Cognitive improvement following bariatric surgery

John Gunstad
Department of Psychological Sciences
Applied Psychology Center

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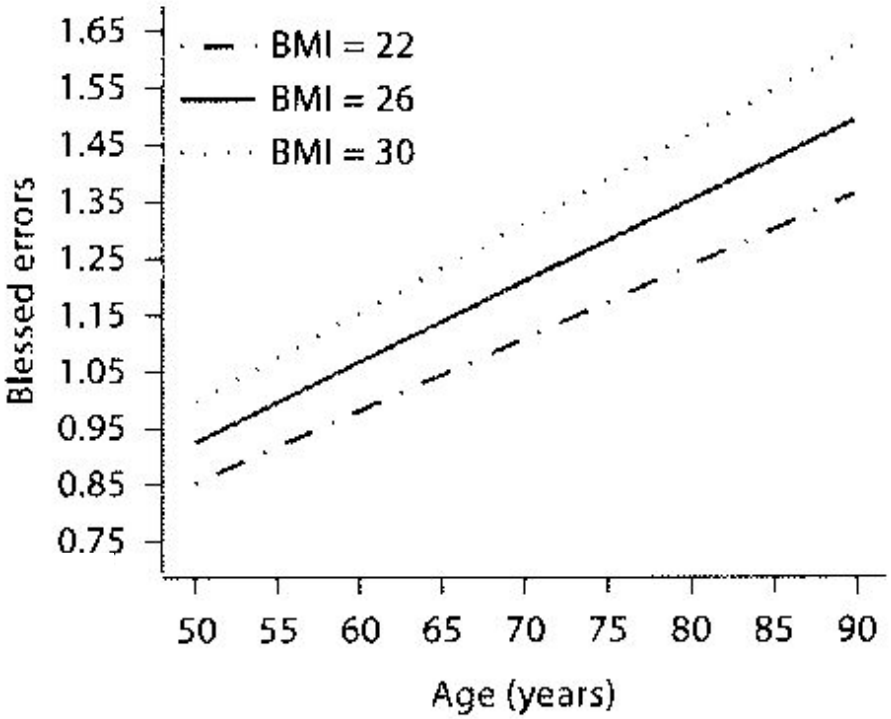
- No intellectual conflicts of interest

Neurological outcomes

- Mid-life obesity associated with stroke, Alzheimer's disease, vascular dementia, etc.
  (Gustafson et al., 2012; Fitzpatrick et al., 2009)

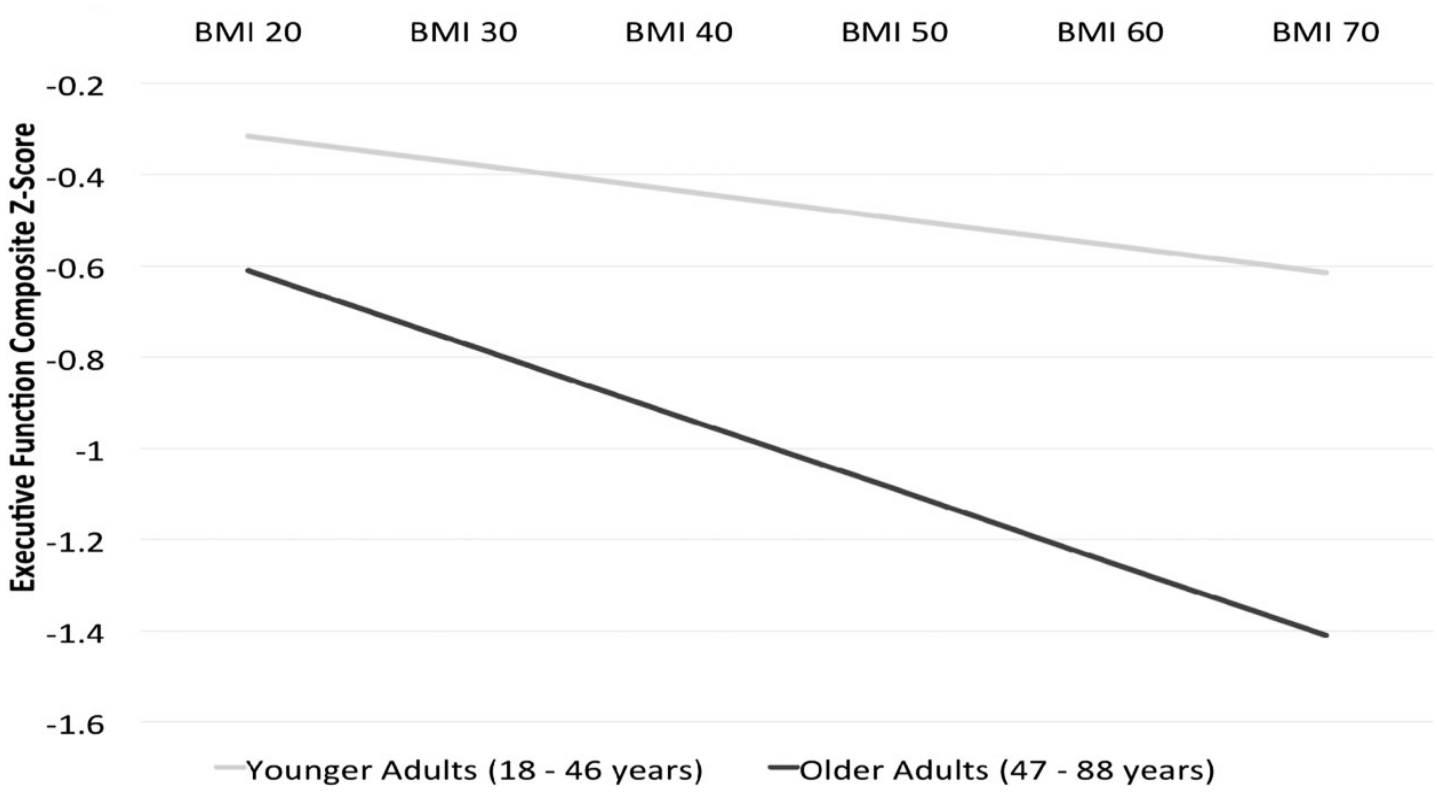
- Obesity is associated with accelerated cognitive decline



Gunstad, J., et al. (2010). *Neuroepidemiol*

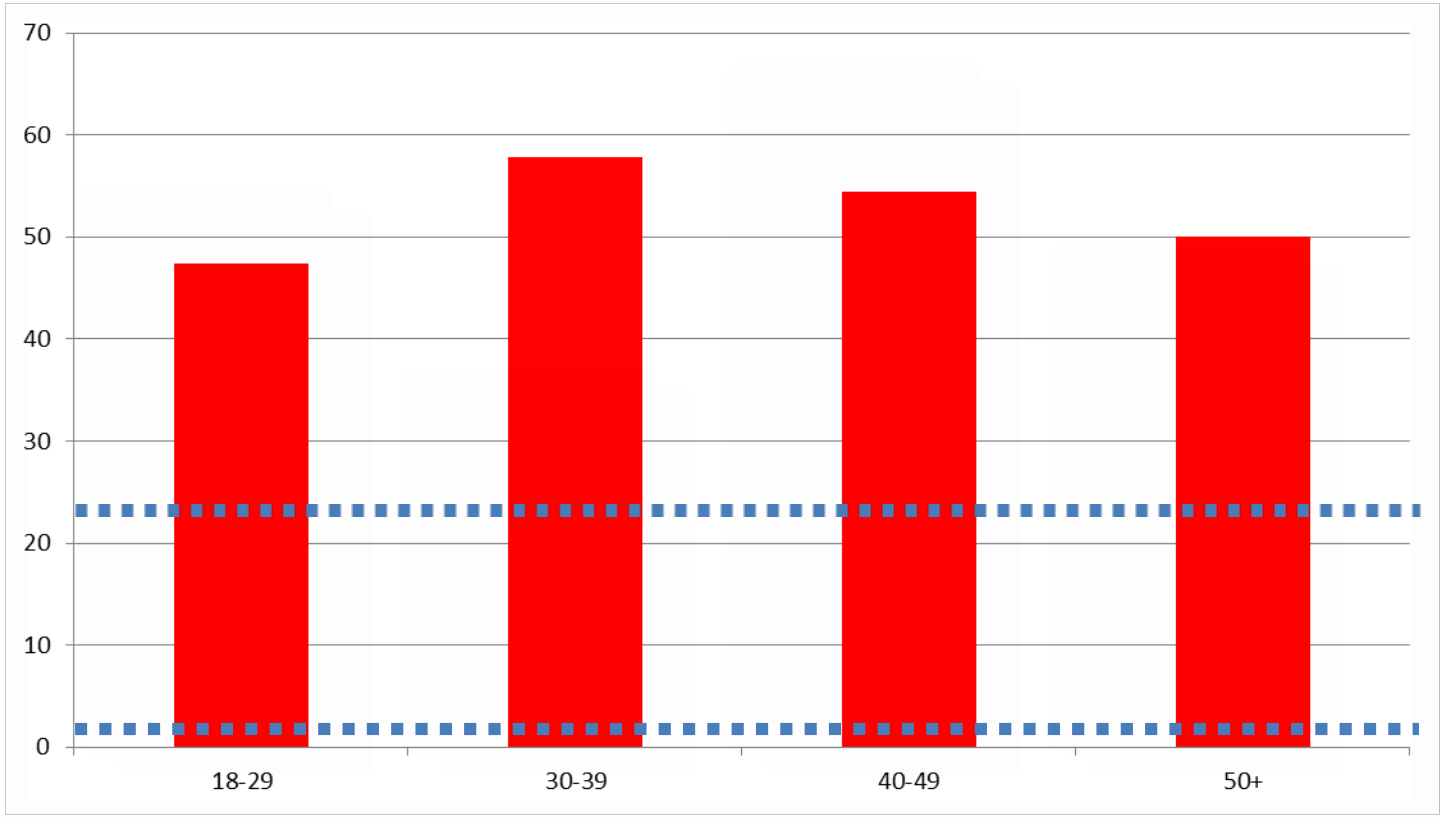
Severe obesity and cognition

Age X severity interaction for executive function



Stanek et al., 2013 Neuropsychology

MCI in severe obesity



A majority of persons with severe obesity met criteria for MCI

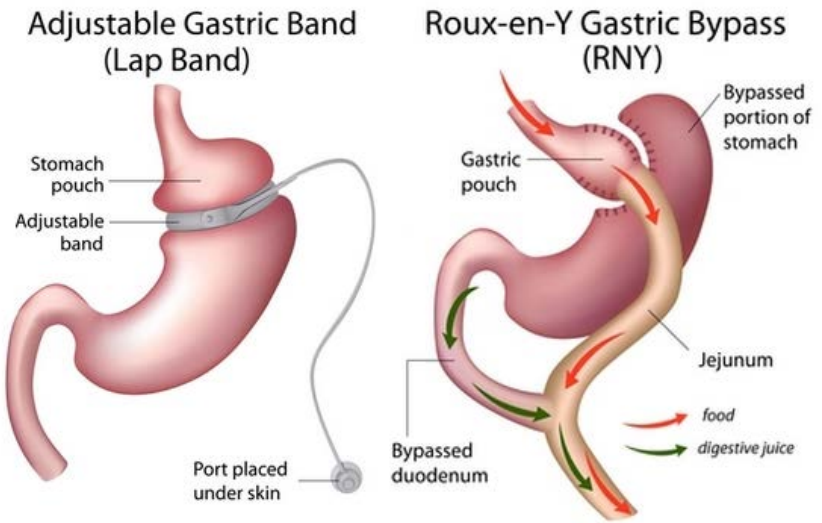
Rochette et al (2016). Obesity

LABS ancillary study

KENT STATE UNIVERSITY

NIDDK
NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

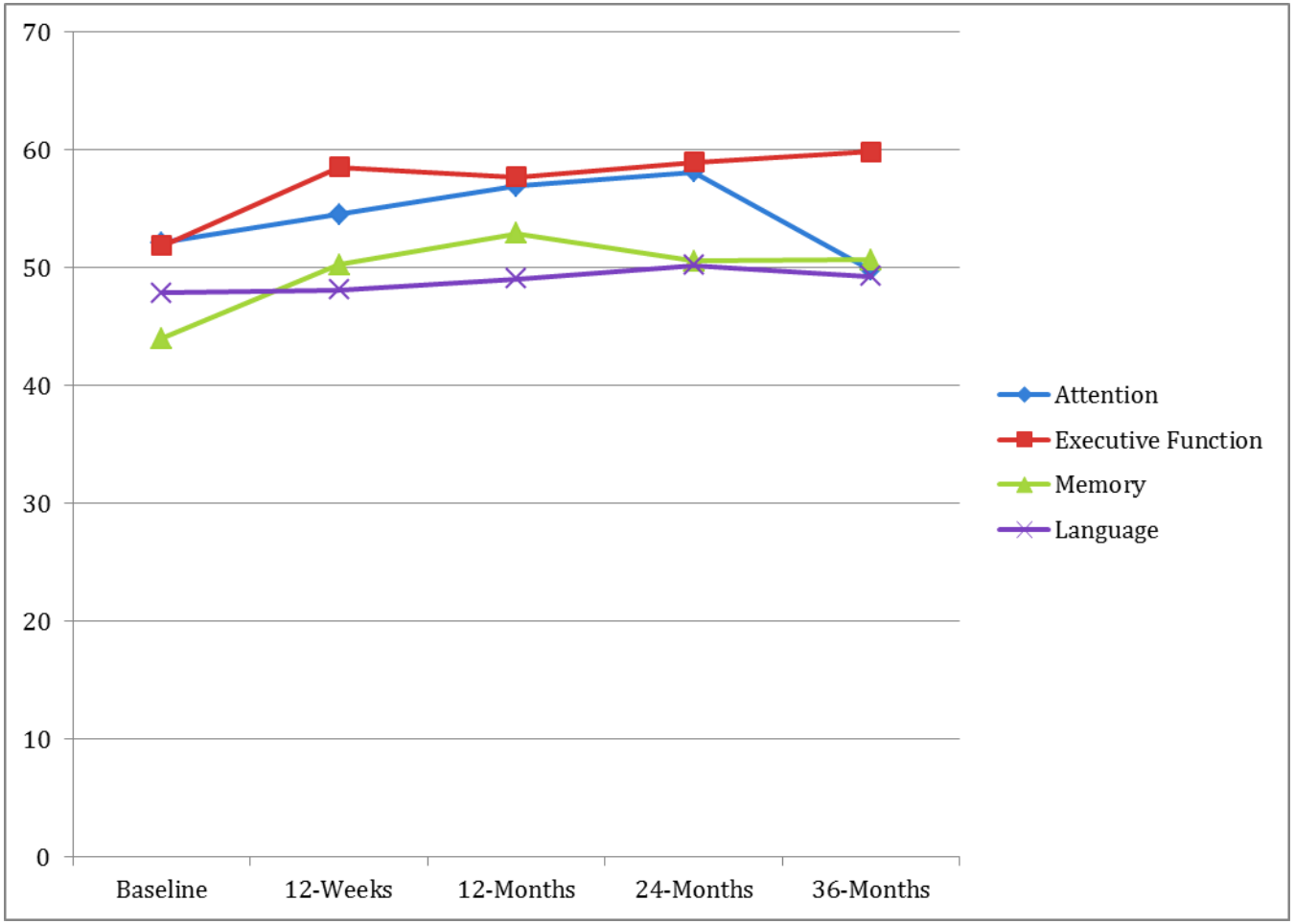
- Longitudinal Assessment of Bariatric Surgery (LABS)
- Cognitive testing before and after surgery
  - Baseline
  - 12 week f/u
  - 12-, 24-, and 36-month f/u



No cognitive side effects

Test	>1.5 SD Decline	Differ from Controls?
Learning	6.7%	No
Digit Span	9.5%	No
Switch Attn—Let/Num	0.9%	No
Animal Fluency	5.3%	No

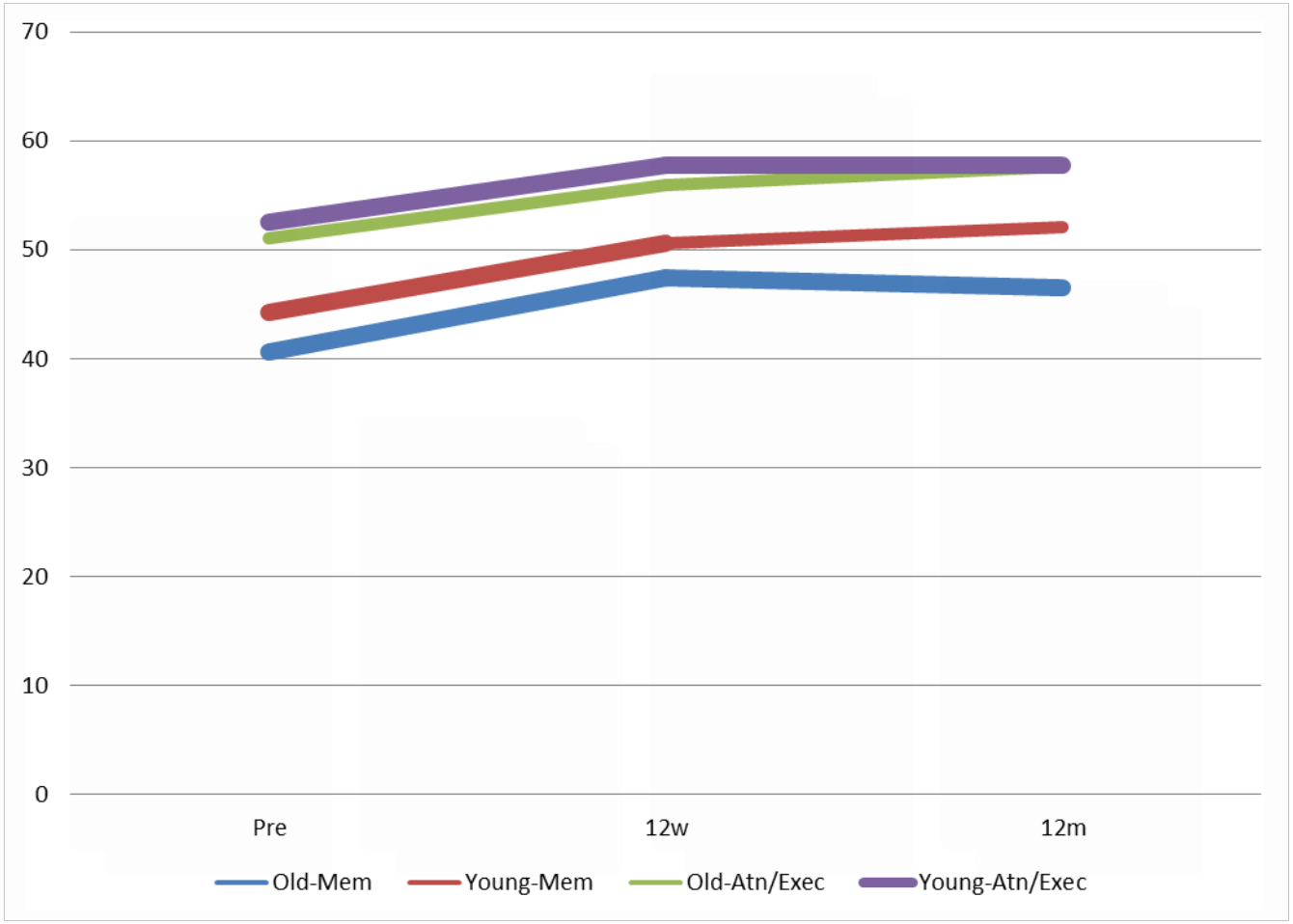
Post-op improvement



Pilot data suggests benefits persist to 7 years

Alosco et al., 2014 Obesity; Alosco et al, 2014 Am J Surg

Benefits in older adults



Cognitive benefits were similar in patients <55> years of age

Alosco et al., 2014 SOARD