
Self-rated health				0.904
Poor health	11,116 (24.0)	10,085 (24.0)	1,031 (24.0)	
Good health	33,927 (76.0)	30,711 (76.0)	3,216 (76.0)	

Note: * p <0.01, *** *p* < .001, All comparisons are based on Chi-square tests

Table 2: Prevalence of Good Self-Rated Health Across Immigration Status and Educational Attainment Intersectional Groups.

	Self-rated health		
	Non-immigrant US-born n (%)	Immigrants n (%)	All n (%)
Education			
11 years or less	3,963 (56.1)	844 (52.1)	4,579 (56.9)
12 years	7,905 (76.1)	1,346 (72.4)	9,715 (75.6)
13-15 years	6,997 (81.5)	1,430 (77.7)	9,004 (80.7)
16 years	4,784 (87.9)	537 (85.7)	5,706 (86.9)
17 years or more	4,201 (88.7)	386 (80.5)	4,923 (87.5)

Logistic Regressions

Logistic regression on educational attainment and SRH is presented in Table 3. *Model 1* showed adults with higher education had higher odds of being healthy. Those with 17 or more years of schooling had 4.83 times higher odds of being healthy than those with 11 or less years of schooling (adjusted odds ratio [AOR]: 4.83; 95% CI: 4.61, 5.07; p < 0.001). Older adults, men, Black and other races were less healthy. The odds were higher among employed and married adults. *Model 2* showed a significant interaction between immigration status and educational attainment. Highly educated immigrant adults (17 or more years of schooling) were less healthy compared to their non-immigrant US-born counterparts (AOR: 0.67; 95% CI: 0.45, 0.98, p <0.01), suggesting the protective effect of higher education was weaker for immigrant adults than non-immigrant US-born adults.

Sensitivity analysis

The results of our models in the first and second 25 years did not change so they are not shown.

Table 3: Factors Associated with Good Self-Rated Health Using Logistic Regression (n= 45,043)

Variables	Self-rated Health	
	Model 1	Model 2
	AOR (95% CI)	AOR (95% CI)
Educational Attainment		
11 years or less	Ref	Ref
12 years	2.08*** (1.97, 2.20)	2.10*** (1.97, 2.24)
13-15 years	2.81*** (2.71, 2.91)	2.88*** (2.79, 2.97)
16 years	4.38*** (4.07, 4.71)	4.76*** (4.47, 5.06)
17 years or more	4.83*** (4.61, 5.07)	5.22*** (4.90, 5.56)
Age (years)		
18 – 29	Ref	Ref
30 – 49	0.59*** (0.57, 0.61)	0.59*** (0.57, 0.61)
50 – 64	0.39*** (0.36, 0.41)	0.39*** (0.36, 0.41)
65 or more	0.41*** (0.37, 0.45)	0.41*** (0.37, 0.45)
Gender		
Female	Ref	Ref
Male	0.89*** (0.85, 0.92)	0.89*** (0.85, 0.93)
Employment		
No	Ref	Ref
Yes	1.88*** (1.81, 1.94)	1.87*** (1.81, 1.94)
Marital Status		
Not married	Ref	Ref
Married	1.41*** (1.35, 1.48)	1.42*** (1.35, 1.48)
Race		
White	Ref	Ref
Black	0.79*** (0.70, 0.88)	0.79*** (0.71, 0.88)
Other	0.78*** (0.70, 0.87)	0.80*** (0.71, 0.89)
Immigration Status		
Non-immigrant US-born	Ref	Ref
Immigrants	1.10** (1.03, 1.16)	1.23*** (1.14, 1.32)
Year	0.99*** (0.99, 0.99)	0.99*** (0.99, 0.99)
Immigration status (Immigrant) x Educational Attainment		
11 years or less	NA	Ref
12 years	NA	1.01 (0.87, 1.17)
13-15 years	NA	0.88 (0.63, 1.23)
16 years	NA	0.61*** (0.54, 0.69)
17 years or more	NA	0.67* (0.45, 0.98)

Note: *$p < .05$, *** $p < .001$

Discussion

Our first finding was that high educational attainment is associated with higher odds of good SRH; and our second finding was that this association is stronger for non-immigrant than immigrant population. Results did not show differences in the first and last 25 years of the study period.

Regarding our first observation, a large body of research by Braveman[59], Lantz[60], House[61], Ross[62], Mirowsky[63], Marmot[64], Link[65], Phelan[66], and others has established a connection between educational attainment and health and well-being. For example, fundamental cause theory[67-69], the social determinants framework[3], and social gradient[70] frameworks suggest that there is a positive association between educational attainment and life satisfaction, meaning that individuals with higher educational attainment levels tend to experience better life satisfaction and other domains of well-being [71]. Many studies have also documented the enduring importance of educational attainment as a major socioeconomic status indicator and as a contributor to human well-being[72,73].

Regarding our second observation, this is not the first study showing weaker association between educational attainment and health in immigrant population[14,21-26]. Educational attainment is shown to have larger effects on psychological distress, SRH, and chronic disease of non-immigrant populations compared to immigrant populations[15,16]. Similar results have been shown for a wide range of physical health outcomes such as SRH[14,21], smoking[22], and chronic disease[25].

In addition, research has shown diminished returns of education on SRH[36,41,74], chronic disease[39,75,76], depression[77,78], suicide[35], obesity[37,38], disability[79], and mortality[40] in Black and Hispanic relative to Non-Hispanic White peoples. Similar results are even found in LGBT people[44-46]. These suggest that any source of social marginalization listed above reduces the health returns of SES.

Research indicates that the structure and methodologies inherent in the societal framework within the United States play a pivotal role in the manifestation of Marginalization-related Diminished Returns (MDRs)[80,81]. The US social institutions and people differentially treat people based on their nationality, heritage, ethnicity, race, color, social class, sexual orientation and gender identity[82]. Unfortunately, all marginalized groups receive worse treatment and high discrimination[83]. The fact that MDRs hold for all marginalized groups suggest that these diminished patterns are robust and consistent. This means any deviation from US-born heterosexual cisgender non-Latino Whiteness will be associated with a societal penalty (minority tax), which will result in weaker than expected effects of education on health outcomes of socially marginalized populations.

In the US, we observe systemic marginalization of any non-majority social group. For example, immigrants, racial and ethnic minorities, and LGBT populations are marginalized in the US. Social exclusion and marginalization reduce individuals' chance for full participation in social integration, participation, and taking advantage of opportunities and existing policies. As such, highly educated immigrant people do not enjoy the benefit from availability of their human capital. Similar to racism that reduces the health returns of educational attainment for

Black and Latino people[84], xenophobia and nationalism reduce immigrant individuals' ability to leverage their human capital and secure tangible outcomes such as health. As a result, the expected benefits that should follow educational attainment would be reduced[15,16].

Diminished returns of human and material resources are not limited to education[36] and can be observed for many other resources and assets such as income[76], occupation[40], and marital status[85]. All these resources show weaker health effects for marginalized than privileged groups. Similarly, these diminished returns are not only observed for SRH[19,36,74] but psychological distress[74], obesity[37,38], ,chronic disease[39,75], hospitalization[86], and mortality[40]. Similarly, highly educated marginalized people are likely to vape[87], smoke[43,45,88-90], drink[91,92] and have poor diet[93] and exercise[18]. That is the likelihood observed among highly educated marginalized individuals to engage in behaviors such as vaping, smoking, drinking, and maintaining poor diet and exercise habits is comparatively higher than that observed in non-marginalized groups within the United States. Thus, these diminished returns are neither specific to a particular resource nor a particular outcome.

The observed diminished effects of educational attainment on SRH are in line with a study using NHIS showing that education effects on psychological distress, SRH, and chronic diseases were weaker for immigrants than non-immigrants[25]. These diminished returns may be attributed to the influence of immigration status on life chances and health outcomes, similar to the impact of factors like poverty, race, and ethnicity. Despite immigrants generally exhibiting better health compared to their U.S.-born counterparts[94-96], even with lower educational levels, the assumption that additional education would significantly enhance immigrant health may not hold true. This is suggested by the reduced health benefits associated with higher education, indicating that additional educational attainment might not effectively shield immigrants from experiences of discrimination, precarious work conditions, and limited access to quality healthcare[97]. Our findings reveal that, in comparison to highly educated US-born adults, highly educated immigrant people still face an elevated risk of health issues such as poor SRH. It is crucial for clinicians and healthcare providers to be aware that immigrants, irrespective of their educational level, encounter structural barriers, including immigration laws, labor market regulations, and residential segregation. These barriers potentially undermine the health benefits linked to social upward mobility among immigrants.

Policy Recommendations

Based on the findings of this study, policymakers should consider targeted interventions to address the diminished returns of educational attainment on subjective health (SRH) among immigrant populations in the United States. Firstly, policies should be implemented to enhance educational opportunities for immigrants, recognizing that increased educational attainment is associated with improved SRH. This could involve initiatives to provide language support, facilitate access to higher education, and address barriers that may hinder immigrants from pursuing advanced degrees. Additionally, interventions should focus on creating a supportive environment for immigrants within educational institutions, ensuring that they can fully benefit from the educational experience. Furthermore, a dual-pronged approach is necessary to narrow health disparities among immigrant populations. In addition to promoting educational attainment, policies should specifically target the health outcomes associated with education for immigrants. This might involve tailoring healthcare initiatives to address the unique health challenges faced by immigrant communities and providing culturally competent healthcare services. Policymakers should collaborate with community organizations to develop programs that bridge the gap between educational attainment and health outcomes for immigrants, acknowledging the nuanced factors influencing health within this population.

To help highly educated immigrants secure similar health outcomes as their non-immigrant counterparts, we need bold and innovative public and social policies that reduce marginalization of immigrants, fight antiimmigrant practices and beliefs, and incentives to employers that help immigrant employees to mobilize their educational attainment more effectively. Federal government should also put more effort on collecting survey and health data for the immigrants in the national surveys so we will know more about the health changes of immigrants based on the number of years they have been living in the US, as well as the county of origin.

Such employers should facilitate promotion and employability of immigrants so they can secure tangible outcomes. Elimination of health disparities requires more than health policies. We need public policies across domains, and they should go beyond equalizing access to education.

Future research

The present study highlights the need for more in-depth research to understand how specific policies contribute to the weakened association between educational attainment and self-rated health (SRH) among immigrants in the United States compared to the native-born population. Future research should investigate the impact of immigration policies, access to healthcare, and social integration programs on the health outcomes of immigrants with varying levels of educational attainment. Additionally,

exploring the role of cultural factors and discrimination in shaping the health trajectories of immigrant populations can provide crucial insights. Researchers should examine how social determinants, beyond education, interact with immigration status to influence SRH. Longitudinal studies can track the health trajectories of immigrants over time, shedding light on the dynamic nature of the relationship between education and health within this diverse population. This call for research underscores the importance of evidence-based policymaking and the need for a comprehensive understanding of the factors contributing to health disparities among immigrants. By identifying and addressing these factors, policymakers can develop targeted interventions that effectively improve the health outcomes of immigrant communities in the United States.

It is crucial for future investigations to delve into the underlying mechanisms that give rise to education-related health disparities. Notably, our study lacked information on the country of origin and whether education was obtained in the U.S. or the individual's home country. Consequently, it is imperative to compare immigrants from different cultural backgrounds, such as Asia, Africa, and Latino countries, considering potential variations in the adoption of U.S. culture.

Limitations

It is important to interpret the present findings while keeping the study methodological constraints in mind. Firstly, the inherent limitation of this cross-sectional study is lack of capability to establish causal relationships. The potential influence of health educational attainment cannot be dismissed, introducing the possibility of reverse causality in our study. To gain a more comprehensive understanding of the causal relationship between immigration status, education, and health, prospective research is recommended. Moreover, our study did not account for certain variables, including the type of college education and other covariates like wealth or whether individuals were first-generation college students. Subsequent research endeavors should aim to replicate and validate our findings using longitudinal data, incorporating a more extensive set of measures, such as details on country of origin and educational attainment. Contextual factors at the neighborhood level, such as ethnic composition, SES, or the availability of resources, should also be considered in future research. This is particularly pertinent, as even highly educated immigrants may reside in areas with limited access to essential elements for health, such as green spaces and parks.

Conclusion

While educational attainment is associated with better SRH overall, this association is weaker for immigrant than non-immigrant US adults. At least some of sustained health disparities in immigrant populations are because of unequal marginal returns of educational attainment. To achieve health equity and to eliminate health inequality for immigrant populations, we need policies and interventions that equalize the health returns of educational attainment for marginalized and privileged groups. These policies should go beyond equal access to education and aim for not only equality in education but equity in outcome. To increase returns of educational attainment for marginalized social groups, we need to address discrimination in labor market and social stratification that marginalizes immigrant populations to ethnic enclaves. Such public programs may be effective by helping highly educated immigrants to mobilize and leverage their educational attainment and other human resources to secure tangible health and economic outcomes more effectively.

Ethics

All participants signed written consent. The GSS protocol was approved by the University of Chicago Institutional Review Board (IRB). According to the NIH guideline, secondary analyses of fully de-identified existing datasets that are publicly available are "Non-Human Subject Research". As such, this non-human subject research was exempt from the IRB review.

Author Contributions

S.A, B.N, R.B, H.Z: conceptualization; S.A, B.N, R.B, H.Z: preparation of the first draft and revision; R.B: data analysis. All authors approved the final draft.

Conflicts of Interest

The authors declare no conflicts of interest.

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