



Examining the Association Between Educational Attainment and Depressive Symptomology Across Racial/Ethnic Groups



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Background

- Race and educational status are factors that have long impacted health conditions and accessibility to resources. Previous research showed how non-Hispanic Black participants and those with a lower educational status had a significant association with having depressive symptomatology (Cao et al., 2020)
- A previous study, found that lower levels of education status had significant correlates to major depression in crude and adjusted models. It also showed how the estimated prevalence of depression amongst all Hispanics participants was twice the prevalence for Black participants. (Blazer et al, 1994)
- Recent studies have shown how minority populations had a higher prevalence depression. Although white individuals had a higher intensity of the increasing trend for prevalence of depression over the span of 2005-2016. (Sohrab et al, 2022)
- The current study examines the association between demographic factors with depressive symptomatology.
- This study anticipates further supporting the idea of race and education status being associated with depressive symptomatology.

Methods

- To examine the association between education status and depressive symptomatology, this study used data from the 2017- March 2020 Pre-Pandemic National Health and Nutrition Examination Study (NHANES) database.
- Since initiating the first cycle during 1971-1975, NHANES is now conducted on an annual basis and data is released on a 2-year cycle.
- NHANES operates in 15 areas across the United States and randomly chooses people in those areas to become participants to better represent the whole population.
- NHANES conducts research using surveys and physical exams for around 5,000 people all across the United States.
- Demographic data was used to obtain race and educational attainment information.
- Depression screening data was categorized depending on the intensity of symptoms reported by the participant.
- We conducted a chi-square analysis using SAS software to determine if there is a significant association between the study variables

Results

Weighted Frequency and Percent by Educational Attainment: Non-Hispanic Whites					
Level of Depressive Symptomology	<9 th Grade	9 th to 11 th Grade	High school graduate/GED or equivalent	Some College/AA degree	College Graduate or Above
None	3446552 (54.24%)	15656403 (67.42%)	67681353 (60.59%)	83033733 (64.60%)	86782979 (74.87%)
Mild	1063563 (16.74%)	3080720 (13.29%)	26072229 (23.34%)	24476039 (19.04%)	19373602 (16.71%)
Moderate	699471 (11.01%)	2686808 (11.59%)	11924169 (10.68%)	13624622 (10.60%)	5229512 (4.51%)
Moderately Severe	864265 (13.60%)	1177168 (5.08%)	3030444 (2.71%)	5091143 (3.96%)	3490367 (3.01%)
Severe	280299 (4.41%)	588292 (2.54%)	2990351 (2.68%)	2305644 (1.79%)	1035715 (0.89%)
Total	6354150	23189391	111698546	128531180	115912176

Chi Square = 168.73, p<0.0001; N= 385,685,443

Weighted Frequency and Percent by Educational Attainment: Non-Hispanic Blacks					
Level of Depressive Symptomology	<9 th Grade	9 th to 11 th Grade	High school graduate/GED or equivalent	Some College/AA degree	College Graduate or Above
None	1129383 (58.99%)	4819484 (60.52%)	13179959 (65.44%)	13777183 (72.10%)	9642763 (76.73%)
Mild	375583 (19.62%)	1366010 (17.15%)	3416640 (16.96%)	2861346 (14.97%)	2014505 (16.03%)
Moderate	217253 (11.35%)	1145041 (14.38%)	1786882 (8.87%)	1764649 (9.23%)	532107 (4.23%)
Moderately Severe	105131 (5.49%)	230970 (2.90%)	590916 (2.93%)	447576 (2.34%)	322011 (2.56%)
Severe	87037 (4.55%)	401447 (5.05%)	1165015 (5.78%)	258358 (1.35%)	56208 (0.45%)
Total	1914387	7962953	20139413	19109112	12567594

Chi Square = 159.70, p<0.0001; N= 61,693,459

Weighted Frequency and Percent by Educational Attainment: Mexican American and Other Hispanic					
Level of Depressive Symptomology	<9 th Grade	9 th to 11 th Grade	High school graduate/GED or equivalent	Some College/AA degree	College Graduate or Above
None	8070045 (60.75%)	5638430 (65.03%)	14348969 (71.37%)	13135541 (63.32%)	7420284 (67.37%)
Mild	2026392 (15.25%)	1850291 (21.33%)	3175430 (15.79%)	3614474 (17.42%)	2632735 (23.90%)
Moderate	1532260 (11.54%)	879825 (10.15%)	1260733 (6.27%)	1813567 (8.74%)	583332 (5.30%)
Moderately Severe	1294676 (9.75%)	191282 (2.21%)	950033 (4.73%)	1278828 (6.16%)	260531 (2.37%)
Severe	360139 (2.71%)	111237 (1.28%)	370506 (1.84%)	902709 (4.35%)	116770 (1.06%)
Total	13283512	8671064	20105671	20745118	11013652

Chi Square = 121.84, p<0.0001; N=73,819,017

Conclusion

- Across racial ethnic groups, there is a statistically significant association between educational attainment and depressive symptomology.
- It is very important to understand these relationships to support mental health public health initiatives.
- There were some areas for improvement since there was insufficient data to perform analyses for participants who identified as being of mixed races. Further research should include multivariable regression to further explain the complete nature of the association between these demographic factors and depressive symptomology.
- This research supports the need for more resources and implementation of programs to assist those in need.

References

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