Associations between pain severity and opioid agonist treatment using the SuperMIX cohort data in Australia

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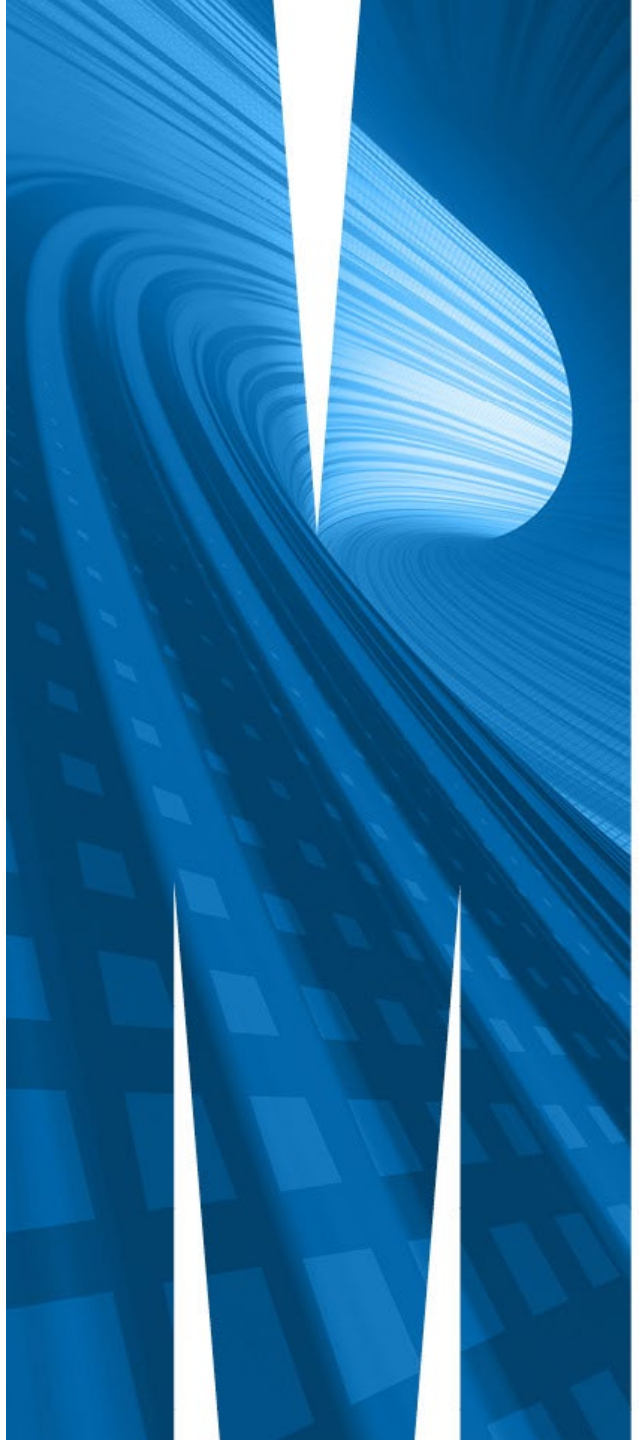

Disclosure of Interest

- *We acknowledge SuperMIX staff for their data collection and provision.*
- *SuperMIX establishment was funded by the Colonial Foundation Trust with ongoing funding from the Australian National Health and Medical Research Council (NHMRC) (#2023690).*
- *JY is the recipient of a China Scholarship Council (CSC) Scholarship (#202108440067).*
  LP is the recipient of the NHMRC Emerging Leadership Fellowship (#2016909).
  SN is the recipient of an NHMRC Investigator Fellowship (L2, #2025894).
- *The Burnet Institute gratefully acknowledges support from the Victorian Operational Infrastructure Fund.*

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Study Overview

Study background:

- Pain is highly prevalent and often undertreated as a comorbid condition in people with OUD, and pain relief efficacies of OAT medicines remain unclear

Study aim:

- To explore the correlates of pain and how pain severity changes in people with OUD as they move in and out of opioid agonist treatment (OAT)

Study questions:

- What are the correlates of pain?
- Does pain severity change with current OAT status?
- Does pain severity vary with using different OAT medicines (i.e. buprenorphine vs methadone)?

Longitudinal cohort:

- Melbourne Injecting Drug User Cohort Study (SuperMIX) cohort data

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Research Design

Participant eligibility:

- Ever been in OAT for at least one time point (2008-2024)

Analysis methods:

- Ordinal regression and linear mixed-effects analyses

Outcome variable:

- Current pain was measured by a 6-point Likert Scale (none to very severe pain in the past 4 weeks)

Covariates of interest:

- Demographics (e.g., gender, age, employment)
- Current OAT status (yes/no) and medicine use (i.e., buprenorphine, methadone)
- Mental health conditions (i.e., emotional problems measured by the 8-item Short-Form Health Survey)
- Sleep difficulties (yes/no)
- Heroin use frequencies (≥once/day)

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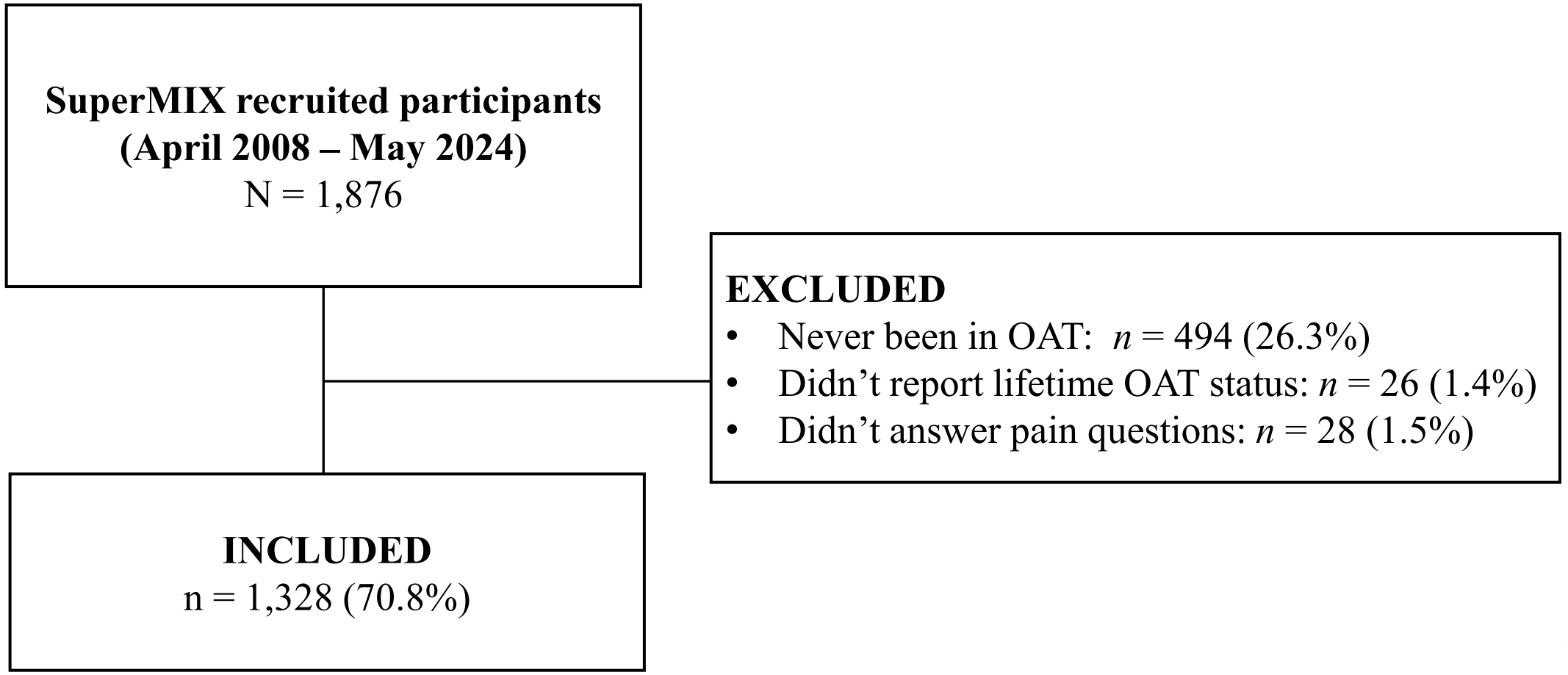
Participant Recruitment Chart



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Descriptive Results: Baseline data

Table 1. Demographic and clinical characteristics of participants

	No pain	Mild pain	Moderate pain	Severe pain
N	452 (34.0%)	367 (27.6%)	257 (19.4%)	252 (19.0%)
Male [a]				
No	121 (26.8%)	124 (33.8%)	85 (33.1%)	99 (39.3%)
Yes	**330 (73.2%)**	**243 (66.2%)**	**172 (66.9%)**	**153 (60.7%)**
Mean age(SE) [b]	34.8 (9.7)	35.3 (10.3)	38.8 (11.6)	39.6 (10.7)
Employment [c]				
No	**395 (87.4%)**	**320 (87.4%)**	**230 (89.5%)**	**228 (90.5%)**
Yes	57 (12.6%)	46 (12.6%)	27 (10.5%)	24 (9.5%)
Current OAT [d]				
No	243 (53.8%)	179 (48.8%)	121 (47.1%)	121 (48.2%)
Yes	209 (46.2%)	188 (51.2%)	136 (52.9%)	130 (51.8%)
Sleep difficulties [e]				
No	397 (88.0%)	297 (81.4%)	205 (79.8%)	192 (76.2%)
Yes	54 (12.0%)	68 (18.6%)	52 (20.2%)	60 (23.8%)
Emotion problems [f]				
Not at all	214 (47.9%)	61 (16.8%)	28 (11.0%)	31 (12.5%)
Slightly	74 (16.6%)	99 (27.3%)	59 (23.2%)	25 (10.1%)
Moderately	55 (12.3%)	70 (19.3%)	54 (21.3%)	41 (16.5%)
Quite a lot	76 (17.0%)	99 (27.3%)	77 (30.3%)	86 (34.7%)
Extremely	28 (6.3%)	34 (9.4%)	36 (14.2%)	65 (26.2%)

- Mean age of the cohort: 36.7 years
- Most were male (67.7%) and unemployed (88.4%)
- Half were currently in OAT
- Pain at any levels: 66%; Sever pain:19%

Notes: [a] missing n=2, [b] missing n=1, [c] missing n=1, [d] missing n=1, [e] missing n=4, [f] missing n=40
Emotional problems were measured by the 8-item Short-Form Health Survey

Baseline Analysis: Ordinal regression

- Pain severity was associated with higher age, female gender, sleep difficulties, and severe emotional problems
- No association was observed between pain severity and current OAT status from baseline data

Table 2. Adjusted odds ratio for ordinal regression on pain groups (N=1,278)

Pain severity		aOR with 95% CI
Male		**0.73 (0.58, 0.90)**
Age		**1.03 (1.02, 1.04)**
Employment		0.70 (0.71, 1.33)
Current OAT status		0.78 (0.10, 6.43)
Heroin use frequency (once/day)		0.95 (0.77, 1.18)
Sleep difficulties		**1.46 (1.12, 1.91)**
Emotion problems	Slightly	**3.22 (2.26, 4.58)**
	Moderately	**4.52 (3.13, 6.52)**
	Quite a lot	**6.05 (4.28, 8.54)**
	Extremely	**9.33 (6.06, 14.37)**

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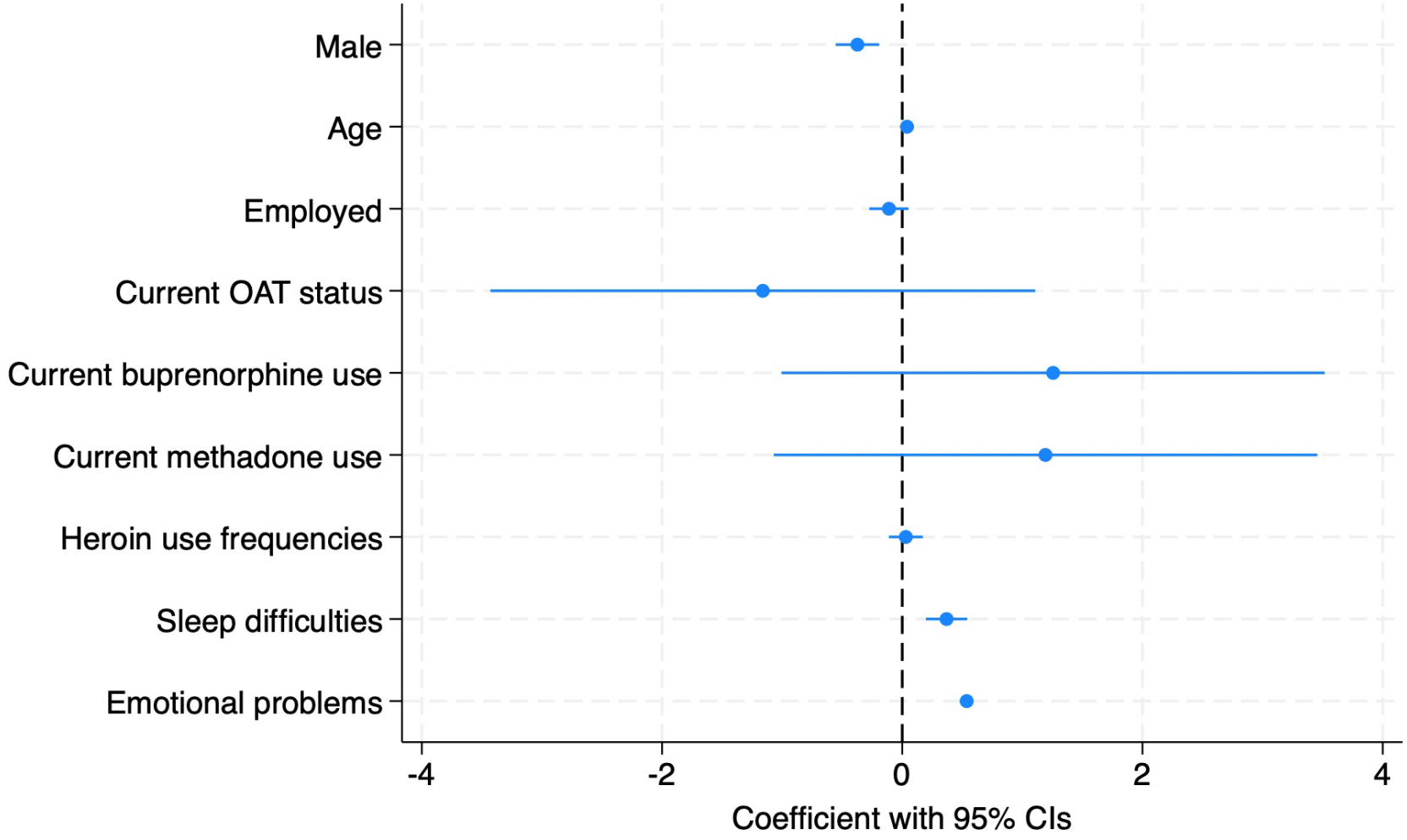
Longitudinal Analysis: Mixed-effects analysis



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Conclusions

Gender, age, sleep difficulties and mental health were associated with more severe pain

No association was observed between pain severity and current treatment status

OAT medicines are not enough to manage concurrent opioid dependence and pain

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Thank You!

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Research protocol: *https://osf.io/m5ws2/*