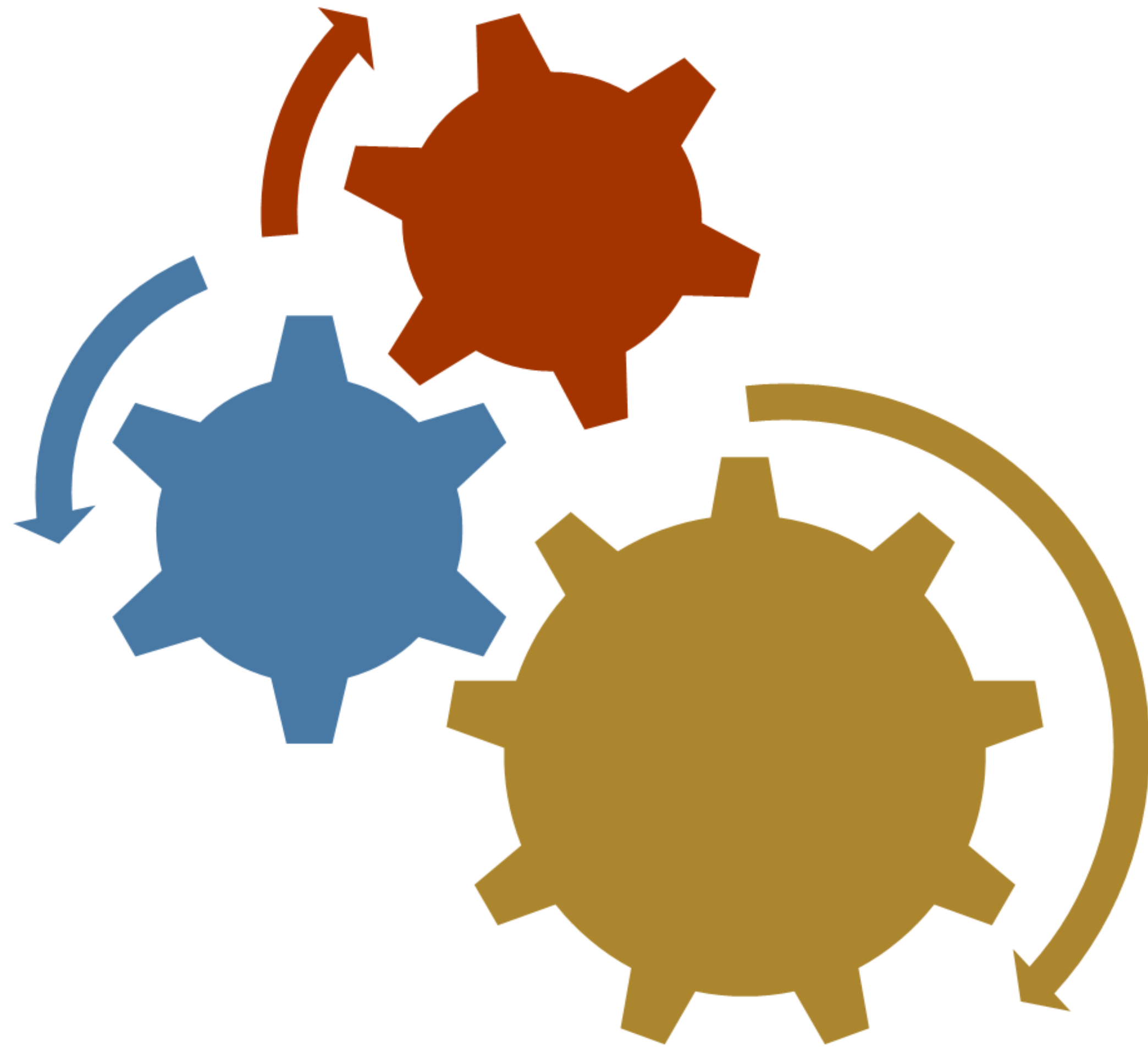
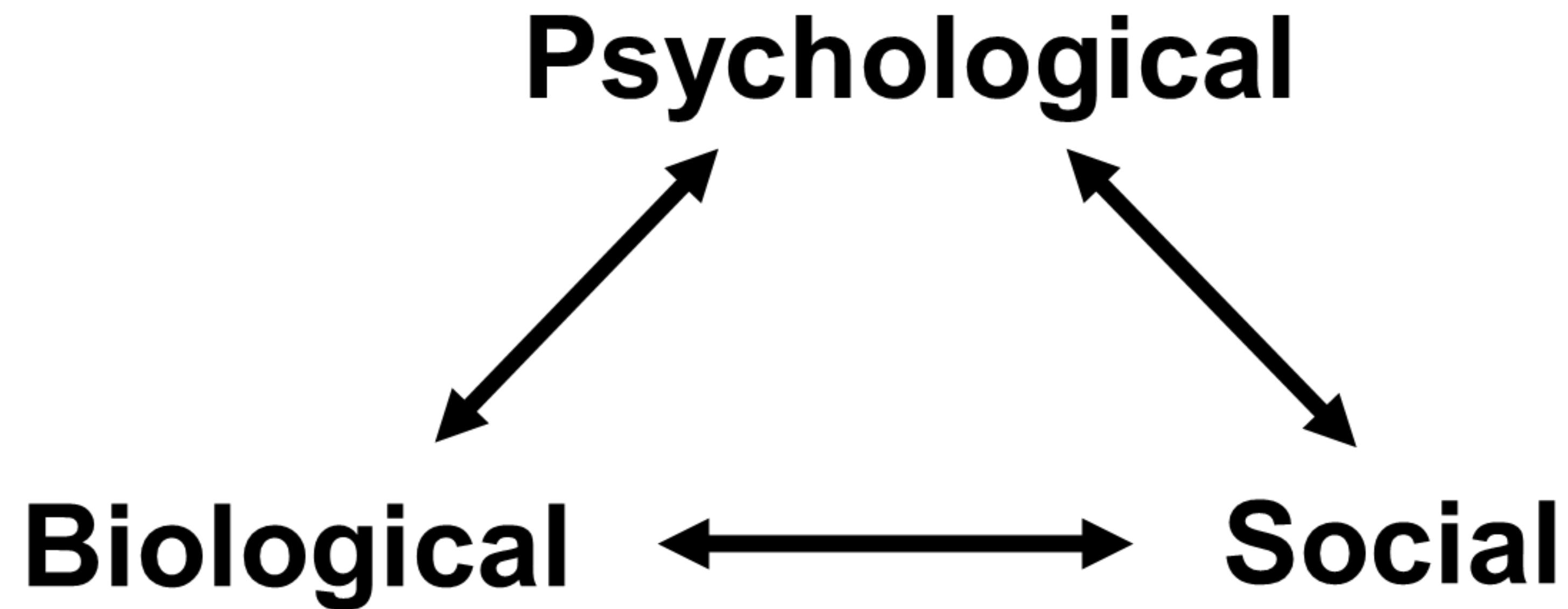


# Whole-Health Factors as Mechanisms of Chiropractic Care for Low Back Pain in the US Active-Duty Military

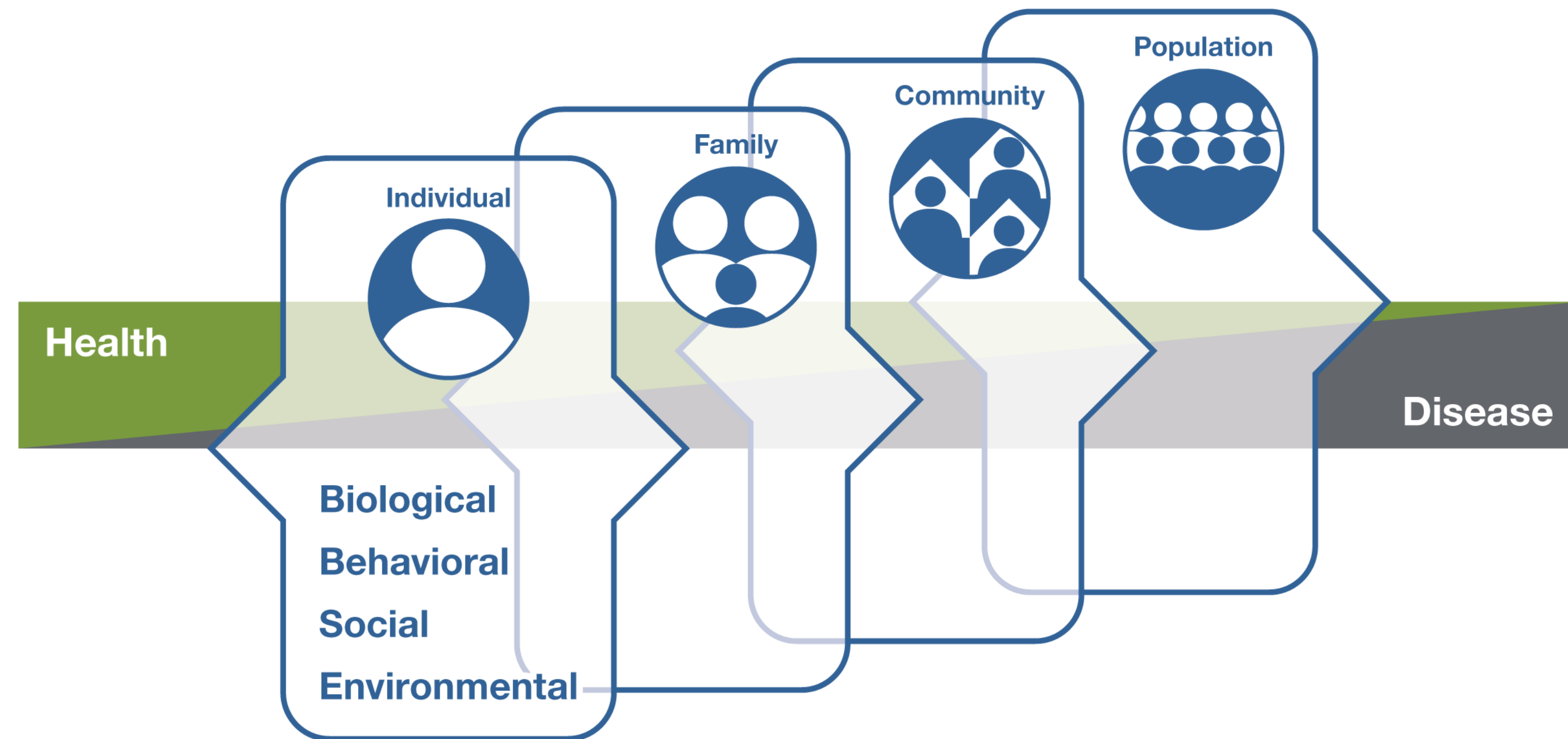
Zacariah K. Shannon, Cynthia R. Long, Elizabeth A. Chrischilles, Christine M. Goertz, Robert B. Wallace, Carri Casteel, Ryan M. Carnahan



# Biopsychosocial Model



# Whole Health - NCCIH



How much of the effect of chiropractic care on pain occurs through effects on whole-health components?





## Effect of Usual Medical Care Plus Chiropractic Care vs Usual Medical Care Alone on Pain and Disability Among US Service Members With Low Back Pain A Comparative Effectiveness Clinical Trial

Christine M. Goertz, DC, PhD; Cynthia R. Long, PhD; Robert D. Vining, DC; Katherine A. Pohlman, DC, MS; Joan Walter, JD, PA; Ian Coulter, PhD

## Health-Related Quality of Life Among United States Service Members with Low Back Pain Receiving Usual Care Plus Chiropractic Care vs Usual Care Alone: Secondary Outcomes of a Pragmatic Clinical Trial

Ron D Hays, PhD, Zacariah K Shannon, DC, MS, Cynthia R Long, PhD, Karen L Spritzer, BA, Robert D Vining, DC, DHSc, Ian D Coulter, PhD, Katherine A Pohlman, DC, MS, PhD, Joan A Walter, PA, JD, Christine M Goertz, DC, PhD

Population: 750 Active-duty US military members without PTSD being treated in military medical centers for musculoskeletal low back pain of any duration

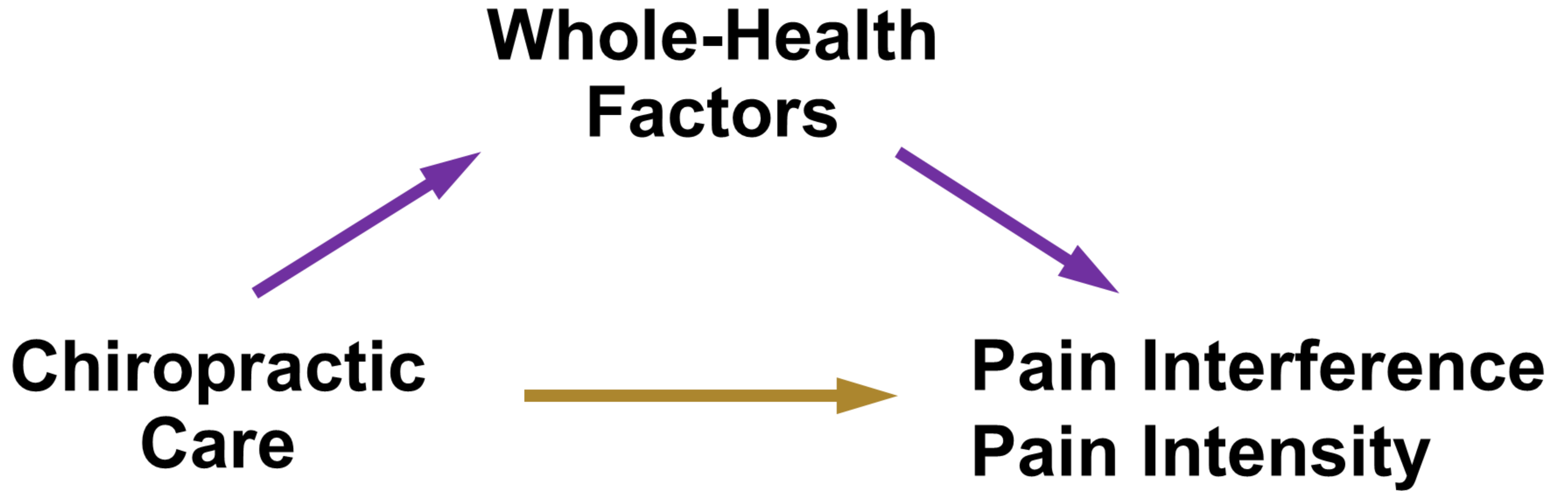
Intervention: Usual medical care + Chiropractic care

Comparison: Usual medical care alone

Outcomes: Pain, Pain-related disability, PROMIS-29 (pain intensity, pain interference, physical function, sleep disturbance, fatigue, anxiety, depression, satisfaction with participation in social activity)

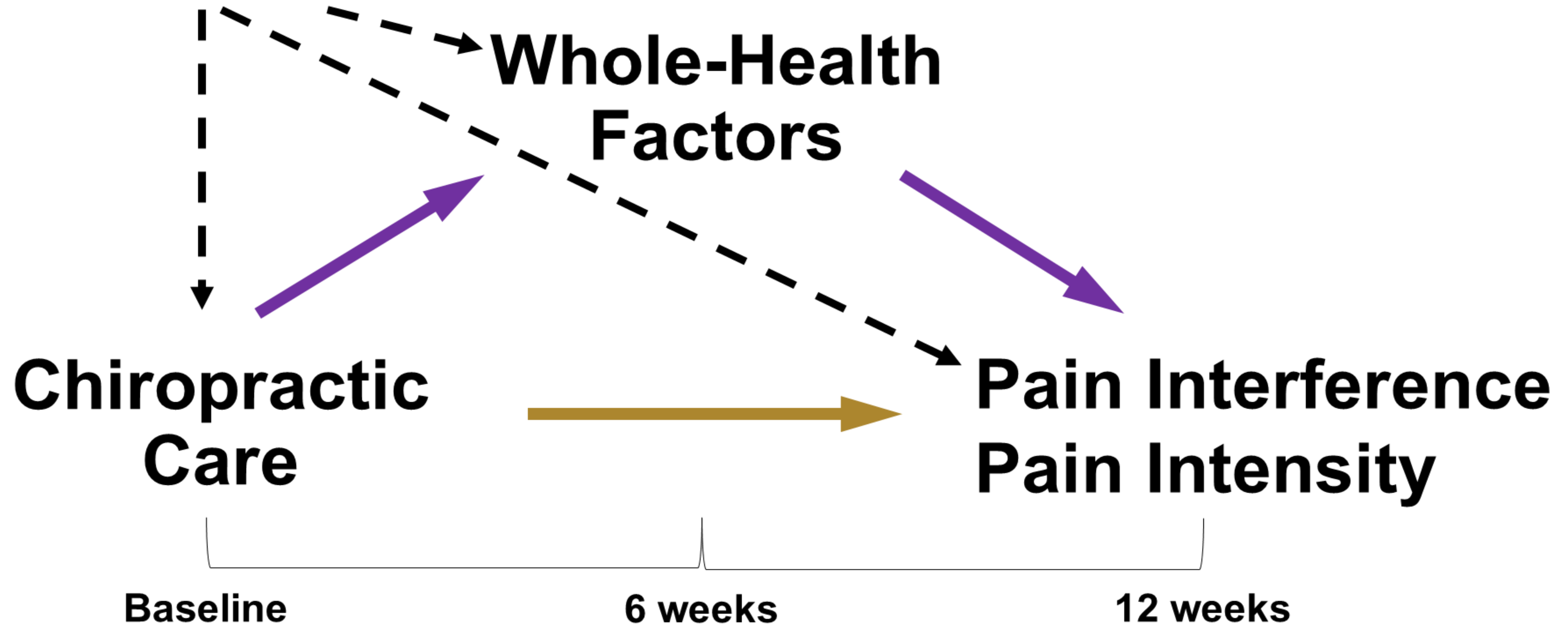
1. Goertz CM, Long CR, Vining RD, Pohlman KA, Walter J, Coulter I. Effect of Usual Medical Care Plus Chiropractic Care vs Usual Medical Care Alone on Pain and Disability Among US Service Members With Low Back Pain: A Comparative Effectiveness Clinical Trial. JAMA Netw Open 2018;1:e180105–e180105.

2. Hays RD, Shannon ZK, Long CR, Spritzer KL, Vining RD, Coulter ID, et al. Health-Related Quality-of-life Among United States Service Members with Low Back Pain Receiving Usual Care Plus Chiropractic Care vs Usual Care Alone: Secondary Outcomes of a Pragmatic Clinical Trial. Pain Med 2022;23:1550–9.





# Confounders

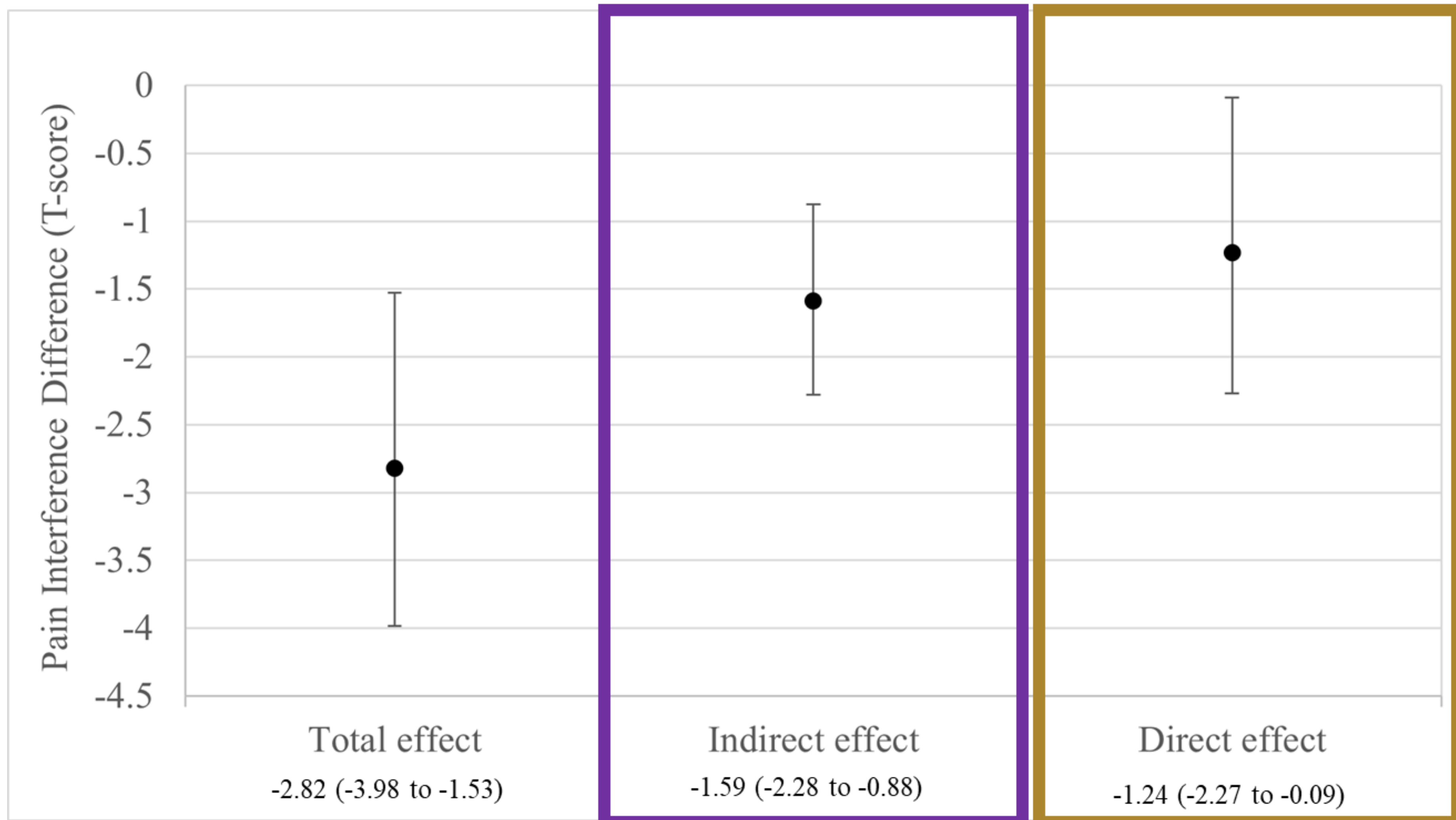


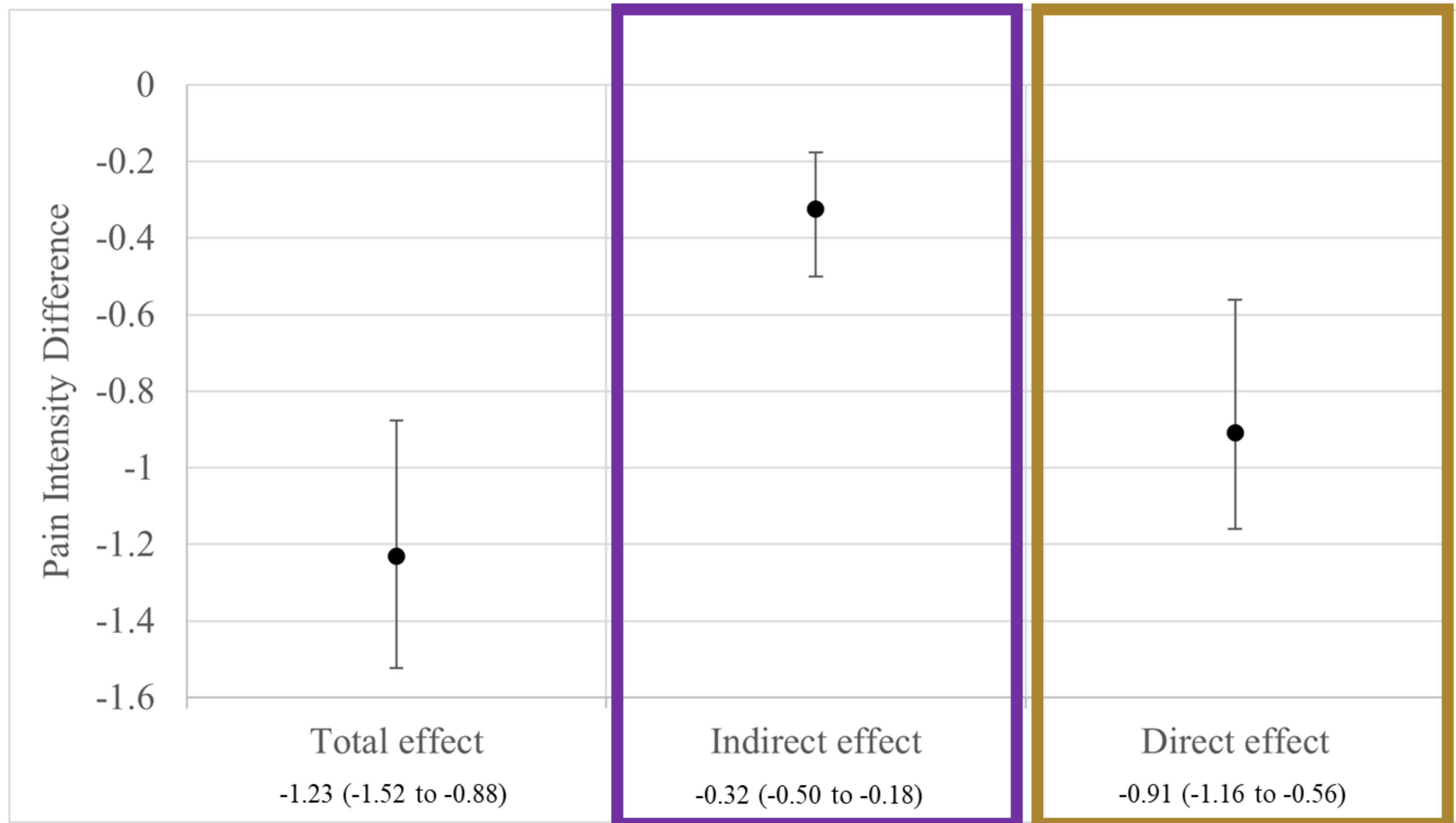
## Confounders

Baseline: Age, Sex, LBP duration, Mediators, Outcomes

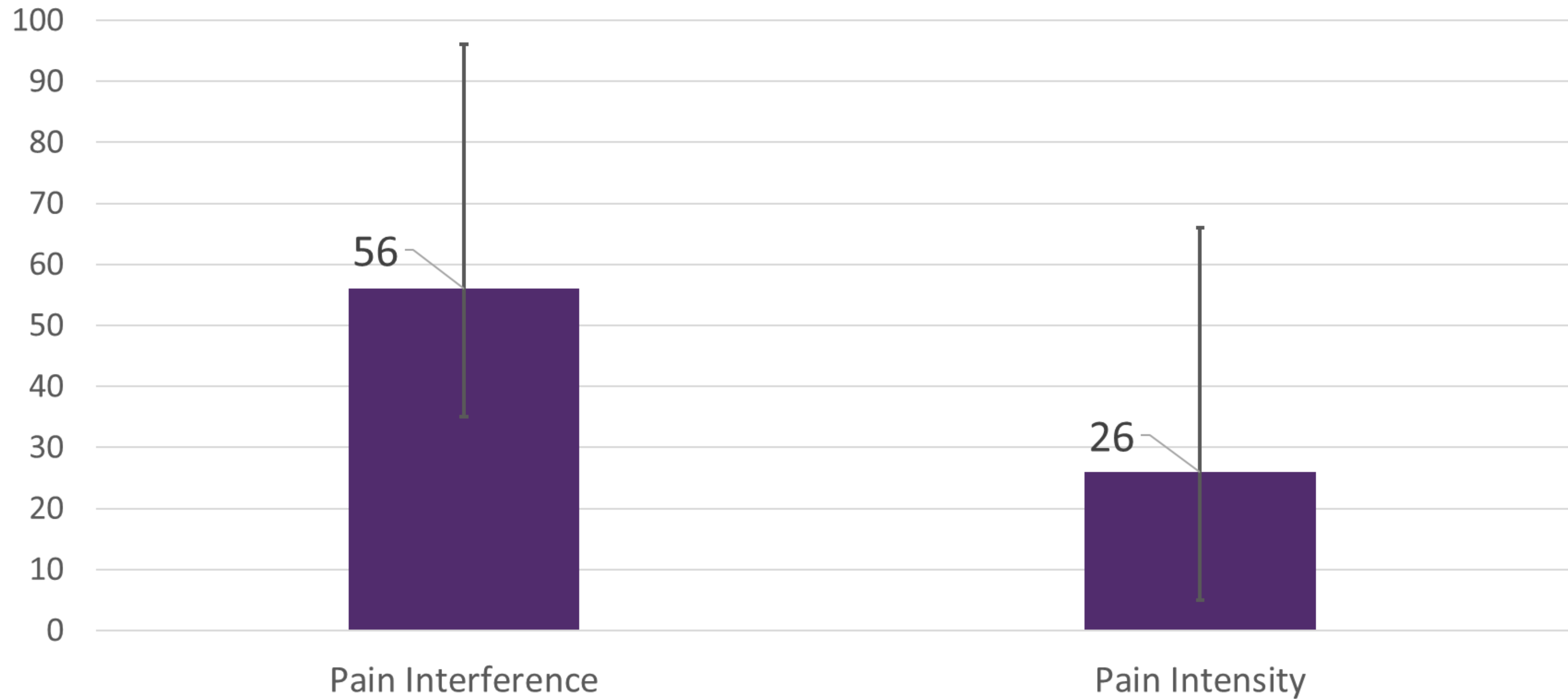


	UMC (n=375)	UMC + CC (n=375)
Age, years, mean (SD)	30.8 (8.8)	30.9 (8.7)
Sex, n (%)		
Male	287 (76.5)	288 (76.8)
Female	88 (23.5)	87 (23.2)
Race, n (%)		
White	252 (67.2)	255(68.0)
Black or African American	72 (19.2)	77 (20.5)
Asian	20 (5.3)	10 (2.7)
Native Hawaiian or Other Pacific Islander	2 (0.5)	7 (1.9)
American Indian or Alaska Native	2 (0.5)	0 (0)
Multi-racial	8 (2.1)	6 (1.6)
Unspecified	19 (5.1)	20 (5.3)
Ethnicity, n (%)		
Not Hispanic or Latino	286 (76.3)	300 (80.0)
Hispanic or Latino	66 (17.6)	52 (13.9)
Unspecified	23 (6.1)	23 (6.1)
Current LBP episode duration, n (%)		
< 7 days	81 (21.6)	73 (19.5)
7 days to < 16 days	40 (10.7)	33 (8.8)
16 days to < 1 month	23 (6.1)	37 (9.9)
1 to 3 months	40 (10.7)	39 (10.4)
> 3 months to < 6 months	23 (6.1)	25 (6.7)
6 months to < 1 year	28 (7.5)	27 (7.2)
1 year or more	140 (37.3)	141 (37.6)



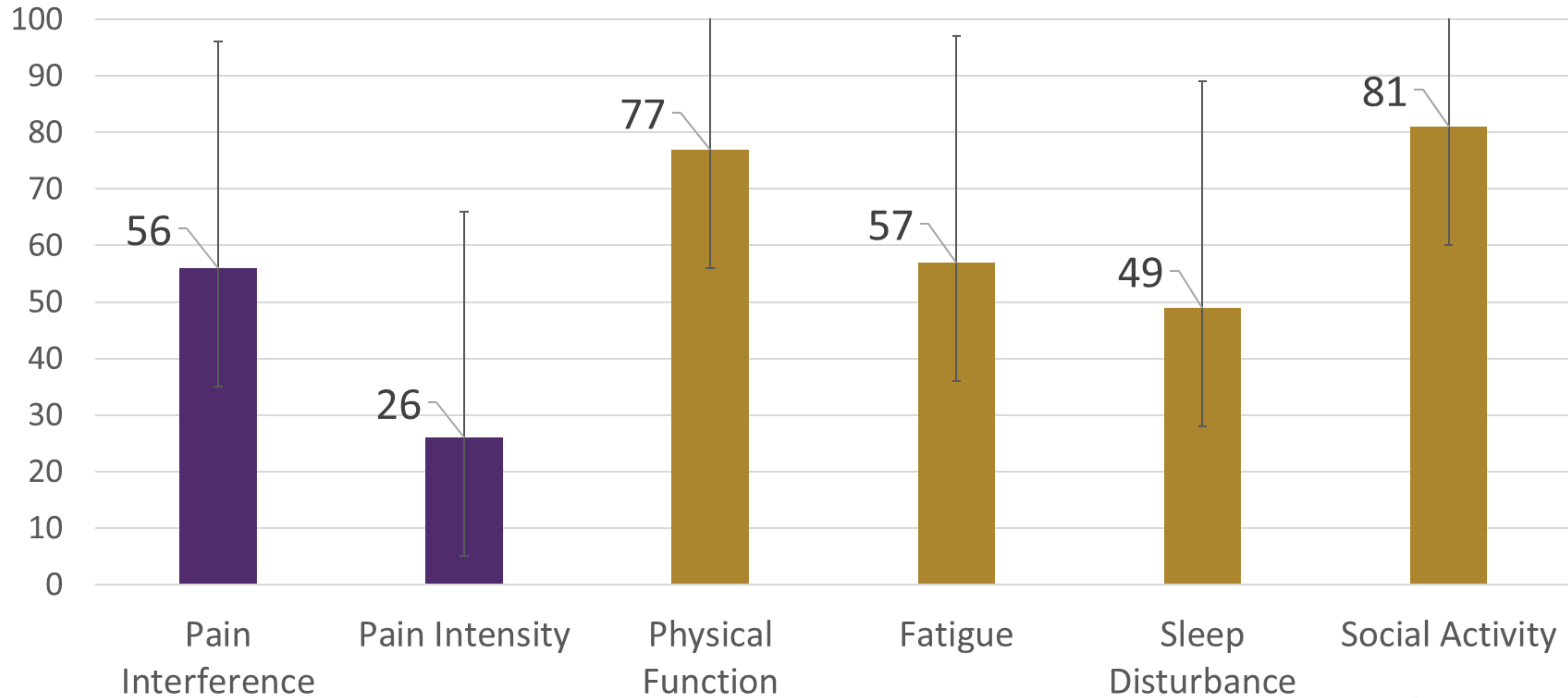


## Percent Occurring through Mediators with 95% CI





## Percent Occurring through Mediators with 95% CI



# Limitations

- Missing Patient Beliefs
  - Self-efficacy, pain-catastrophizing
- Generalizability
  - Active-duty military population
    - Limited mental health symptom reporting

# Conclusion

- Improvement in broader measures of health appeared to be modest mechanisms of the effect of chiropractic care on pain
- Pain intensity pathway less explained by health factors examined
- Targeting pain appears important
- Highlights strengths and areas of improvement
  - More information for military patients and referring providers

# Acknowledgements

- Cynthia R. Long, Elizabeth A. Chrischilles, Christine M. Goertz, Robert B. Wallace, Carri Casteel, Ryan M. Carnahan
- NCMIC Foundation educational fellowship funding
- This work received the NCMIC Early Career Award at the 2023 WFC Biennial Congress