



Background

- Obesity is a major public health issue: nearly 75% of U.S. adults are overweight; over 40% are obese (BMI ≥ 30 kg/m²), and nearly 10% are severely obese (BMI ≥ 40 kg/m²)
- Metabolic and bariatric surgery (MBS) remains the most effective long-term treatment for severe obesity
- On average, patients achieve a 50–70% reduction in excess body weight (% EWL) after MBS; however, 15–35% experience suboptimal outcomes, including inadequate weight loss or significant weight gain recurrence
- Health Locus of Control (HLOC)** is a psychological framework measuring individuals' beliefs about where control of their health lies:
 - Internal:** health is determined by personal actions
 - External:** health is controlled by others
- HLOC is associated with *medication adherence, self-care, physical activity, and chronic disease outcomes* in other populations
- Objective:** *Evaluate the association between HLOC and postoperative weight loss and quality-of-life outcomes following MBS*

Methods

- Retrospective cross-sectional study including adult patients who underwent MBS at a single institution from 2020 to 2025
- Participants are asked to complete the validated **Multidimensional Health Locus of Control (MHLC)** questionnaire → separating patients into three groups based on their health locus of control (HLOC):
 - Internal** group represents patients who believe they themselves are in control of their health.
 - Powerful-others** group represents patients who believe other people (healthcare professionals) control their health.
 - Chance** group represents patients who believe nothing is in control of their health except chance, fate, or luck

Methods

- Participants are also asked to complete the Patient-Reported Outcomes Measurement Information System (PROMIS) Global Health Short Form to assess quality of life
- Weight loss outcomes at 6 months, 1 year, and 2 years, as well as quality of life (QOL) scores were compared between the different HLOC groups using one-way analysis of variance (ANOVA).
- Hypothesis:** *Patients with higher internal HLOC scores have more weight loss and better quality of life outcomes after bariatric surgery*

Results

Participants (N)	127
Age, years (mean ± SD)	48 ± 12
Female, N (%)	97 (76.4)
Preop BMI (mean ± SD)	44.1 ± 8.1
Type 2 Diabetes, N (%)	29 (22.8)
Hypertension, N (%)	52 (40.9)
Hyperlipidemia, N (%)	40 (31.5)
MASLD, N (%)	15 (11.8)
OSA, N (%)	34 (26.8)
Osteoarthritis, N (%)	12 (9.5)

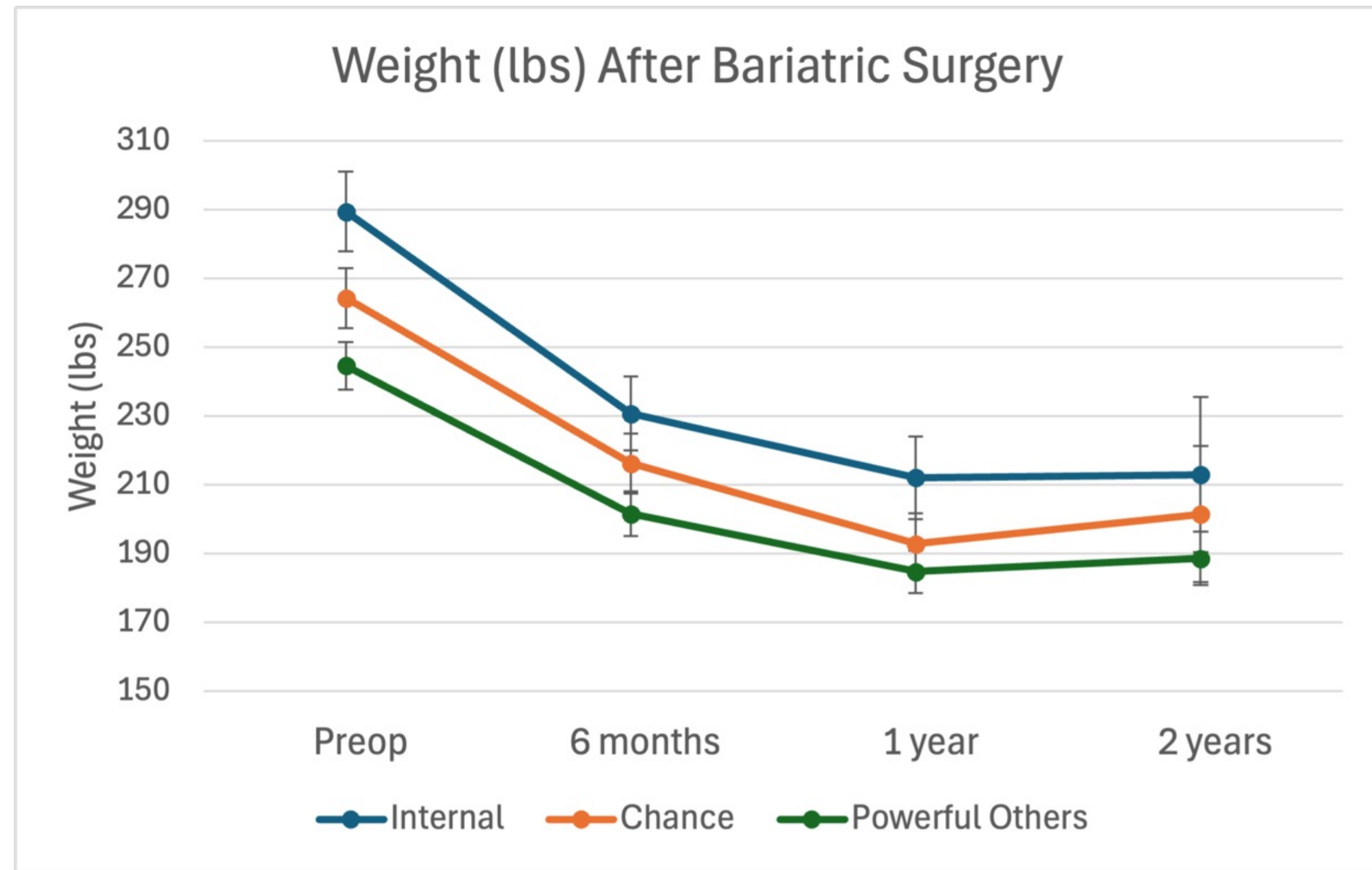
Procedure Type, N (%)	
Sleeve gastrectomy	118 (92.9)
Roux-en-Y Gastric Bypass	6 (4.7)
Revisions/conversions	3 (2.4)

Postoperative weight loss (% EWL)	Total	Internal	Chance	Powerful Others	p-value*
	N=127	N=42	N=42	N=43	
6 months	37.3 ± 23.9	36.1 ± 33.1	37.0 ± 18.5	38.9 ± 16.2	0.597
1 year	48.1 ± 27.4	41.6 ± 38.7	51.7 ± 21.5	50.8 ± 18.4	0.517
2 years	47.7 ± 24.6	46.1 ± 26.4	49.8 ± 25.6	47.6 ± 24.3	0.968
Quality of life(QOL) scores	30.9 ± 7.4	30.2 ± 7.1	32.9 ± 6.8	29.9 ± 7.9	0.734

- A total of 127 patients participated in the study
- 97 (76.4%) were female, with mean age of 48 ± 12 years and mean preoperative BMI of 44.1 ± 8.1 kg/m²
- Mean weight loss postoperatively were:
 - 6 months: 50.4 ± 25.4 lbs
 - 1 year: 64.4 ± 31.4 lbs
 - 2 years: 59.3 ± 29.6 lbs

- At 2 years, **80% of patients maintained $\geq 50\%$ excess weight loss (%EWL)**

Figure. Weight (lbs) before and after bariatric surgery between HLOC patient groups at 6-months, 1-year, and 2-year follow-up.



- All health locus of control (HLOC) groups experienced significant and sustained weight loss through 2 years postoperatively
- No significant differences in %EWL or quality of life (QOL) scores between HLOC groups** (*all p-values > 0.05*)

Discussion

- HLOC was not associated with differences in weight loss outcomes or QOL after bariatric surgery, suggesting that metabolic and bariatric surgery (MBO) is effective regardless of patients' beliefs about who controls their health
- Postoperative outcomes likely reflect a multifactorial interplay of behavioral, psychosocial, and environmental influences rather than locus of control alone
- Further research should explore additional patient and system factors affecting long-term bariatric success, including the role of emerging pharmacologic therapies.