

Biological sex differences in baseline weight self-efficacy and post-surgical weight in patients undergoing bariatric surgery

Jessica Burdick^{1,2}, Tair Ben-Porat^{1,2}, Reyhaneh Yousefi^{1,2}, Robbie Woods^{2,3}, Simon Bacon^{1,2}, Kim Lavoie^{2,4}, For the REBORN study team²

Background: Though bariatric surgery is the most effective treatment for severe obesity, there is individual variability in clinical key outcomes, e.g., weight loss and reduced comorbidities. Differences in outcomes have been observed between sexes, including weight self-efficacy- an individual's ability to adhere to healthy eating behaviours when facing obstacles. Sex differences in the associations between weight self-efficacy and surgery-induced weight loss have yet to be explored.

Purpose: To evaluate the association between baseline weight self-efficacy and post-surgical weight; and explore the impact of biological sex on this relationship.

Methods: A total of 263 participants (212 female, 51 male) undergoing bariatric surgery completed the 20-item Weight Efficacy and Lifestyle (WEL) Questionnaire pre-surgery, with height and weight assessed pre-(baseline) and 6-months (FU) post-surgery, with body mass index (BMI), % total body weight loss (%TBWL), and % excess body weight (%EBW) calculated.

Results: Multiple linear regressions found no significant associations between baseline WEL scores and FU weight. However, there were significant interactions between sex and WEL subscales for %EWL ($F = 6.44-14.34$, $p < 0.05$). In males, the WEL subscales were negatively associated with %EWL. In females, there were no significant associations between WEL scores and %EWL. There were no other significant interactions.

Conclusion: Greater baseline weight self-efficacy was associated with greater weight loss in males, but not in females. This work provides initial insights into the potential future development of sex-specific interventions.

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1. Department of Health, Kinesiology, and Applied Physiology, Concordia University, Montréal, Canada
2. Montréal Behavioral Medicine Centre, Montréal, Canada, Centre intégré universitaire de santé et de services sociaux du Nord-de-l'Île-de-Montréal, Montréal, Canada
3. Department of Psychology, Concordia University, Montréal, Canada
4. Department of Psychology, University of Quebec at Montréal, Canada