P2-P10

Long-term effect of musculoskeletal pain history and experimental pain responses on adolescents' quality of life

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Chronic musculoskeletal pain and enhanced temporal pain summation in early adolescence were associated with **lower quality of life** four years later.

BACKGROUND

Musculoskeletal (MSK) pain and concurrent quality of life are associated from early ages but little is known on the long-term impact of pain profiles in non-clinical settings. We aimed to quantify the association between musculoskeletal pain at age 13 years and quality of life four years later.

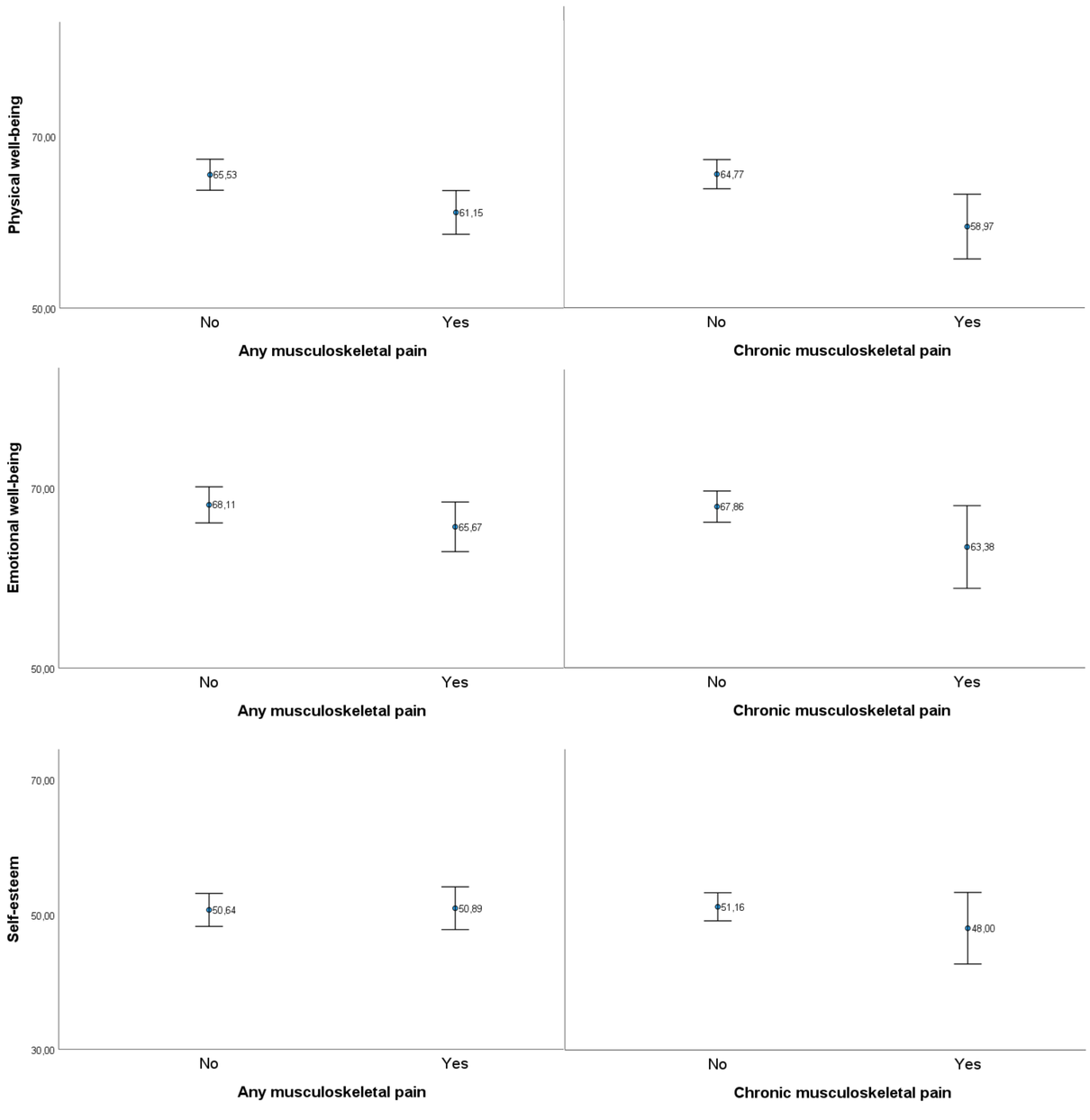
METHODS

We used data from the Generation XXI cohort.

- **Sample:** 574 adolescents.
- **Pain measures:** Any MSK pain (any pain in the prior 3 months in back, neck/shoulders, upper and lower limbs, hips, unspecified MSK, or generalized) and Chronic MSK pain (lasting >3 months), assessed using the Luebeck questionnaire at age 13.
- **Quantitative sensory testing subsample:** n=192, assessed via cuff pressure algometry.
- **Outcomes:** Quality of life at age 17 in 6 subscales (physical well-being, emotional well-being, self-esteem, family, friends and school) using the Kiddo-KINDL questionnaire.

RESULTS

Figure 1. Mean (95% confidence intervals) quality of life scores at age 17 years among groups based on reported pain experiences at 13 years for Any MSK pain and Chronic MSK pain.



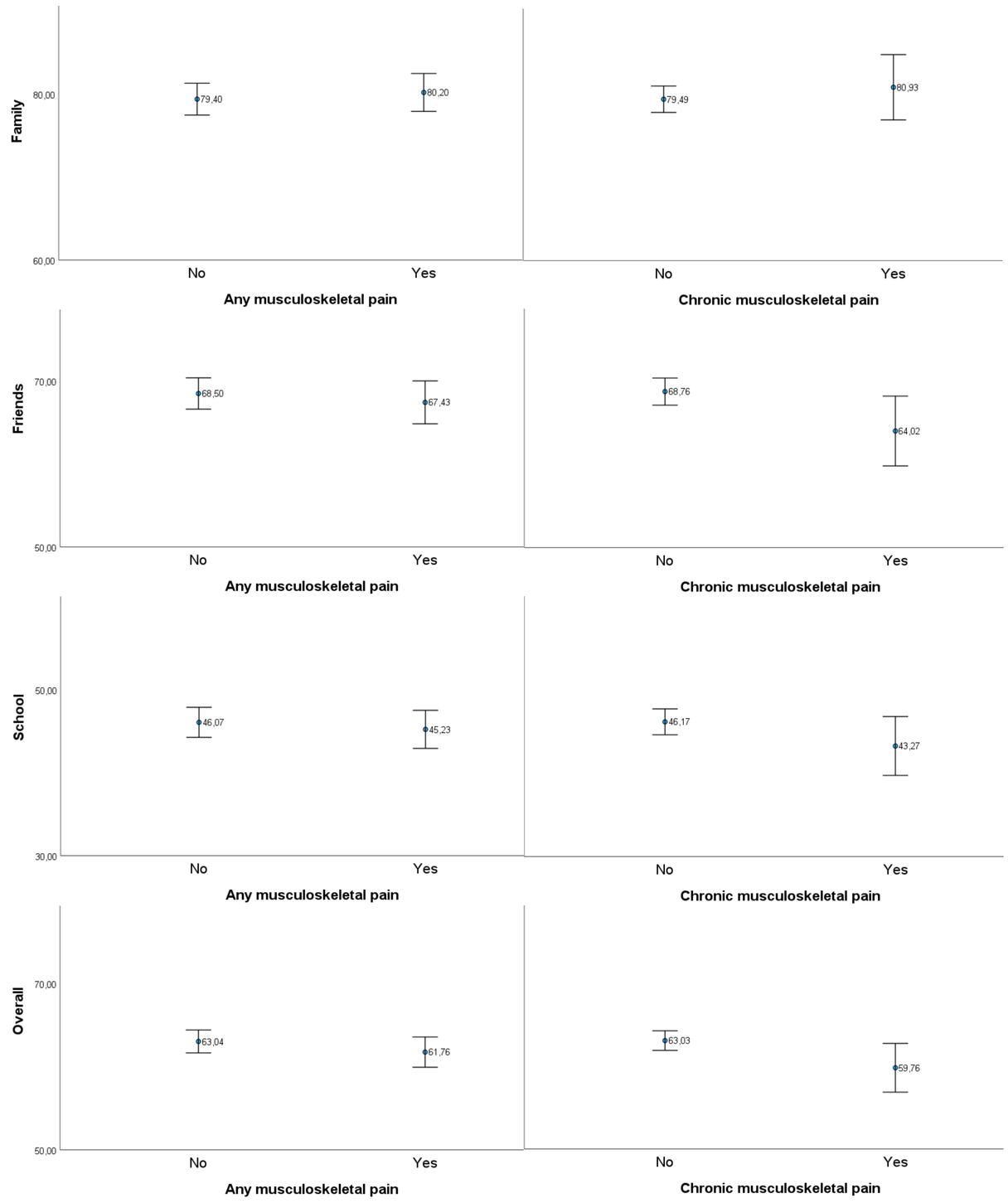


Table 1. Linear regression coefficients (95% confidence intervals) for associations between quantitative sensory testing (QST) parameters at age 13 and quality of life scores at age 17.

QST at age 13	Quality of life scores at age 17						
	Physical well-being	Emotional well-being	Self-esteem	Family	Friends	School	Overall
Pain detection threshold (PDT)	0.06 (-0.18 to 0.30)	0.08 (-0.20 to 0.35)	-0.11 (-0.42 to 0.21)	0.01 (-0.24 to 0.26)	0.05 (-0.21 to 0.31)	-0.01 (-0.25 to 0.23)	0.01 (-0.18 to 0.21)
Pain tolerance threshold (PTT)	-0.03 (-0.16 to 0.10)	-0.01 (-0.15 to 0.14)	-0.05 (-0.22 to 0.11)	0.00 (-0.13 to 0.13)	-0.03 (-0.16 to 0.11	-0.05 (0.18 to 0.08)	-0.03 (-0.13 to 0.08)
VAS-I	0.35 (-0.84 to 1.54)	0.26 (-1.08 to 1.59)	-0.13 (-1.68 to 1.41)	-0.51 (-1.71 to 0.70)	-0.01 (-1.28 to 1.26)	0.59 (-0.58 to 1.75)	0.09 (-0.86 to 1.04)
VAS-II	-2.29 (-1.34 to 0.76)	-0.75 (-1.93 to 0.42)	-0.50 (-1.86 to 0.87)	-0.87 (-1.92 to 0.19)	-0.77 (-1.89 to 0.35)	0.22 (-0.81 to 1.25)	-0.49 (-1.33 to 0.34)
Difference between VAS-II and VAS-I	-2.24 (-4.31 to -0.18)	-3.77 (-6.05 to -1.48)	-1.55 (-4.26 to 1.16)	-1.85 (-3.96 to 0.26)	-3.03 (-5.22 to -0.84)	-0.94 (-2.99 to 1.11)	-2.23 (-3.86 to 0.60)

CONCLUSIONS

Chronic MSK pain and enhanced temporal pain summation in early adolescence were associated with lower quality of life four years later, underlining the importance of early assessment and management in shaping future psychosocial well-being.

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