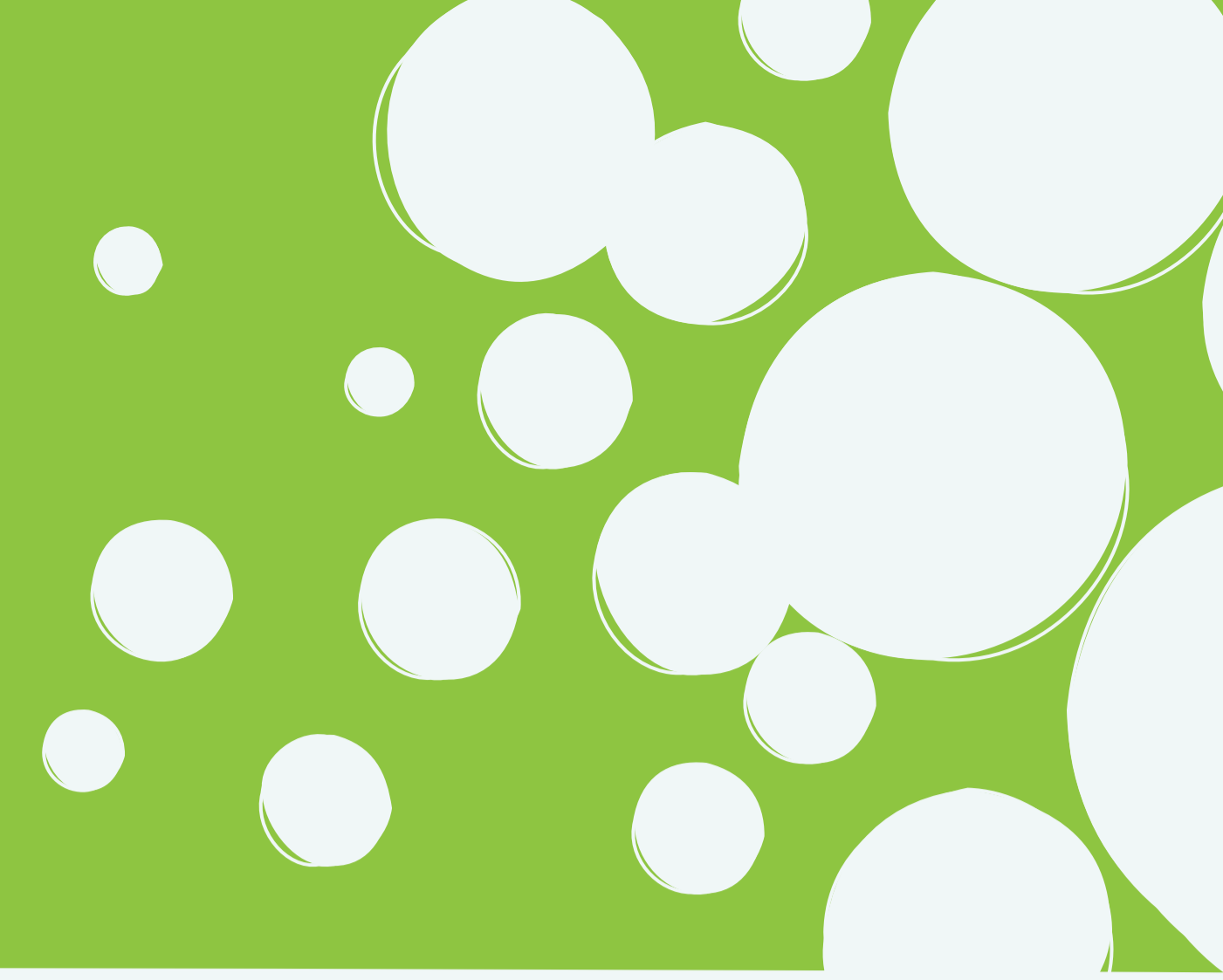


Characteristics and Severity of Complications in Children Presenting to a Tertiary-Care Pediatric Obesity Management Program

Betty Bartleman, MD, FRCP(c) | Rola Zahr, MPH, RD | Madelaine Gierc, MPH, PhD (Kin), PhD (Psych)



OUR CLINIC

Generation Health Clinic (GHC) is a paediatric obesity management program delivered across British Columbia. Patients (ages 6-17 years) are eligible for referral if they have (i) BMI >97th percentile or (ii) BMI >85th percentile with obesity-related complications.

Aligned with the 2025 Canadian Pediatric Guideline, treatment starts with a comprehensive interdisciplinary assessment including medical, psychosocial, and lifestyle assessment. The EOSS-P is used by the clinical team to contextualize results and guide care planning.

QUESTIONS

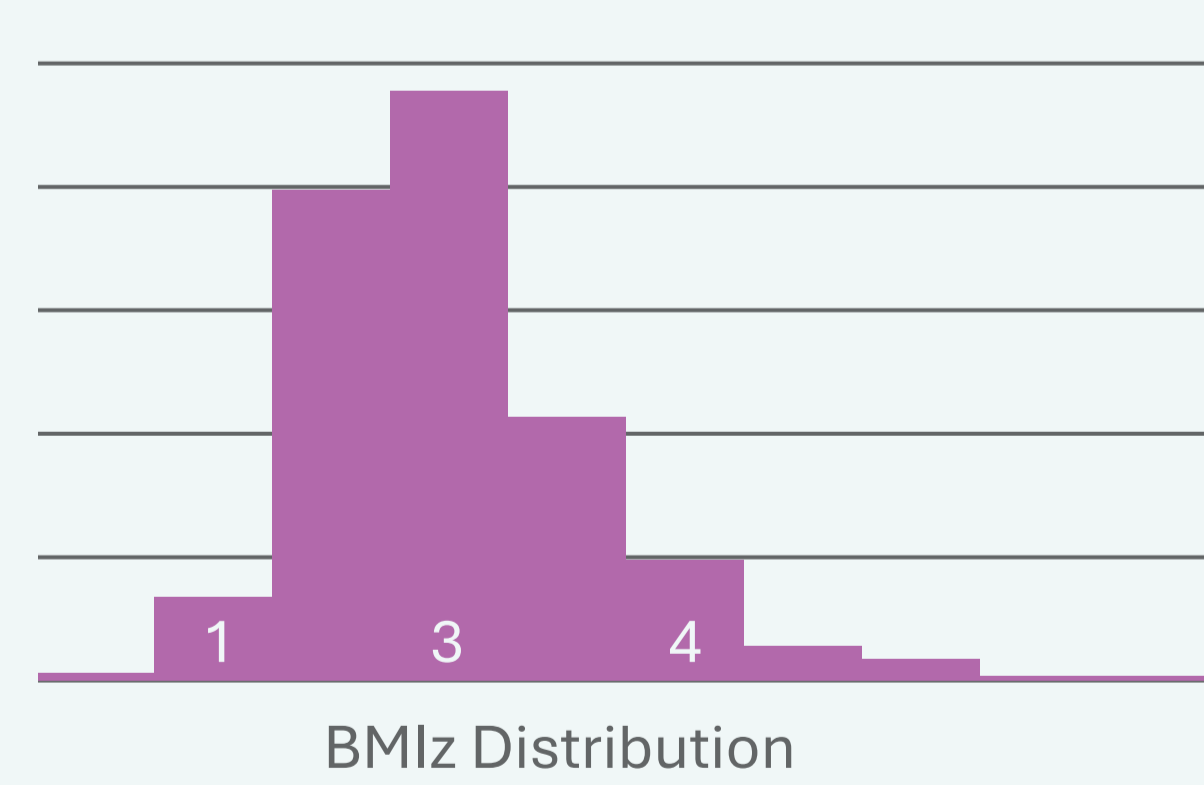
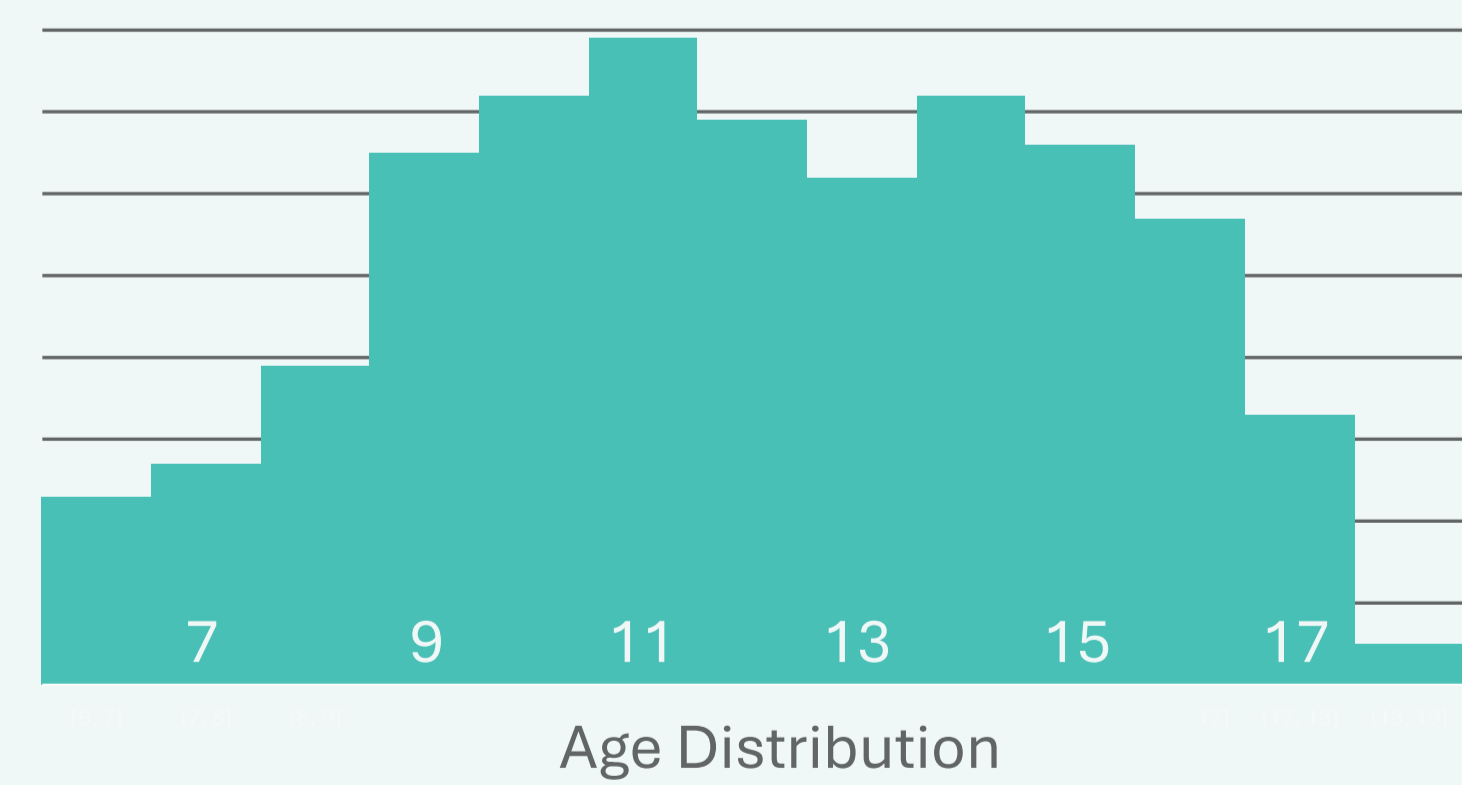
What complications are experienced by patients referred to a tertiary pediatric obesity clinic?

What are the relationships between EOSS-P staging and BMI z-scores in this sample?



SAMPLE

N = 757



Mean Age = 12.1 ± 3.0 years

Mean BMIZ = 3.28 ± 1.02

Z-score interpretation:
1 ≈ 85th %ile 2 ≈ 97th %ile 3 ≈ 99.8th %ile

53.6% male

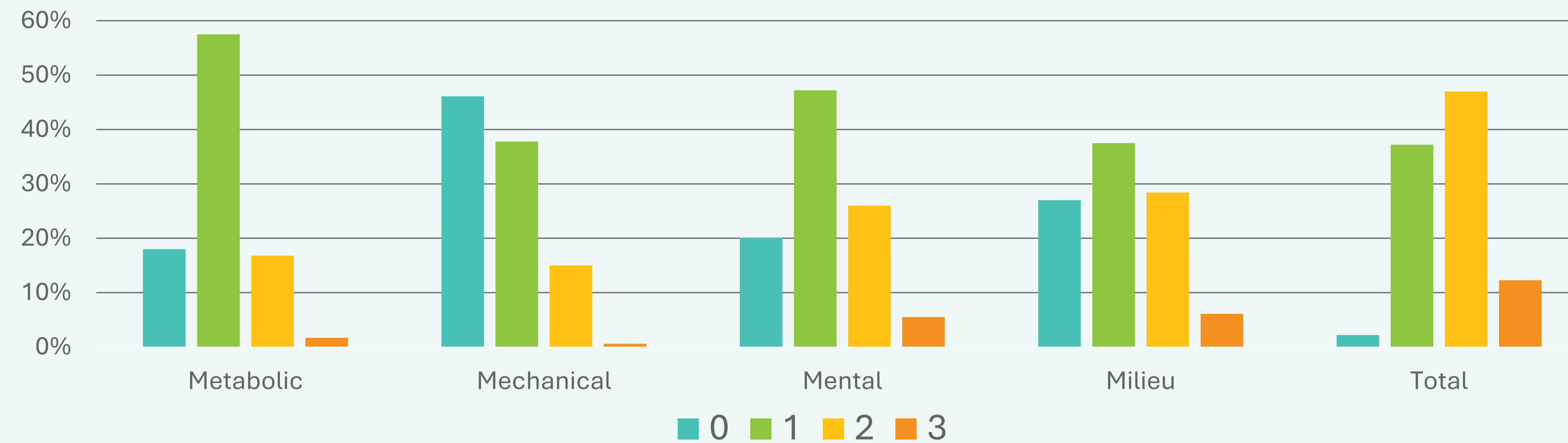
43.9% White | 14.2% South Asian | 12.2% Indigenous

41.6% report a total income < \$80,000 / year



RESULTS

EOSS-P Scoring by Domain



	0	1	2	3	N/A
Metabolic	18.0%	57.5%	16.8%	1.7%	6.0%
Dyslipidemia = 63% Acan. Nigr. = 47% Hypertension = 25% MASLD = 21%					
Mechanical	46.1%	37.8%	15.0%	0.6%	0.6%
MSK = 43% OSA = 34% Asthma = 26%					
Mental	20.1%	47.2%	26.0%	5.5%	0.8%
Neurodiversity = 43% (ID = 8.3% LD = 18.1% ASD = 19.1% ADHD = 33%) Generalized Anxiety = 31% Major Depression = 11%					
Milieu	27.0%	37.5%	28.4%	6.1%	1.0%
Bullying = 56.4% Peer/Friendship Problems = 53.1% Food Insecure = 27.3%					
Total	2.2%	37.2%	47.0%	12.3%	1.3%

DISCUSSION

- Children present with significant preexisting complications. The majority (59.3%) were staged at EOSS-P 2 or greater.
- Mental health and Milieu concerns tended to be more severe.
- BMI z-scores were related to EOSS-P scores in the Metabolic, Mechanical, and Milieu domains.
- Results underscore the need for comprehensive assessment and services for children, youth, and families.
- Limitations:**
 - Tertiary population, elevated BMIZ-scores
 - Lack of standardized assessment protocols for Mechanical, Mental, and Milieu domains

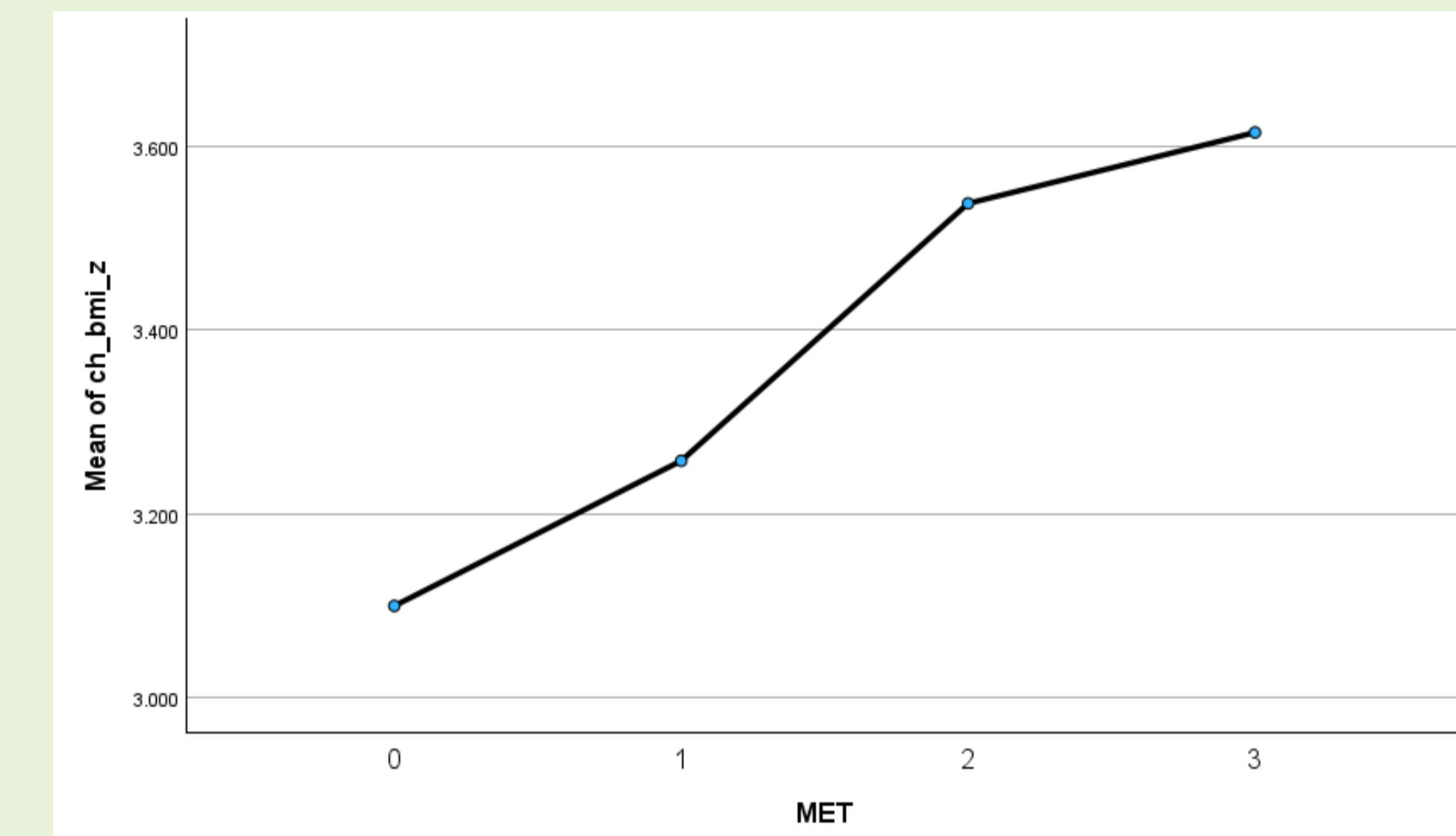
Metabolic

$F(3, 644) = 4.313$,
 $p = 0.005$

BMI z-scores:

0: 3.10 ± 1.15

3: 3.62 ± 1.24



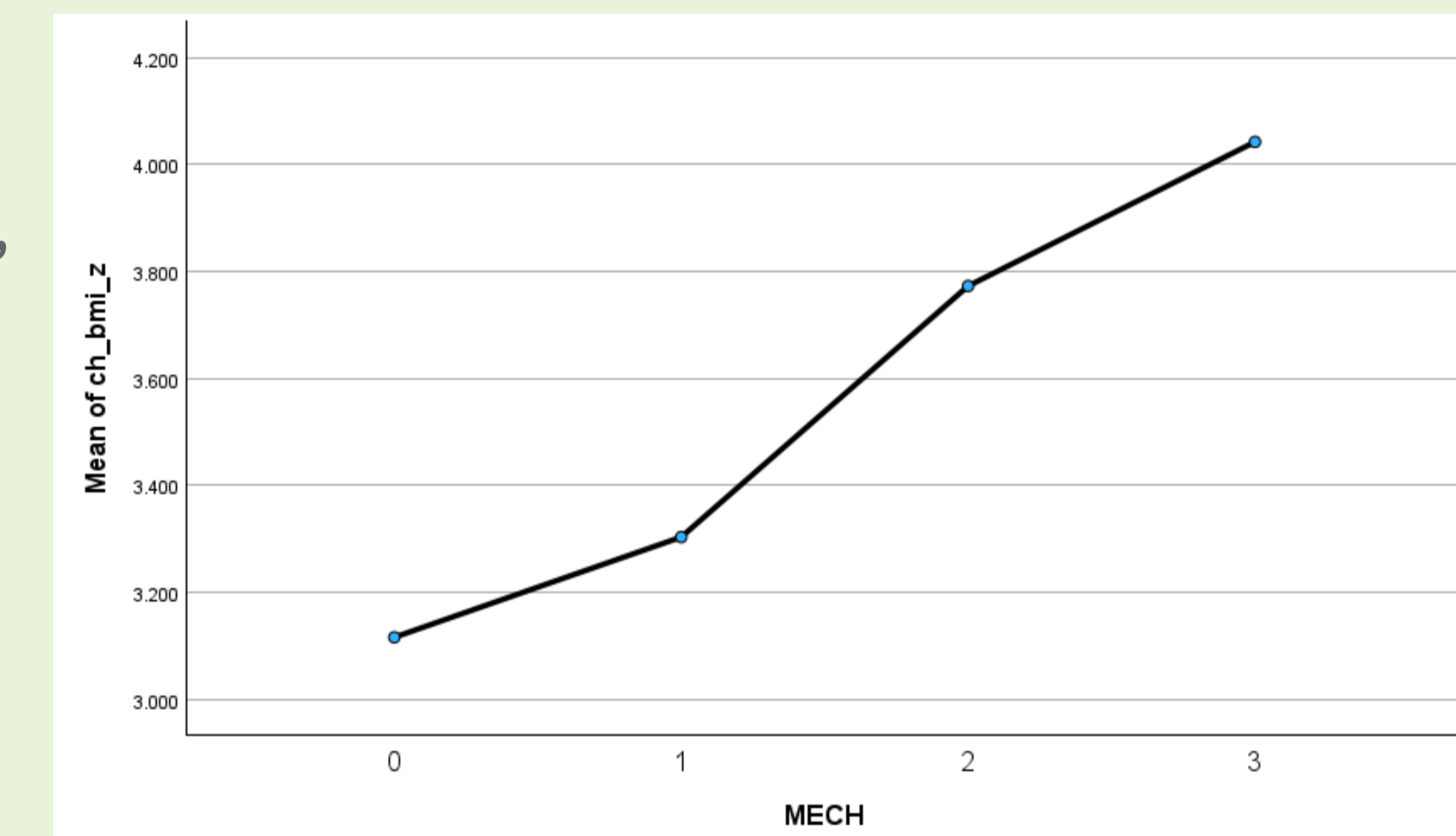
Mechanical

$F(3, 693) = 12.240$,
 $p < 0.001$

BMI z-scores:

0: 3.11 ± 0.93

3: 4.04 ± 1.2



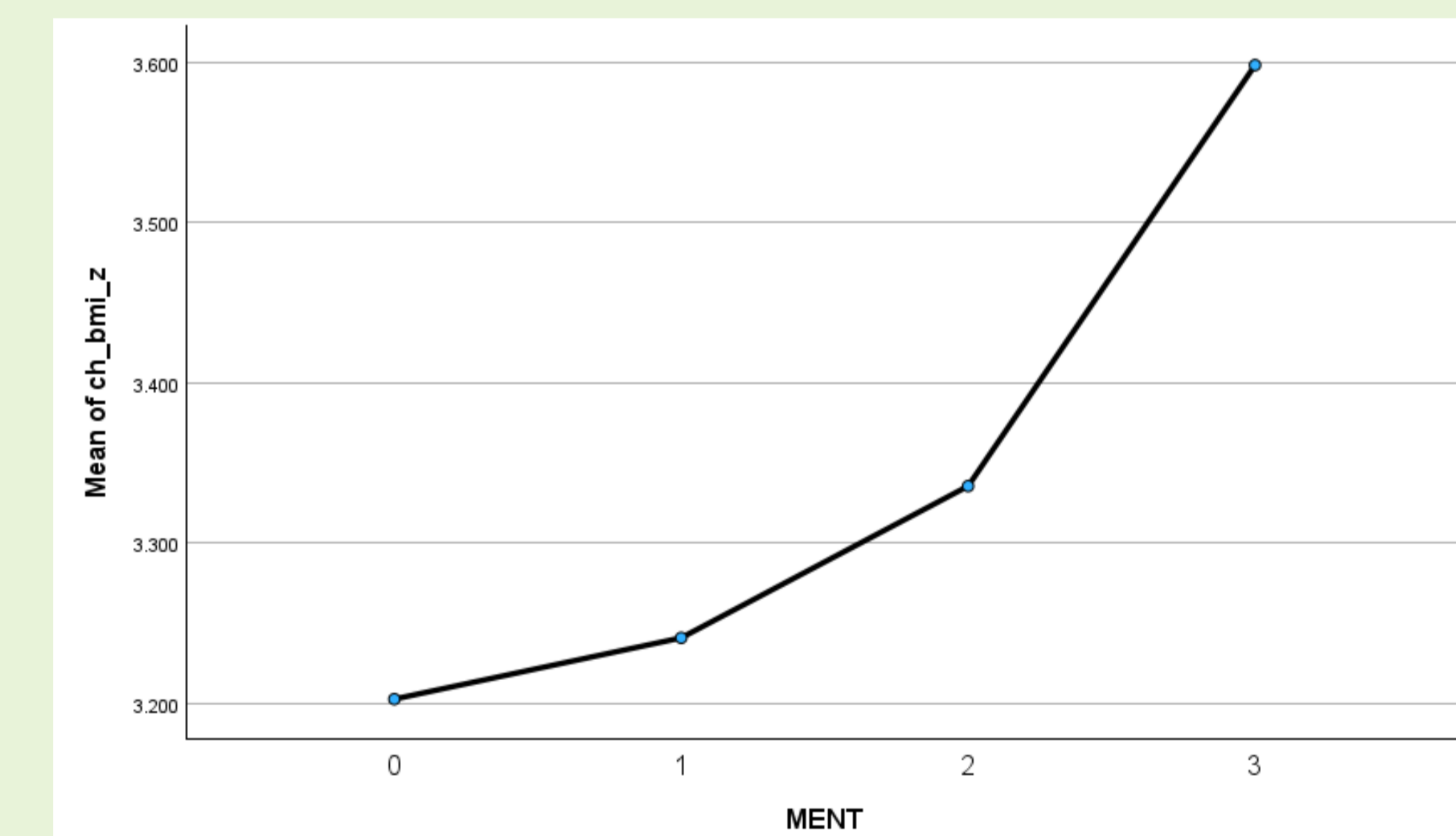
Mental

$F(3, 676) = 1.777$,
 $p = 0.150$

BMI z-scores:

0: 3.20 ± 1.01

3: 3.60 ± 1.26



Milieu

$F(3, 674) = 6.038$,
 $p < 0.001$

BMI z-scores:

0: 3.22 ± 0.97

3: 3.90 ± 1.04

