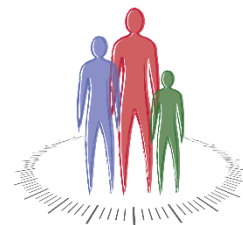


Examination of the PROMIS-29 v1.0 health scales in patients with human immunodeficiency virus (HIV)

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HealthMeasures



NeuroQoL™

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Background

- Advancements in anti-retroviral therapy have significantly reduced the morbidity and mortality for HIV+ persons (Chopra & Lim, 2019, *Microbiol Infect Dis*)
- Achievement has turned some focus away from mortality and toward outcomes like health-related quality of life (HRQOL)



Background

- Living longer, HIV+ persons are increasingly likely to develop comorbid conditions
- These compromise HRQOL, especially physical aspects
- Stigma associated with HIV has a consistently significant negative impact on mental HRQOL (Rueda et al., 2015, *BMJ Open*)



Background

- Relatively few studies have reported on the Patient Reported Outcomes Measurement Information System (PROMIS) measures in people living with HIV (Exception: Schnall et al., 2017, *AIDS PATIENT CARE and STDs*)
- Test-retest reliability and validity with HIV symptom index (Schnall et al.)
- We examined data from an HIV+ sample who completed the PROMIS-29 v1.0 (Cella et al., in press, *Value in Health*)
- Aim: exploratory descriptive statistics, comorbid conditions, and analysis of factor structure



Method

- Baseline assessment of a randomized controlled trial aiming to increase care retention among HIV+ patients
- Effectiveness of Peer Navigation and Contingency Management on Retention in HIV Care (Cunningham et al., 2018, *JAMA Internal Medicine*)
- Participants recruited from publically-funded clinics providing HIV Care in Los Angeles County



Method

- 450 patients prior to the peer navigation intervention (recruitment ongoing)
- Medical comorbidities (“Has a doctor told you...?”)
- PROMIS-29 v1.0 profile measure (Cella et al., in press, *Value in Health*)



Method

- We then estimated PROMIS-29 scores for HIV+ participants with comorbid conditions
- Differences of more than 1/3 of a standard deviation (3 T-score points) were interpreted as meaningful
- Exploratory factor analysis in R (**psych** package; Revelle, 2019)
- Assume a mental and physical factor based on T-scores
- Allowed the factors to correlate

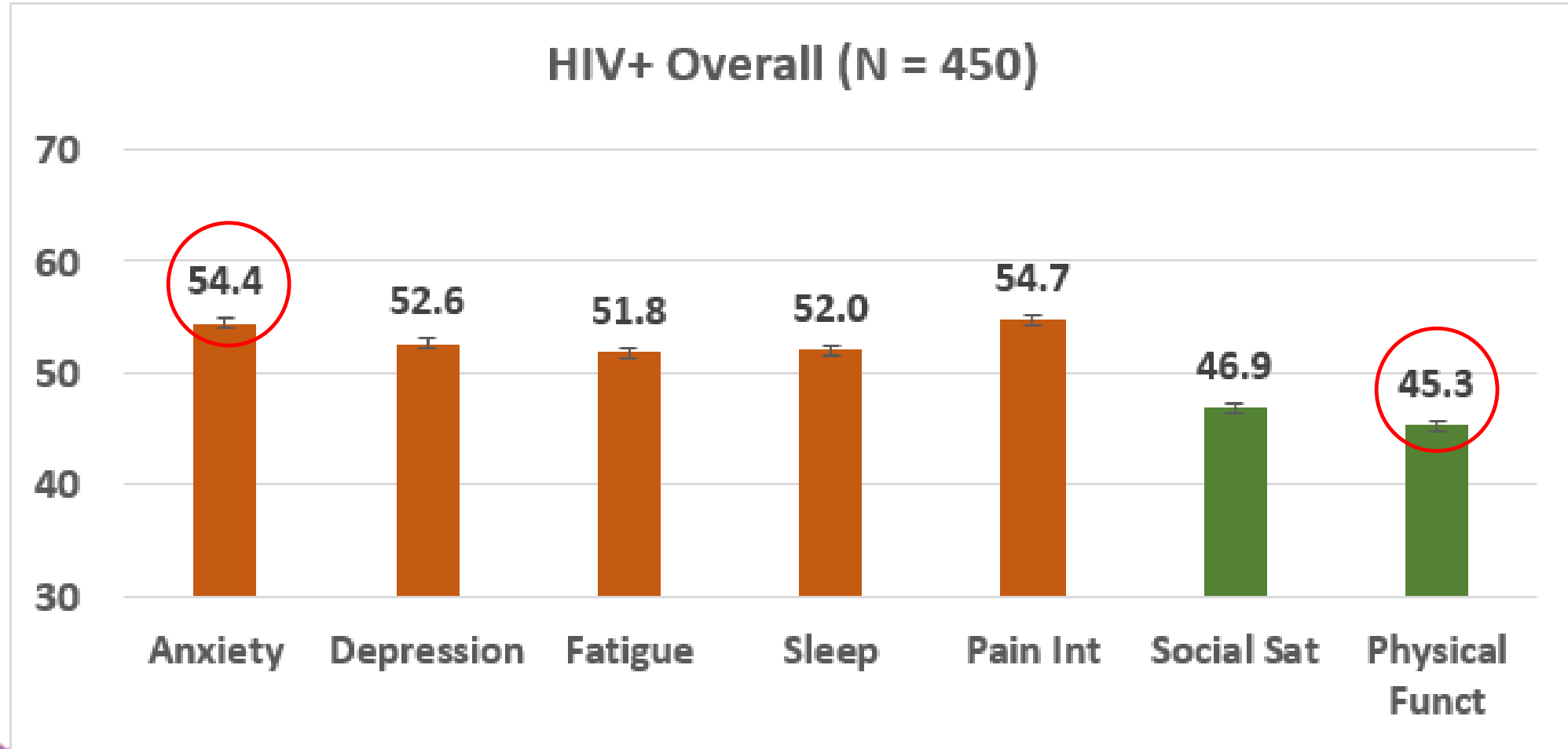


Results: Descriptive Statistics

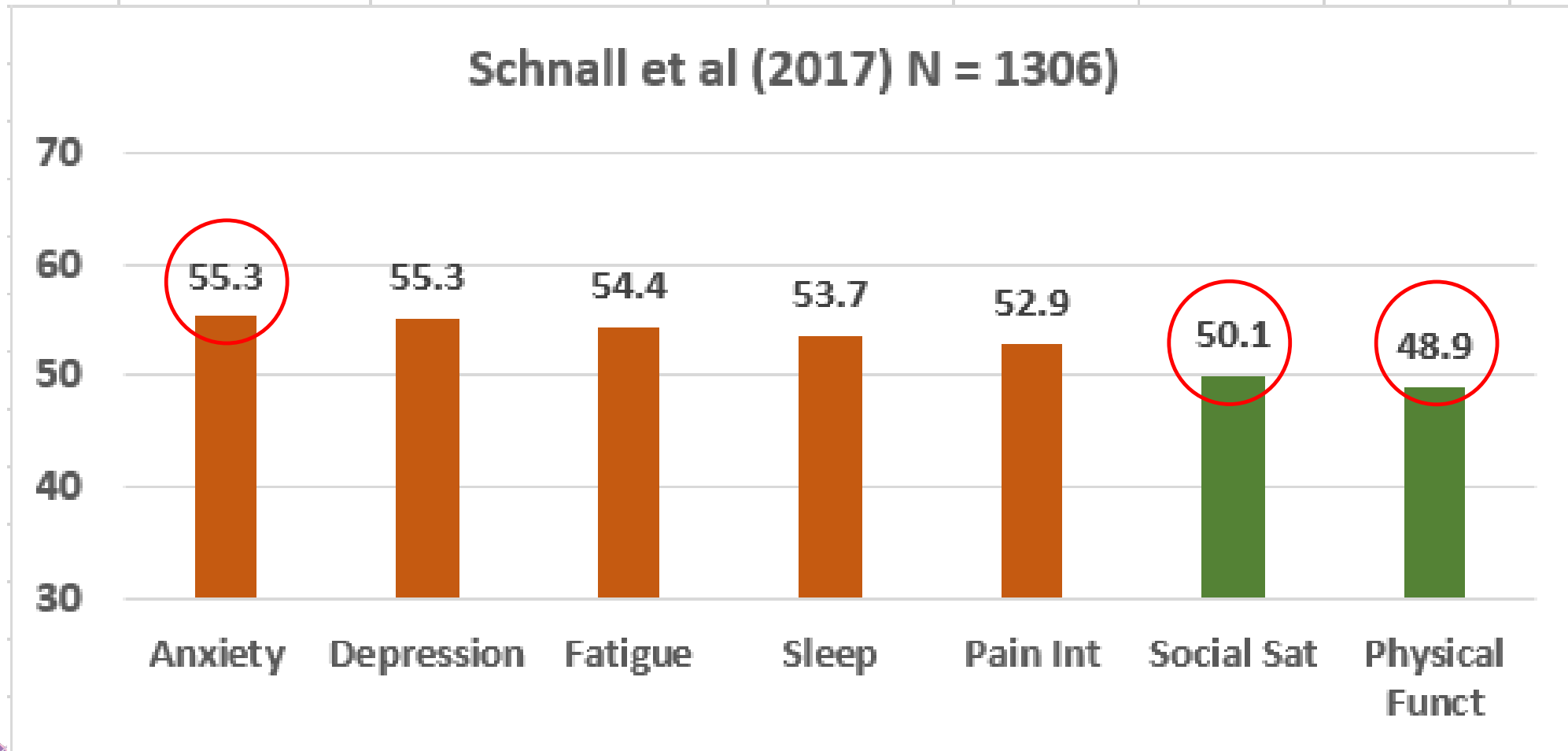
Participant characteristics	%	N
Male	78	349
Female	18	81
Transgender	4	18
Black	44	198
Hispanic/Latino	43	191
White	9	41
Age (m, IQR)	48 (38-56)	
Homeless (last 12 months)	26	118
Ever been arrested	57	257
Mean monthly income (\$)	1435	

Comorbid Condition	%	N
Hypertension	38	170
Hepatitis C	14	65
Diabetes	14	64
Asthma	17	74
Neuropathy of the hands	33	147
Arthritis of the hip (or hand)	22	100
Depression	59	264
Anxiety Disorder	39	173

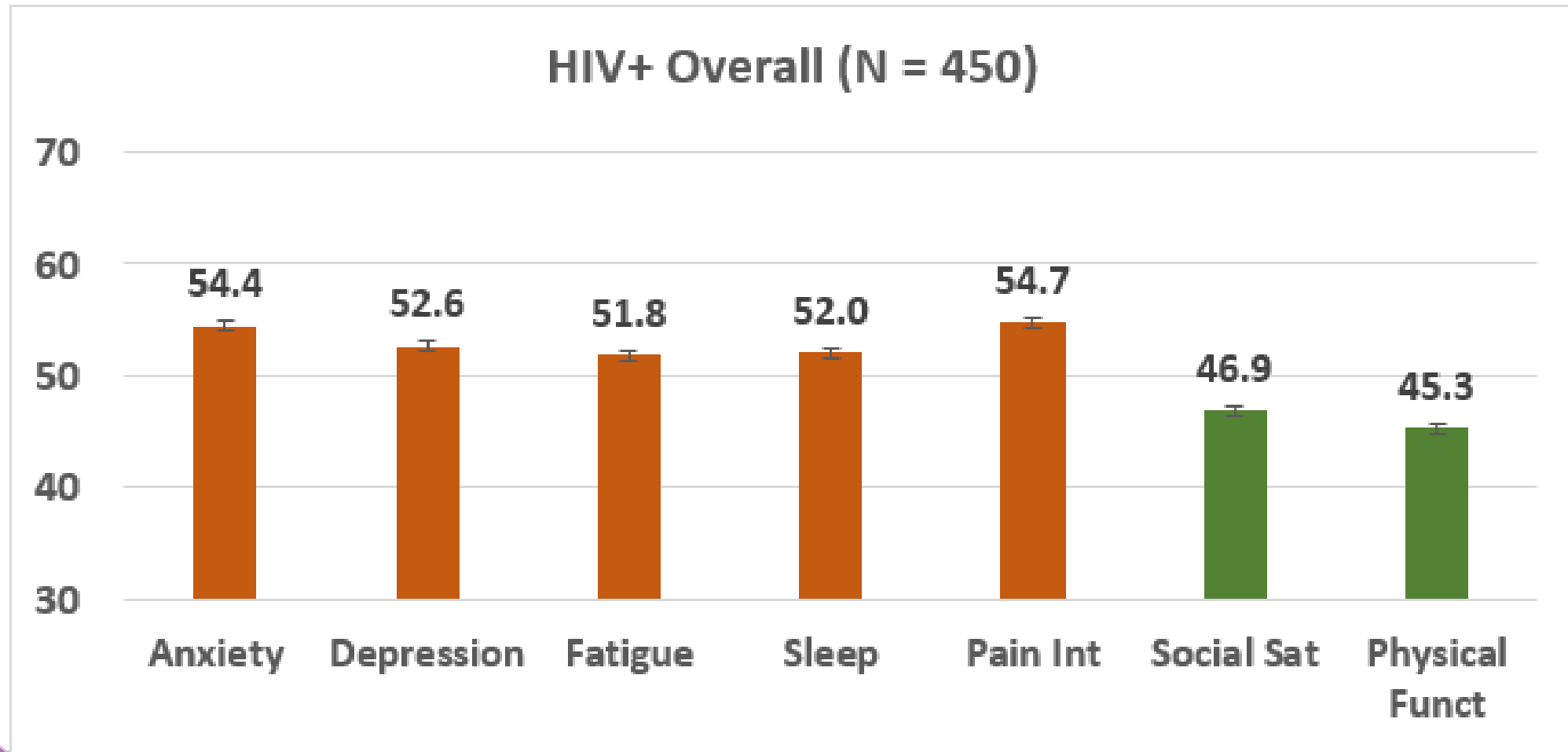
PROMIS 29 v1.0 Mean T-Scores



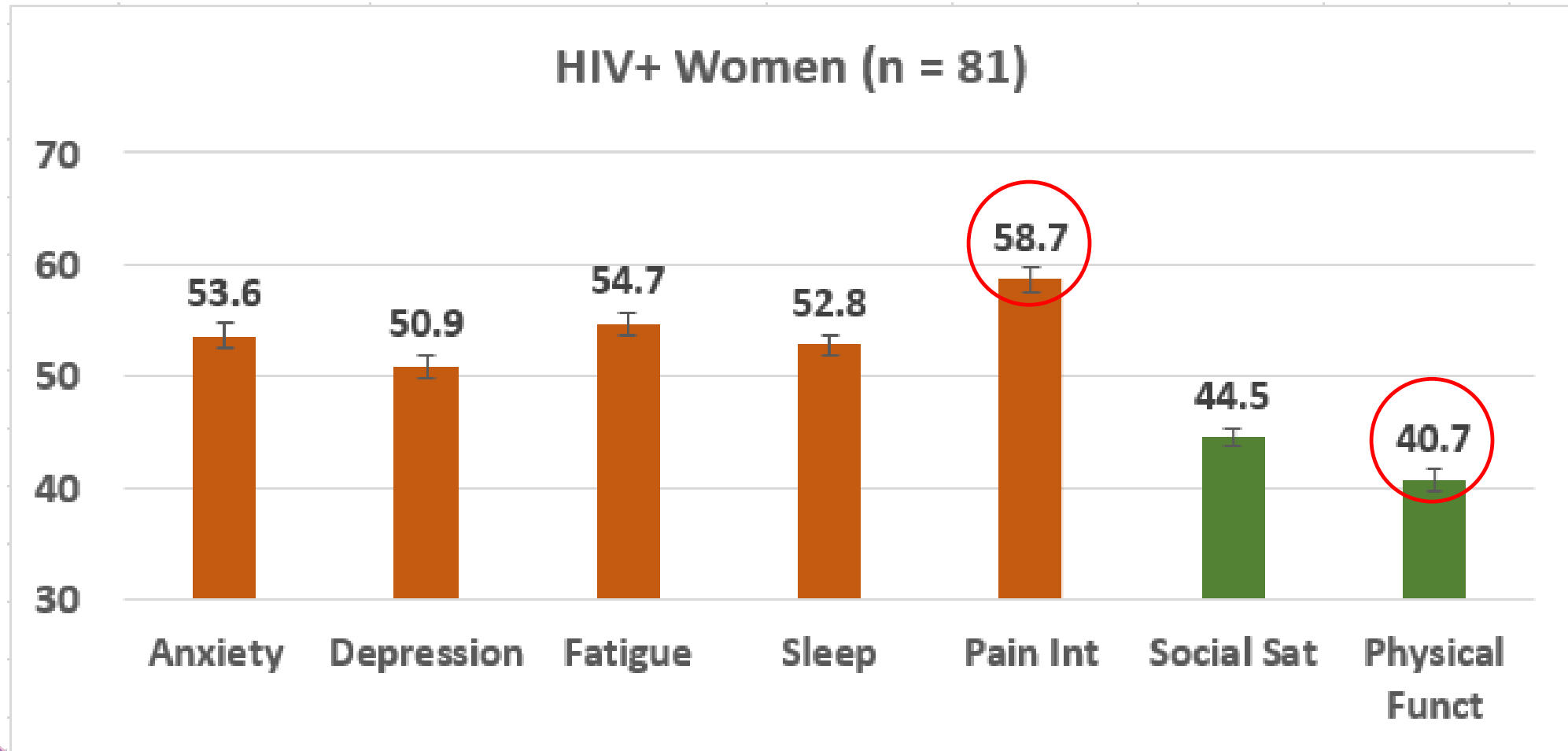
PROMIS 29 v1.0 Mean T-Scores



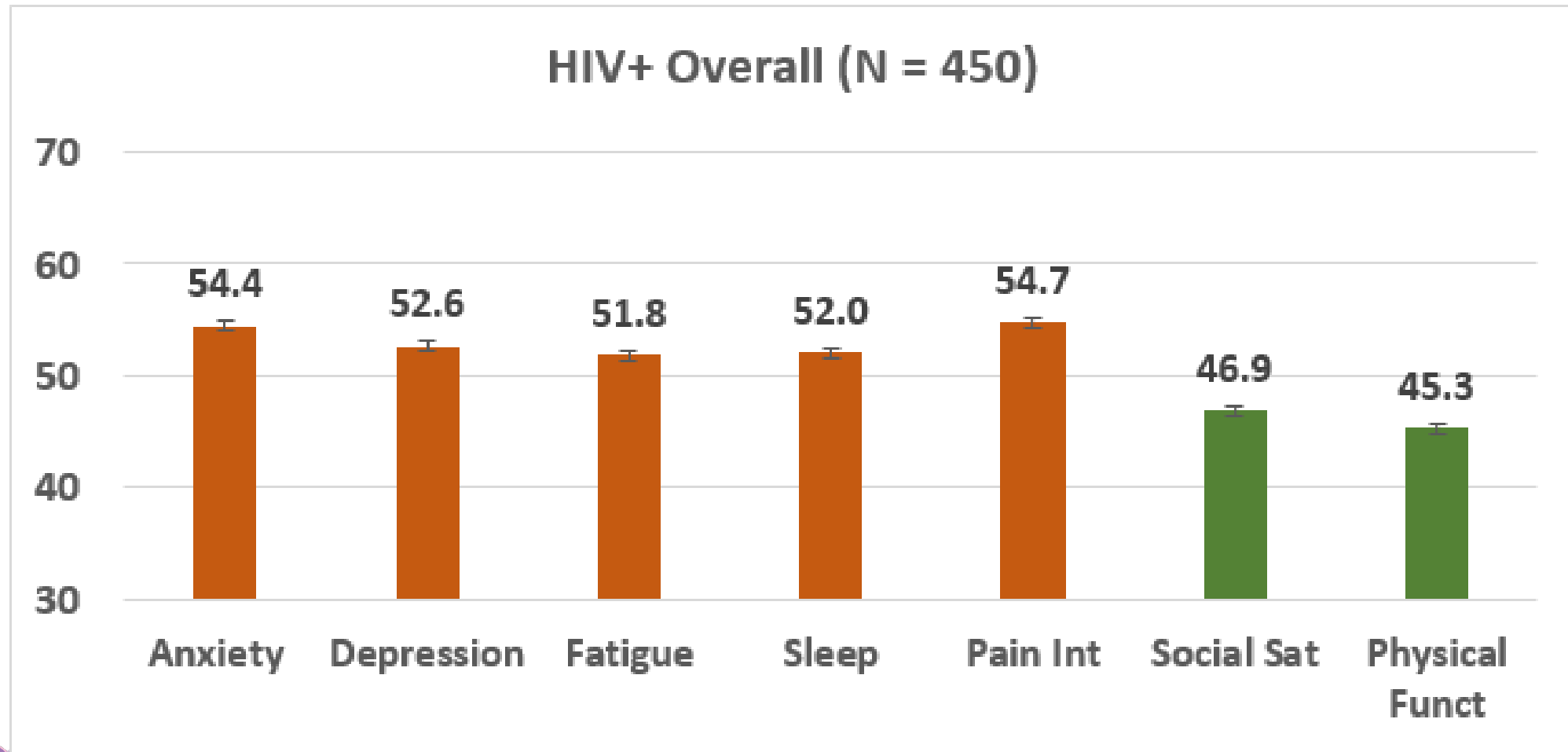
PROMIS 29 v1.0 Mean T-Scores



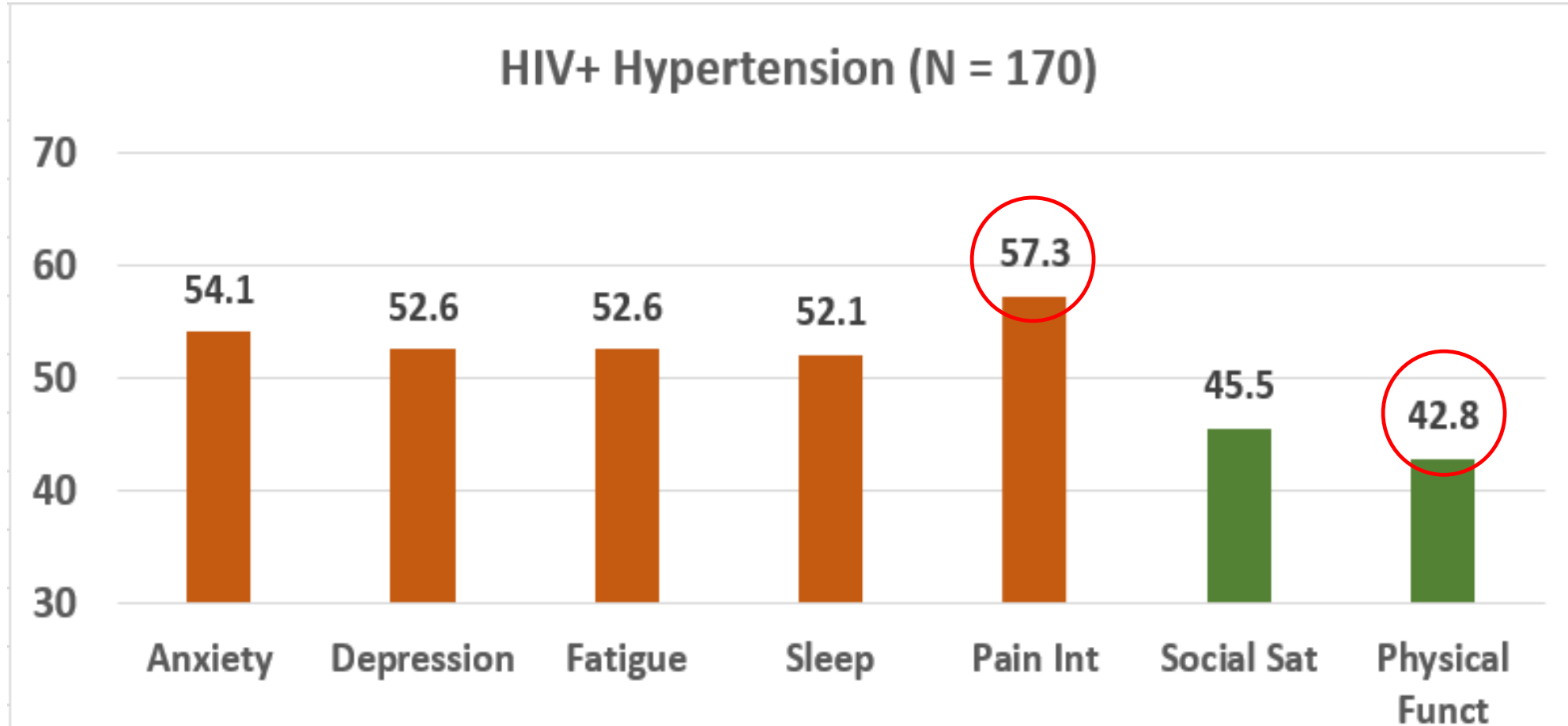
PROMIS 29 v1.0 Mean T-Scores



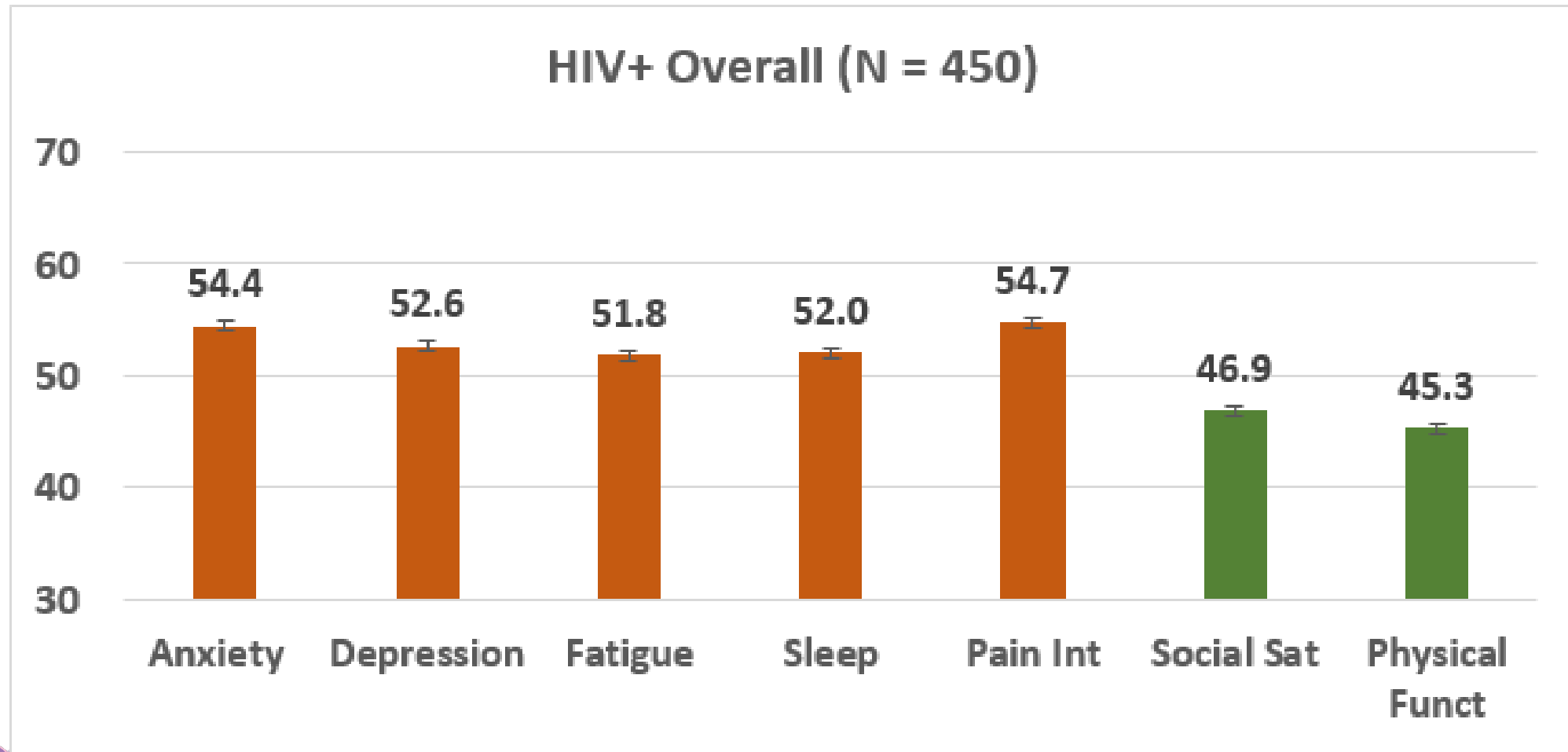
PROMIS 29 v1.0 Mean T-Scores



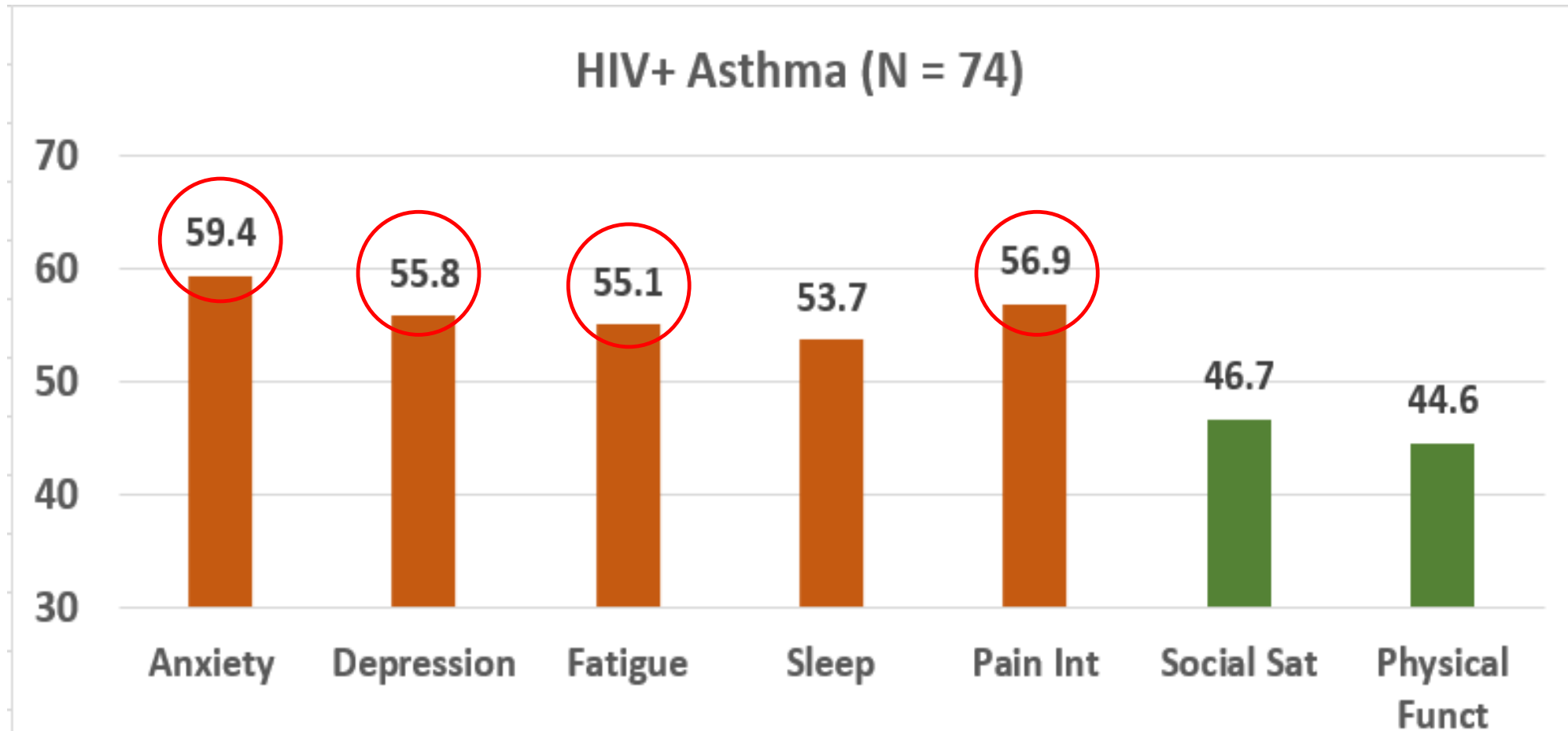
PROMIS 29 v1.0 Mean T-Scores



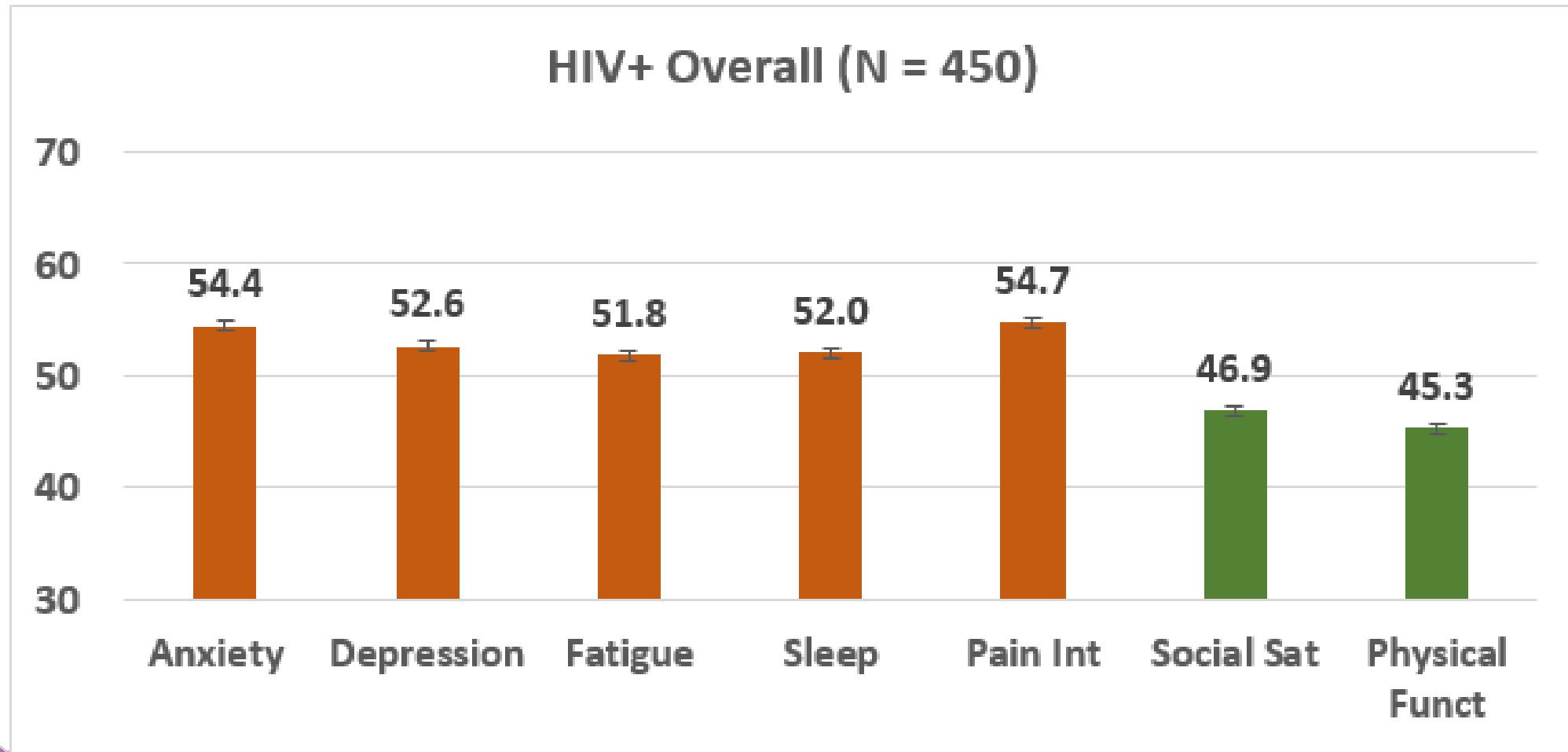
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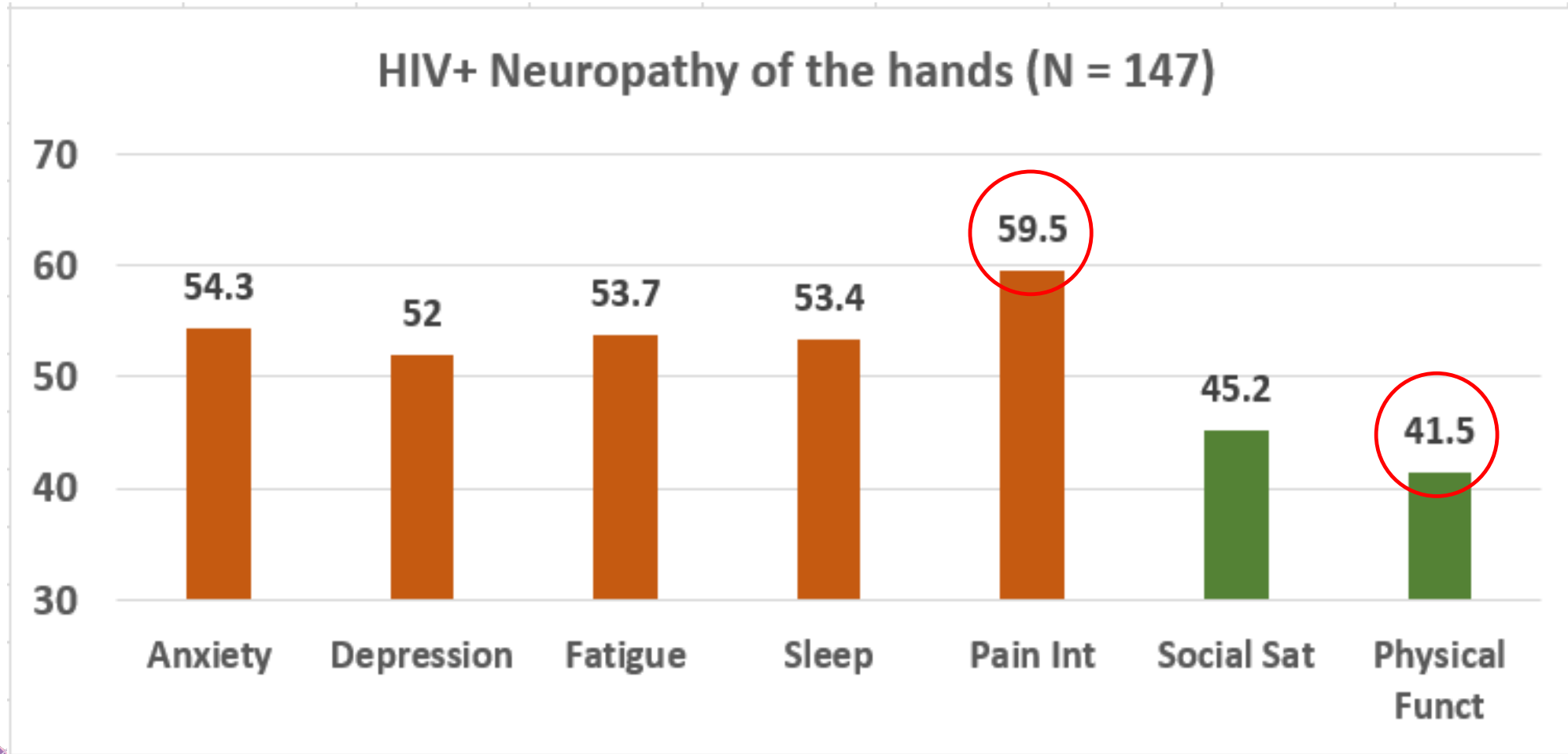
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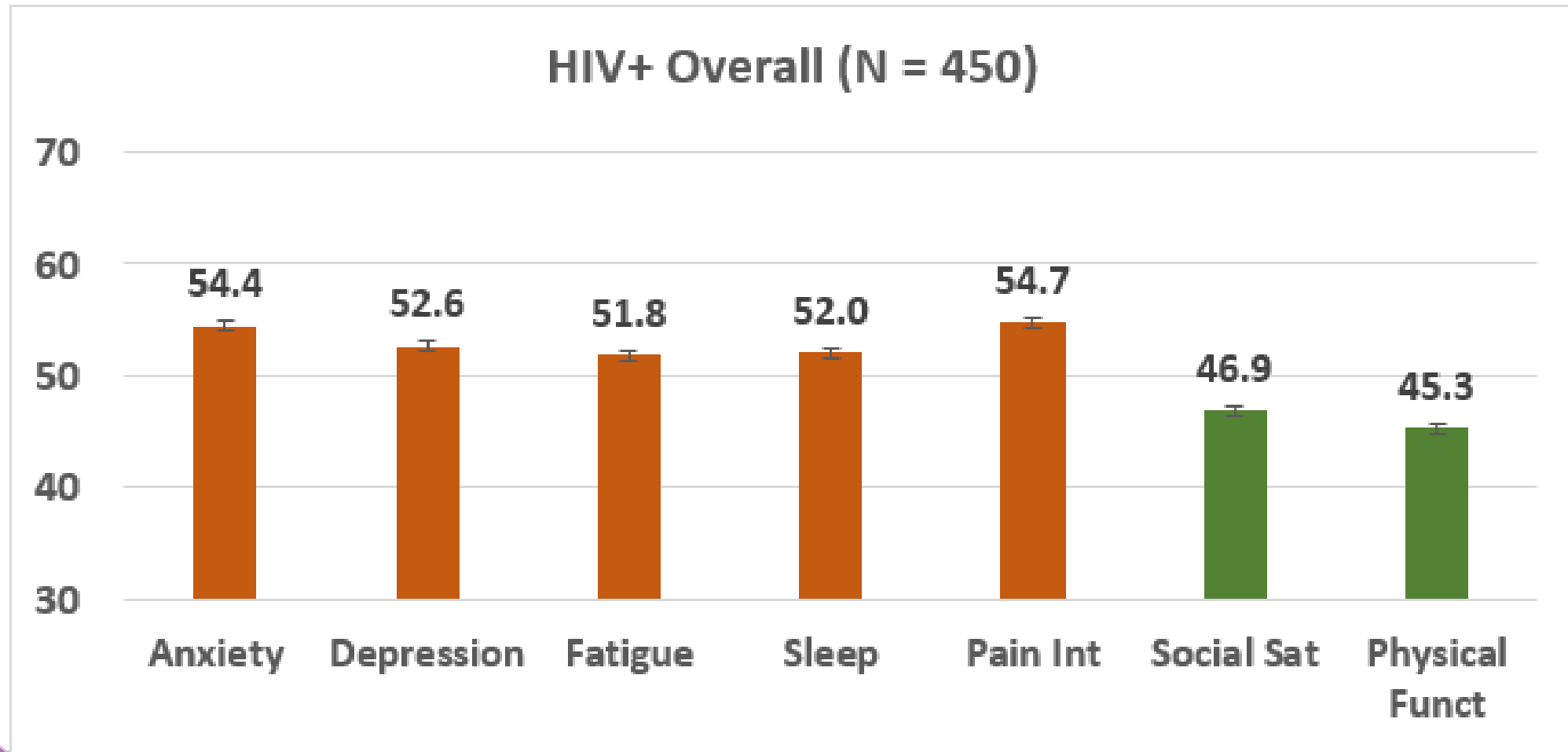
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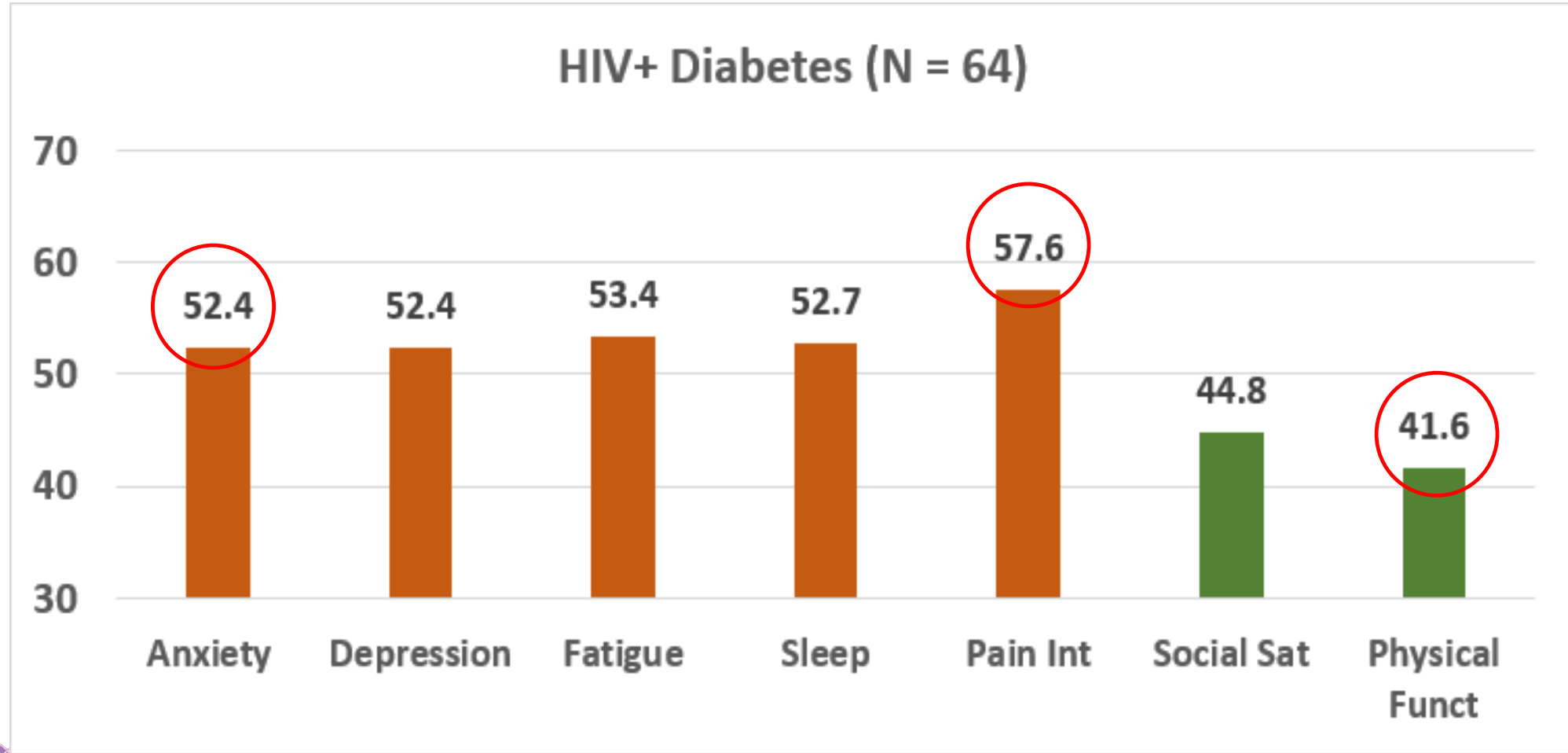
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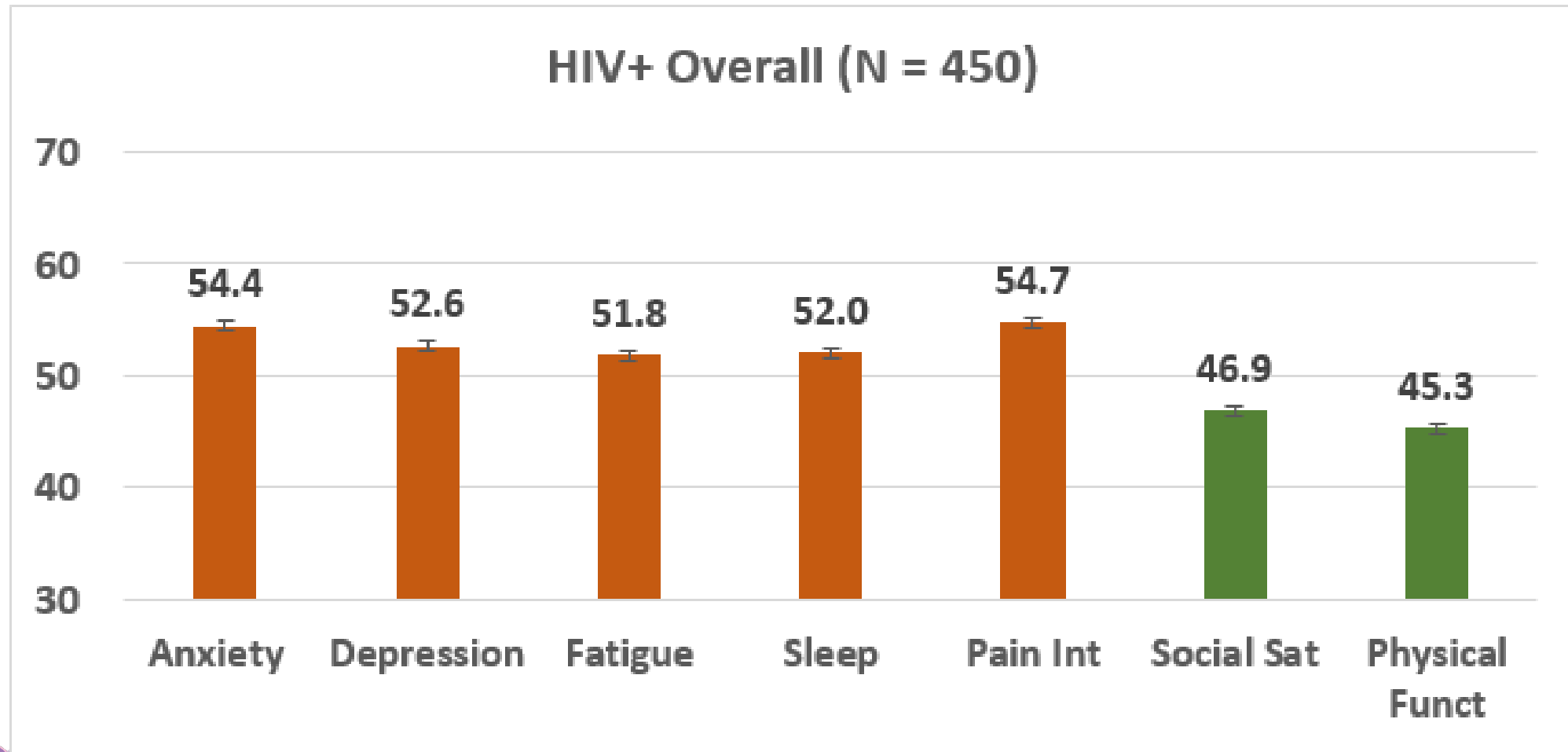
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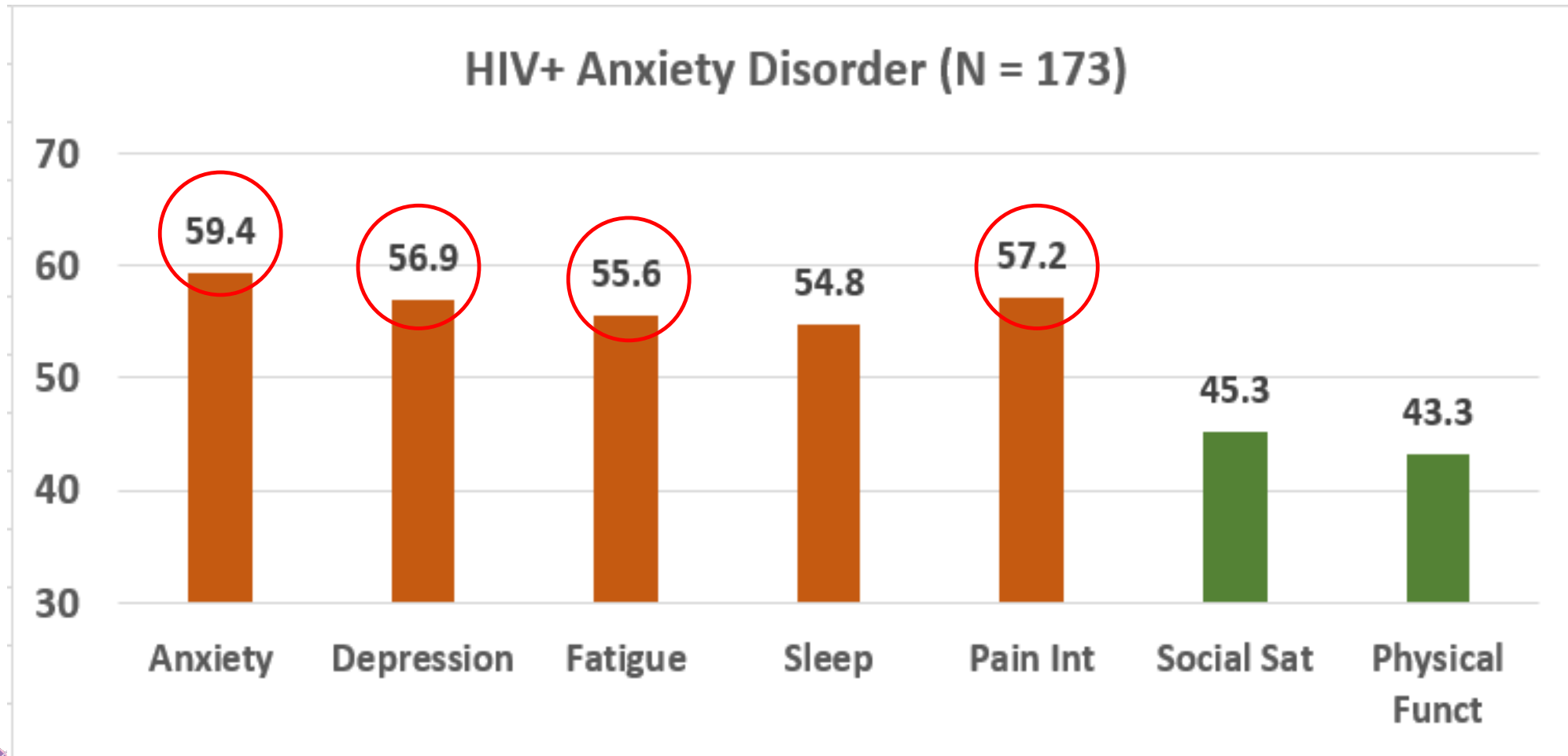
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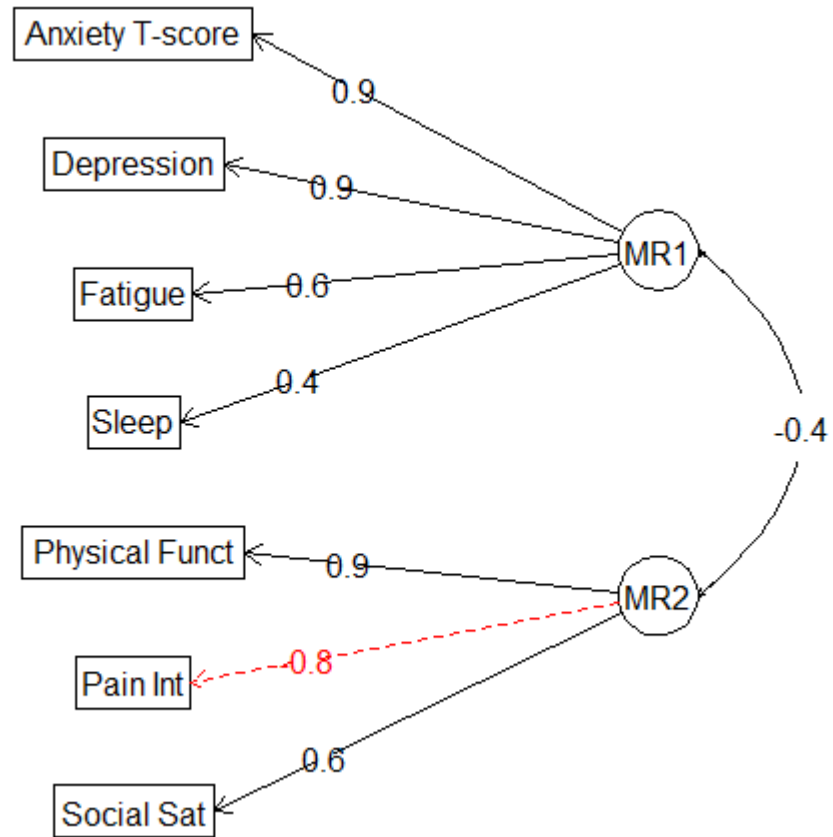


Results: Factor Analysis

- Exploratory factor analysis selected two factors

Standardized loadings			
		Factor 1	Factor 2
Anxiety		0.90	0.06
Depression		0.86	0.02
Fatigue		0.61	-0.31
Sleep		0.37	-0.27
Physical Funct		0.10	0.86
Pain Int		0.08	-0.77
Social Sat		-0.13	0.59
Correlation among the factors: -0.4			

Results: Factor Analysis



Hays et al. (2018), *QOLR* report latent trait correlation of .69

Conclusions

- PROMIS-29 scales showed worse health for persons living with HIV, particularly for anxiety and physical function
- Physical and social function, however, were worse than previously reported in an HIV+ *online* sample (Schnall et al, 2017)
- Comorbid conditions showed variation in T-scores that were reasonable theoretically
- Notable were elevations in Pain Interference for neuropathy and diabetes
- Exploratory: we did not specify and test hypotheses
- Future analyses to examine # of comorbid conditions and comparison with general population



Conclusion

- Factor analyses showed physical and mental HRQOL was moderately correlated in this sample (magnitude of .4)
- Differs from results in general population samples, where this latent trait correlation was 0.69
- Suggests a different relationship between physical and mental health among persons with HIV
- Physical health symptoms are somewhat independent of mental health
- Additional analyses on the full sample need to be conducted

