

INTRODUCTION

- Chronic pain affects 1 in 5 US adults, and among adults with chronic pain, 10% suffer from high-impact chronic pain.¹
- Non-Hispanic Black and Hispanic adults have lower pain prevalence relative to non-Hispanic White adults^{2,3,4}, but non-Hispanic Black adults are more likely than White adults to experience severe pain² and greater pain interference.⁵
- Differences in treatment of chronic pain may explain the higher severity of chronic pain in non-Hispanic Black patients, but potential mediation of racial and ethnic differences in pain severity and impact by differences in treatment has not been explored in prior population-based studies.^{3,6}
- Hypothesis:** We tested the hypothesis that differences in use of multimodal pain treatment strategies mediated racial and ethnic disparities in chronic pain severity and interference with daily activities in a nationally representative sample of US adults.

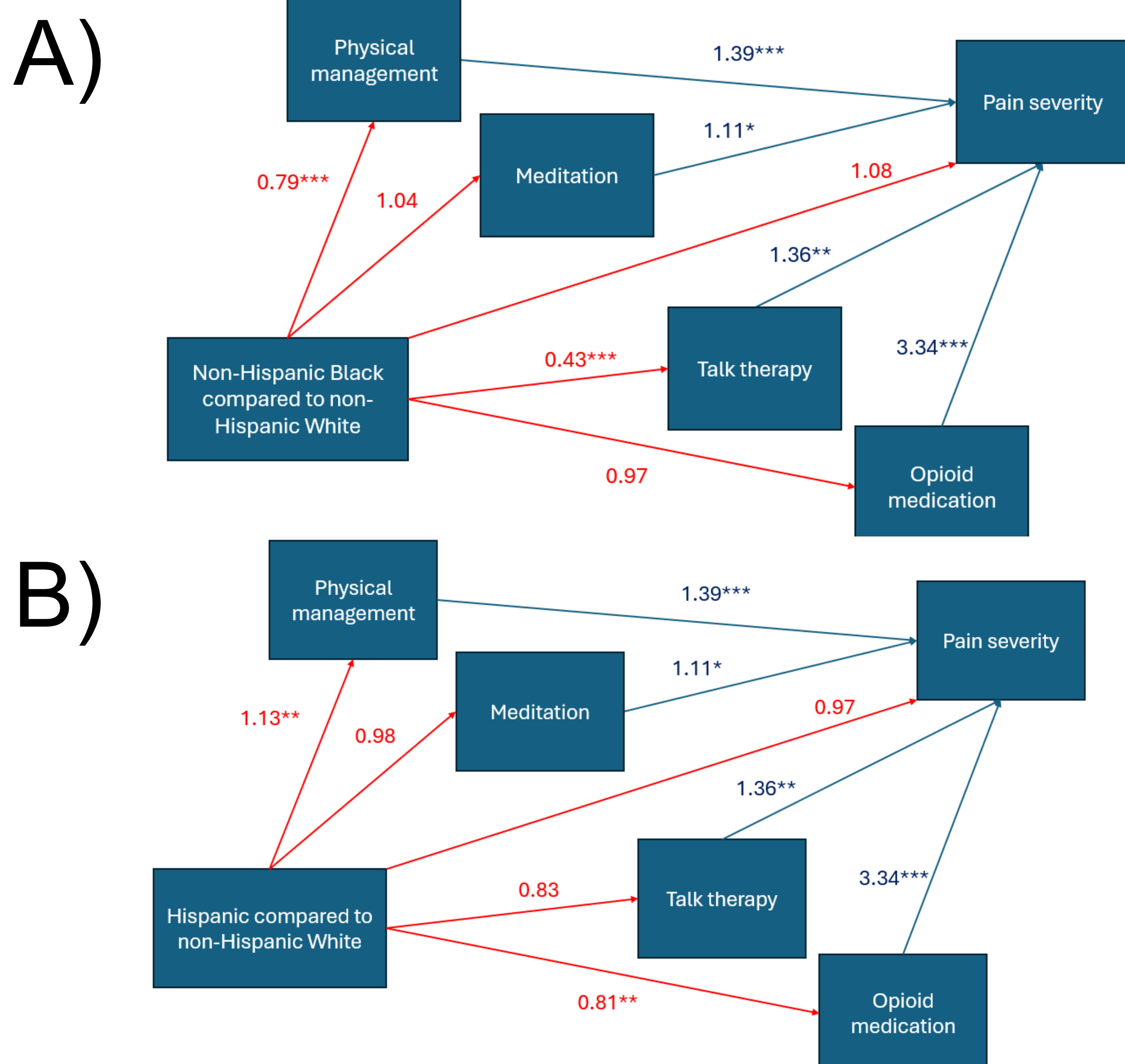
MATERIALS & METHODS

- The study analyzed deidentified data from the 2019 and 2020 National Health Interview Survey (NHIS), focusing on adults aged 18 or older who reported experiencing pain and identified as Non-Hispanic White, Non-Hispanic Black, or Hispanic.
- The primary outcome was chronic pain severity, and the secondary outcome was interference with daily activities. Chronic pain management was assessed through questions about nonpharmacologic (e.g., physical therapy, relaxation techniques) and pharmacologic therapies (e.g., opioid use).
- Covariates included demographic factors, health status, income level, place of residence, education, and insurance status.
- Data were summarized using weighted means and proportions, and multivariable analysis employed generalized structural equation modeling to explore direct and indirect associations between race/ethnicity and pain outcomes, with adjustments for covariates and survey design.
- Analysis was conducted using Stata/SE 18.0, with statistical significance set at P<0.05.

RESULTS

- From the 2019-2020 NHIS, 32,464 adult respondents reported experiencing pain within the past 3 months. After exclusions, the sample size was 29,756 respondents: 73% non-Hispanic White, 13% non-Hispanic Black, and 14% Hispanic.

Variable	Non-Hispanic White (N=23,071)	Non-Hispanic Black (N=3,421)	Hispanic (N=3,264)	P
Weighted proportion or mean (95% CI)				
Pain severity				
A little	0.44 (0.43, 0.45)	0.39 (0.36, 0.41)	0.42 (0.39, 0.44)	<0.001
Between a little and a lot	0.39 (0.38, 0.41)	0.38 (0.35, 0.41)	0.38 (0.36, 0.40)	0.313
A lot	0.16 (0.16, 0.17)	0.23 (0.21, 0.25)	0.21 (0.18, 0.23)	<0.001
Pain interference				
Low	0.85 (0.84, 0.86)	0.84 (0.82, 0.86)	0.84 (0.82, 0.86)	0.567
Medium	0.09 (0.08, 0.10)	0.10 (0.08, 0.11)	0.10 (0.08, 0.11)	0.458
High	0.06 (0.06, 0.07)	0.06 (0.05, 0.07)	0.06 (0.05, 0.07)	0.997
Pain management methods				
Physical management	0.33 (0.32, 0.34)	0.27 (0.25, 0.29)	0.32 (0.30, 0.34)	<0.001
Meditation	0.14 (0.13, 0.14)	0.15 (0.13, 0.17)	0.13 (0.12, 0.15)	0.241
Talk therapy	0.02 (0.02, 0.02)	0.01 (0.01, 0.02)	0.02 (0.01, 0.03)	<0.001
Opioid medication	0.11 (0.10, 0.11)	0.12 (0.10, 0.13)	0.09 (0.08, 0.10)	0.029



DISCUSSION

- These results challenge the notion of multimodal pain treatment strategies mediating racial and ethnic disparities in chronic pain severity, because no specific treatment strategy was associated with lower severity of chronic pain.
- Multivariable analysis showed minimal differences in pain severity across racial and ethnic groups after adjustments.
- Non-Hispanic Black participants were less likely to use physical management and talk therapy, while Hispanic participants were more likely to use physical management and less likely to use opioids.
- Future Directions**
 - Understanding why differences in pain management has led to increases in pain severity and pain interferences when comparing racial and ethnic groups

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