

Depression mediate the relationship between social status and chronic pain for Whites, but not Blacks

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Purpose and Background

- ❖ Globally, low back pain is the leading cause of disability with significant societal and personal cost
- ❖ Psychological, socioeconomic, and genetic factors contribute to the development of cLBP
 - ❖ Depressive symptoms reliably predict the development of cLBP
 - ❖ Individuals of lower socioeconomic status report more severe and disabling cLBP
 - ❖ Compared to Whites, individuals who self-identify with a Black racial background tend to have more severe and disabling chronic pain outcomes.
- ❖ Racial and ethnic differences in socioeconomic status and major depressive disorder have been reported
- ❖ The biopsychosocial framework provides an excellent guide to understand the complex multiple factors that underlie racial differences in cLBP

This purpose of this study was to investigate whether depressive symptoms mediate the relationship between subjective social status and pain outcomes (pain interference and pain severity) among Blacks and Whites adults with chronic low back pain (cLBP).

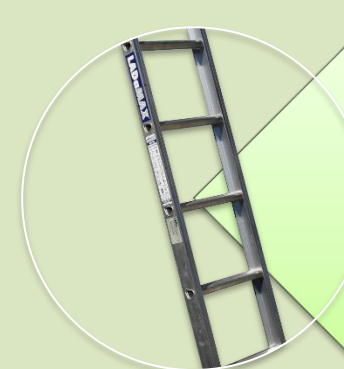
Method

- Self identified 57 Blacks and 48 Whites with cLBP were recruited through advertisement in a pain clinic following IRB approval
- Informed consent was obtained



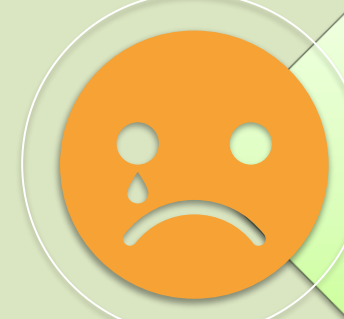
Center for Epidemiologic Studies Depression Scale (CES-D)

- Score range: 0 to 60
- Higher scores reflect increase symptom severity



MacArthur Scale of Subjective Social Status

- Score range: 0 to 10
- Higher scores reflect higher self-perceived social status relative to others in USA

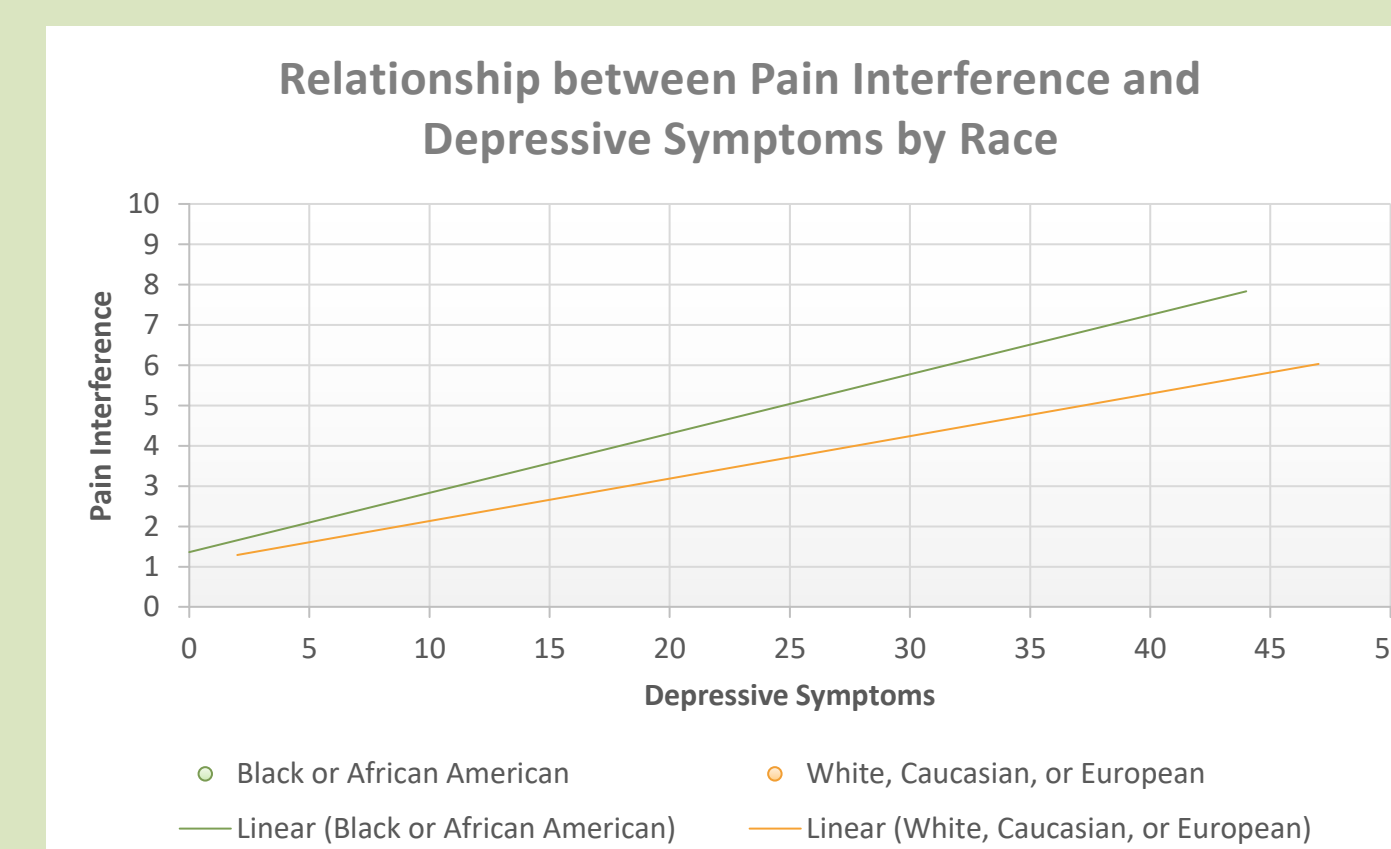


Brief Pain Inventory

- Pain severity score range: 0 to 10
- Pain interference score range: 0 to 10
- Higher scores reflect greater pain severity and interference with life

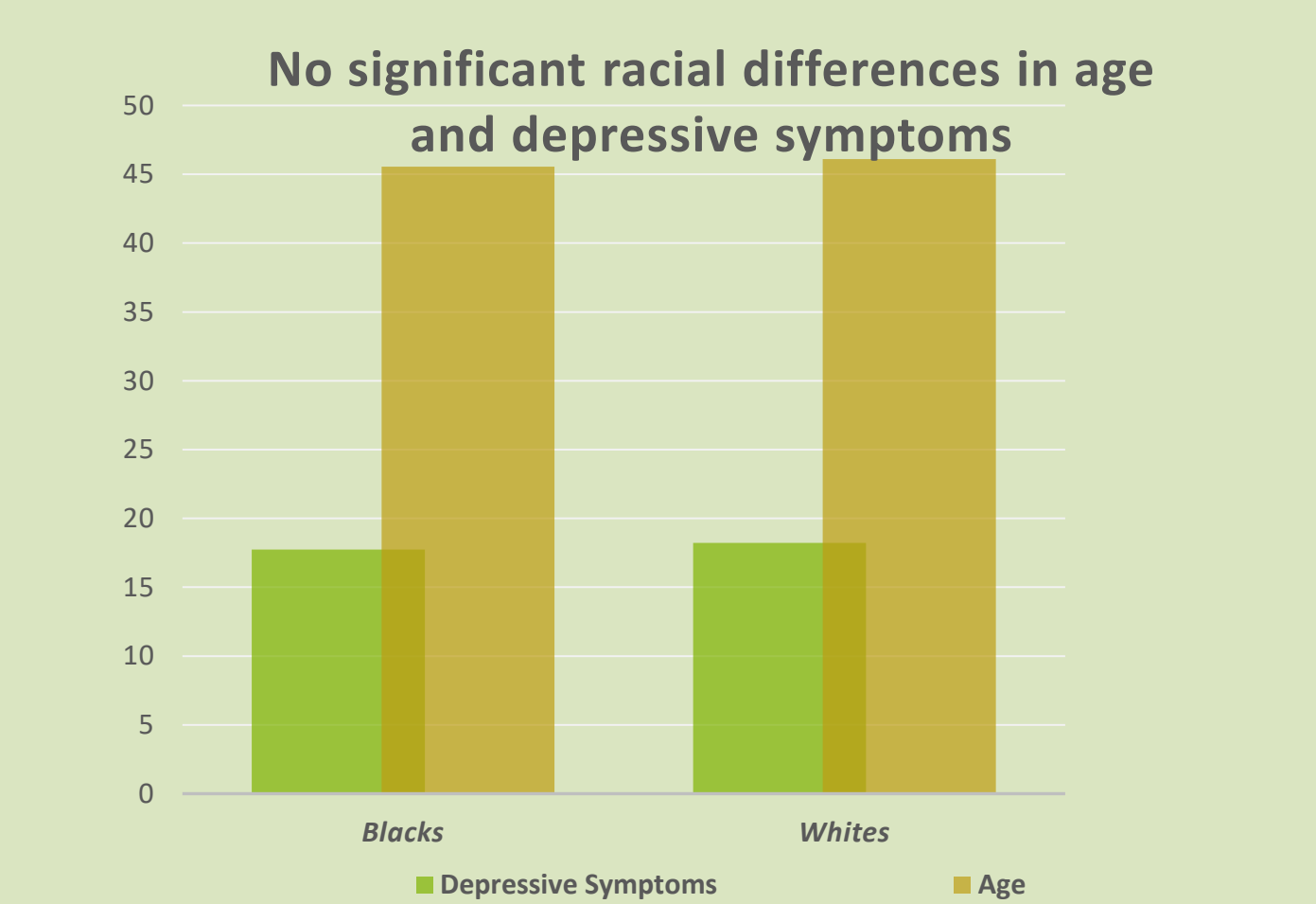
- Data were analyzed using SPSS version 24.
- SPSS macro PROCESS model 4 were used to test the indirect effect of subjective social status on pain outcomes via depressive symptoms for Blacks and Whites with cLBP

Results

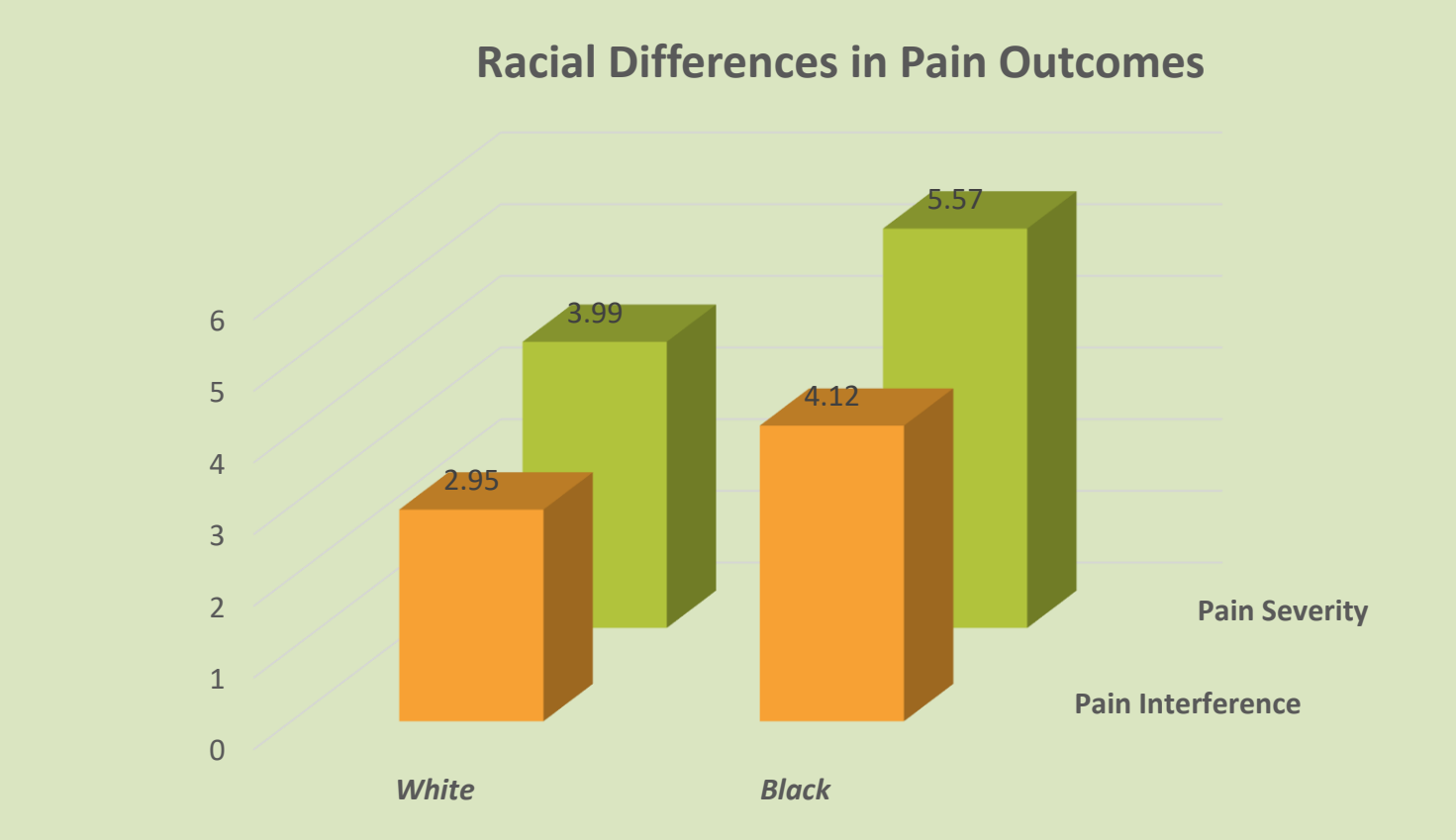


- Final sample included 62 females and 43 male adults with chronic low back. Average age was 45.81 years (SD = 14.03).
- Mean depressive symptom scores, pain interferences, and pain severity were 17.96 (SD = 11.47), 3.59 (SD = 2.49) and 4.87 (SD = 2.28), respectively.

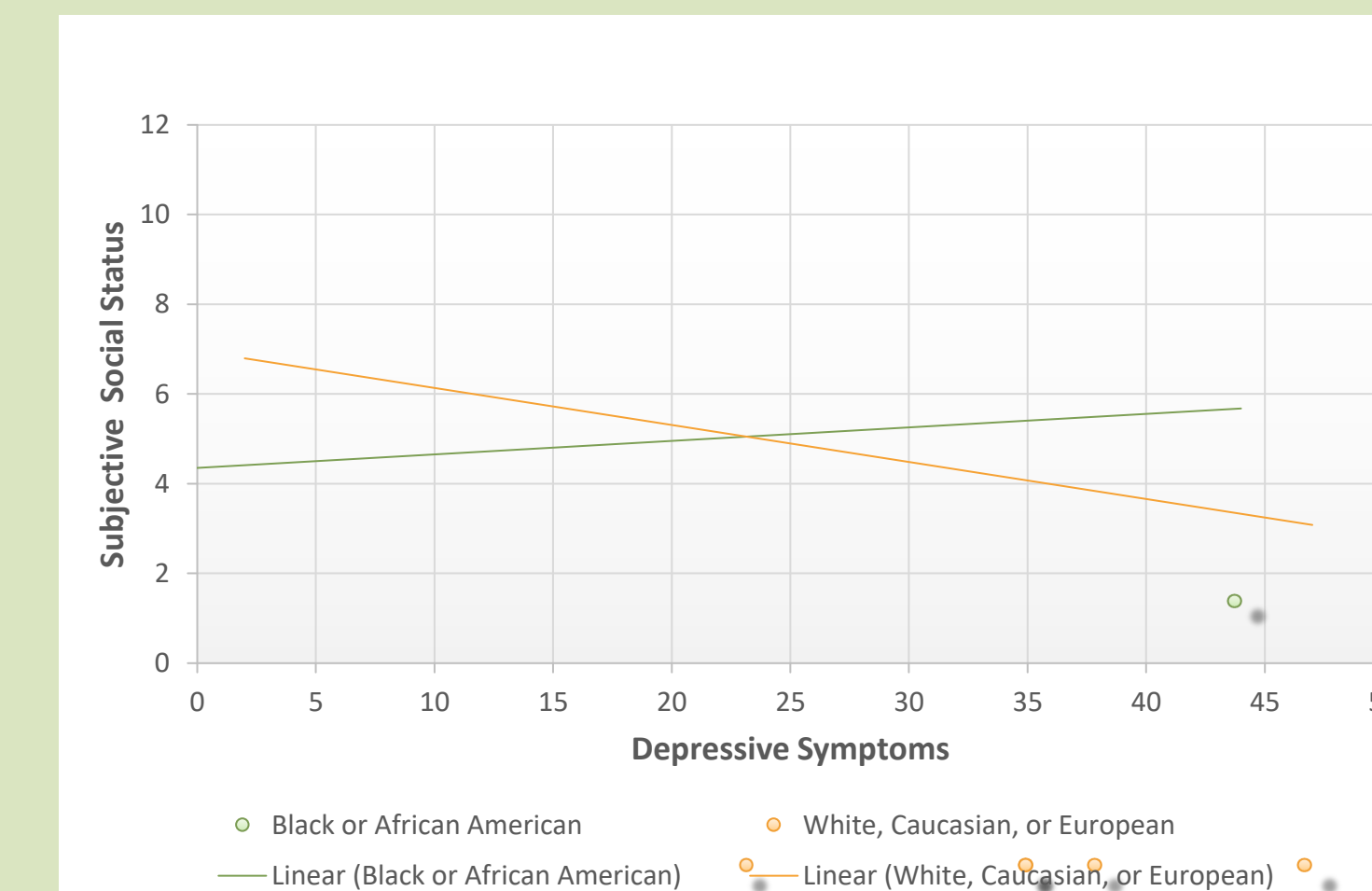
- Compared to Whites, Blacks had a statistically significant higher pain interference ($p = 0.017$) and pain severity ($p < 0.001$) scores



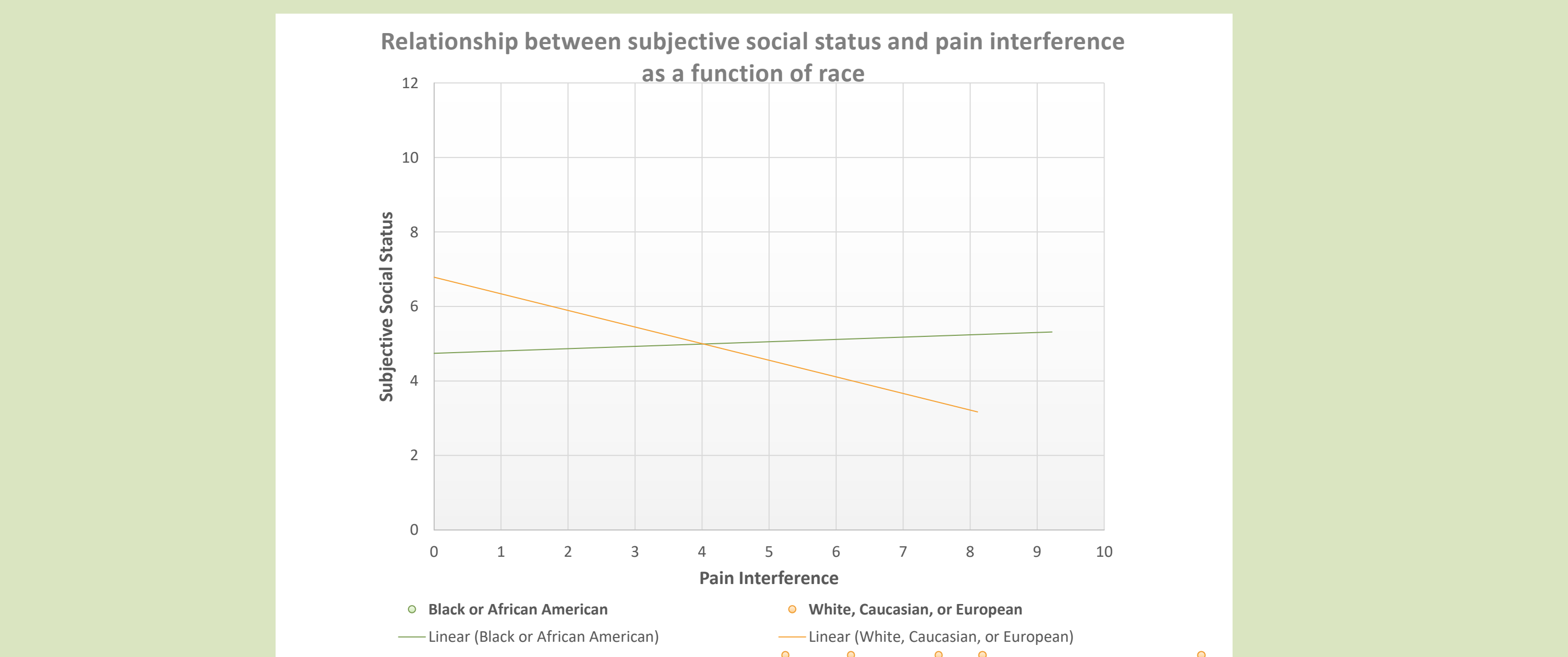
- **Blacks:** Depressive symptoms increase with an increase in subjective social status ($r = 0.157, p = 0.267$)
- **Whites:** Depressive symptoms decrease with an increase in subjective social status ($r = -0.492, p = 0.001$)



- **Whites:** Depressive symptoms mediate the relationship between social status and pain interference ($\beta = -0.31$, boot95% CI [-0.54, -0.11])
- **Blacks:** Depressive symptoms does not mediate the relationship between social status and pain interference ($\beta = 0.098$, boot 95%CI [-0.08, 0.30])



- **Whites:** Depressive symptoms mediate the relationship between social status and pain interference ($\beta = -0.31$, boot95% CI [-0.54, -0.11])
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Race moderates the relationship between subjective social status and chronic low back pain interference
 Whites: Pain interference decreases with an increase in social status ($r = -0.46, p = 0.001$)
 Blacks: Pain interferences increases with an increase in social status ($r = 0.08, p = 0.531$)

Implications & Conclusions

- ❖ Consistent with existent literature, there is a relationship between race, depressive symptoms, social status, and pain outcomes (pain interference and pain severity).
 - ❖ On average, Blacks report more pain severity and pain interference compared with Whites.
 - ❖ On average, Whites report higher depressive symptom scores compared with Blacks.
- ❖ The inter-relationship between subjective social status, depressive symptoms and cLBP outcomes differs for Black and White individuals
 - ❖ For Whites higher social status appear to be protective for depressive symptoms and pain outcomes
 - ❖ For Blacks higher social status appears to worsen depressive symptoms and cLBP outcomes
- ❖ **Our results suggest that subjective social status appears to confer mental health and chronic pain benefits for White, but not Black participants**

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