Monte Nido
Treating Eating Disorders

Treatment Outcomes | 2021

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January 2018 – December 2021

Overview

In 2018 Monte Nido and Affiliates (MNA) began a comprehensive research study, approved by an Institutional Review Board, in order to assess treatment outcomes in our Residential, Partial Hospitalization Program (PHP) and Intensive Outpatient Program (IOP) levels of care. Specifically, patients who consent to participate in our research study complete a series of questionnaires upon admission, transfer to a new level of care (stepping up or down), as well as upon discharge from the program. Additionally, we obtain follow-up data for patients who consent at specified time-points after their discharge. The surveys administered represent the gold standard of assessments for eating disorder pathology as well as depression, anxiety and trauma.

The purpose of these questionnaires is multifaceted. Primarily, it represents our commitment to personalized treatment planning. This data provides a snapshot of each patient's distinctive symptom presentation on measures of eating disorder symptoms, depression, anxiety, functional impairment, and trauma reactivity. This information deepens our understanding of the clinical challenges specific to each patient and as a roadmap for exploration of the factors that may be maintaining the eating disorder. Data guides the clinical teams in developing a shared language for each patient's experience, to build engagement and design more effective treatment plans.

In addition to guiding treatment planning, this data allows leadership at MNA to track program effectiveness and identify areas for program development. As a company, **we are continually evaluating whether we are providing the most effective and evidence-based interventions to our patients**. Last, this data is collected with the hope and expectation of contributing to a growing body of research and helping the field of eating disorders continue to move forward.

Sample

The patient sample for January 2018 through December 2021 included data for 1730 residential stays, 1451 PHP stays and 1060 IOP stays.

The average length of stay in residential was 44.5 days, 38.9 days for PHP and 42.7 days for IOP.

Our Residential sample included patients with the following Eating Disorder diagnoses: 31.0% Anorexia Nervosa, Restricting Type, 21.2% Anorexia Nervosa, Binge/Purge Type,18% Bulimia Nervosa, 23.2% OSFED, 3.3% Binge Eating Disorder and 3.4% ARFID.

Our PHP sample included patients with the following Eating Disorder diagnoses: 27.9% Anorexia Nervosa, Restricting Type, 18.5% Bulimia Nervosa, 32% OSFED, 14.9% Anorexia Nervosa, Binge/Purge Type, 3.8% Binge Eating Disorder, and 2.9% ARFID

Last, the IOP sample included patients with the following Eating Disorder diagnoses: 22.5% Anorexia Nervosa, restricting type, 36.7% OSFED, 18.5% Bulimia Nervosa, 13.3% Anorexia Nervosa, binge/purge Type, 5.9% Binge Eating Disorder and 3.1% ARFID.

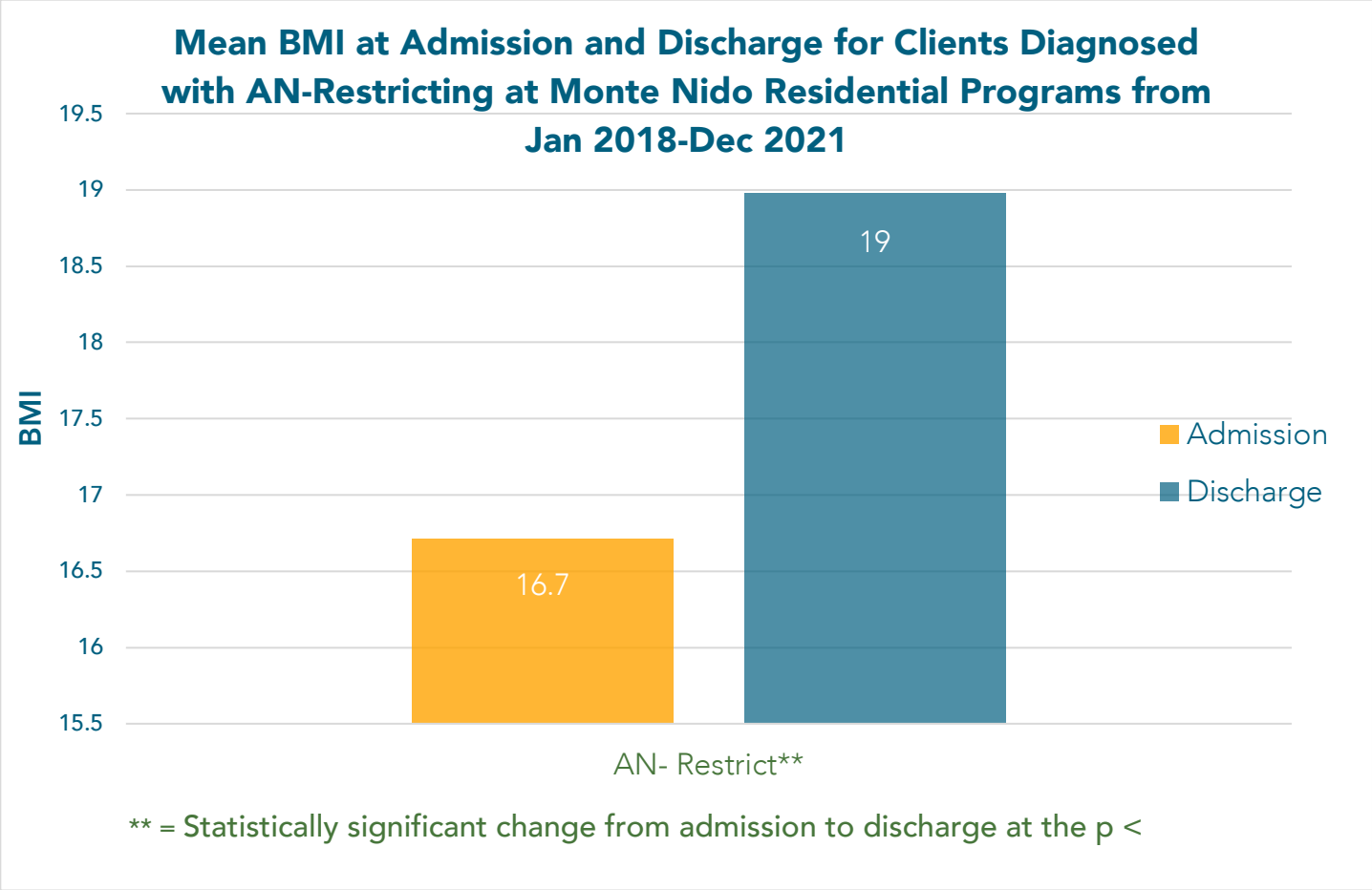
Importantly, this group of patients from all levels of care also presented with multiple co-morbidities including mood disorders, anxiety disorders, substance use disorders and post-traumatic stress disorder (PTSD).

Weight Change Data in Patients with Anorexia Nervosa in Residential Level of Care

Overall, results demonstrate statistically significant weight gain in our patients withAnorexia Nervosa, Restricting Type (AN-R) at the residential level of care.

The average BMI of female adult patients with AN-R admitting to residential care at Monte Nido was 16.7 kg/m^2. The average BMI at discharge was 19. On average, clients at Monte Nido diagnosed with AN-R experienced a BMI increase of 2.3. This change represents a statistically significant increase in BMI from admission to discharge ($p < 0.000$).

Seventy percent of our adult female patients with AN-R restored their weight to a BMI ≥ 18.5 after 30 days at Residential level of care and 60% restored their weight to a BMI ≥ 19.



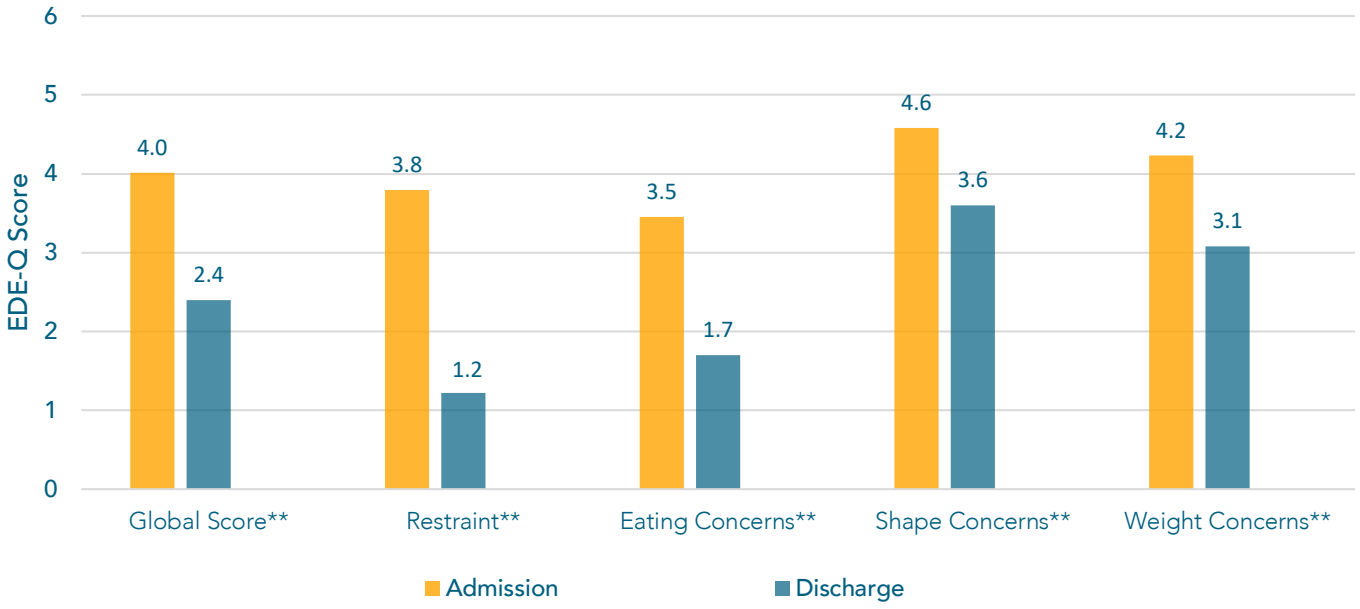
Eating Disorder Symptoms

Eating Disorder Symptoms were measured using the Eating Disorder Examination Questionnaire (EDE-Q), a 28-item, self-report measure assessing the core features of eating disorder psychopathology. It is the gold-standard self-report assessment that has demonstrated reliability, validity and correlation with the lengthier assessments of eating disorder symptomology. This assessment tool measures a range of symptoms including fear of weight gain, self-induced vomiting, and loss of control with food, thus capturing the complexity and unique features of each individual's eating disorder.

Results indicate that patients experienced clinically and statistically significant reductions in eating disorder symptoms over the course of treatment in the Residential, PHP and IOP levels of care on all scales.

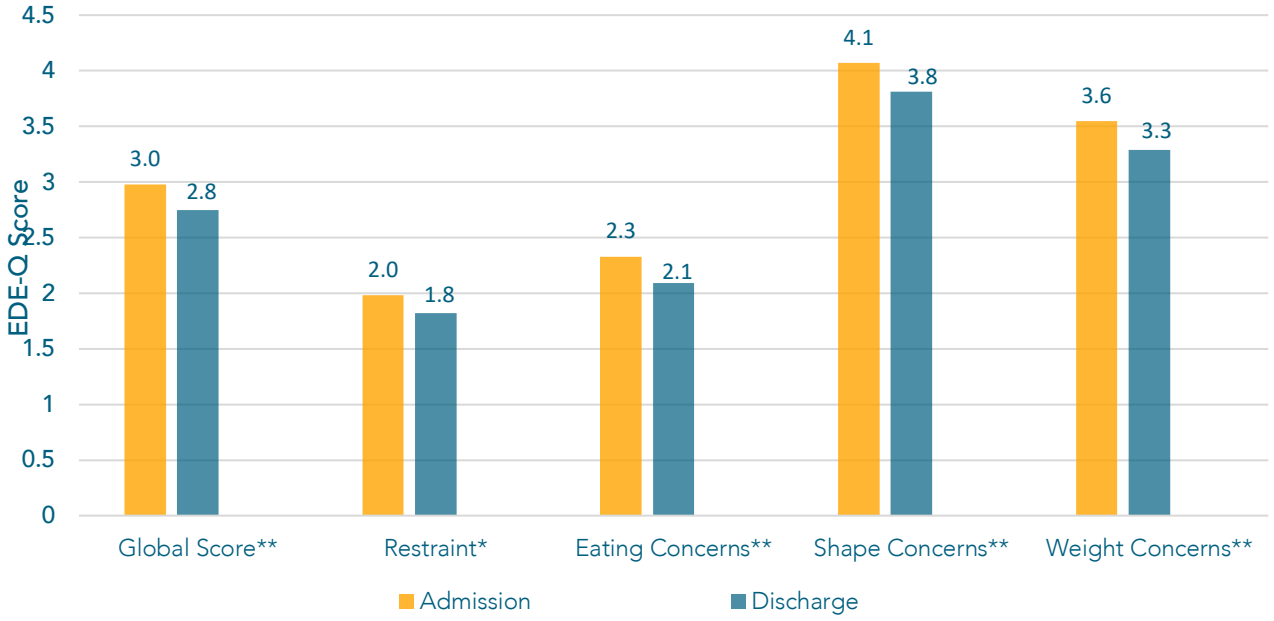
On average, patients presented at admission with severe eating disorder symptoms relative to female community norms. Upon discharge, average patient scores on the EDE-Q were consistent with community norms, suggesting clinically significant improvements.

EDE-Q Admission and Discharge Scores at Monte Nido Residential Programs from Jan 2018-Dec 2021



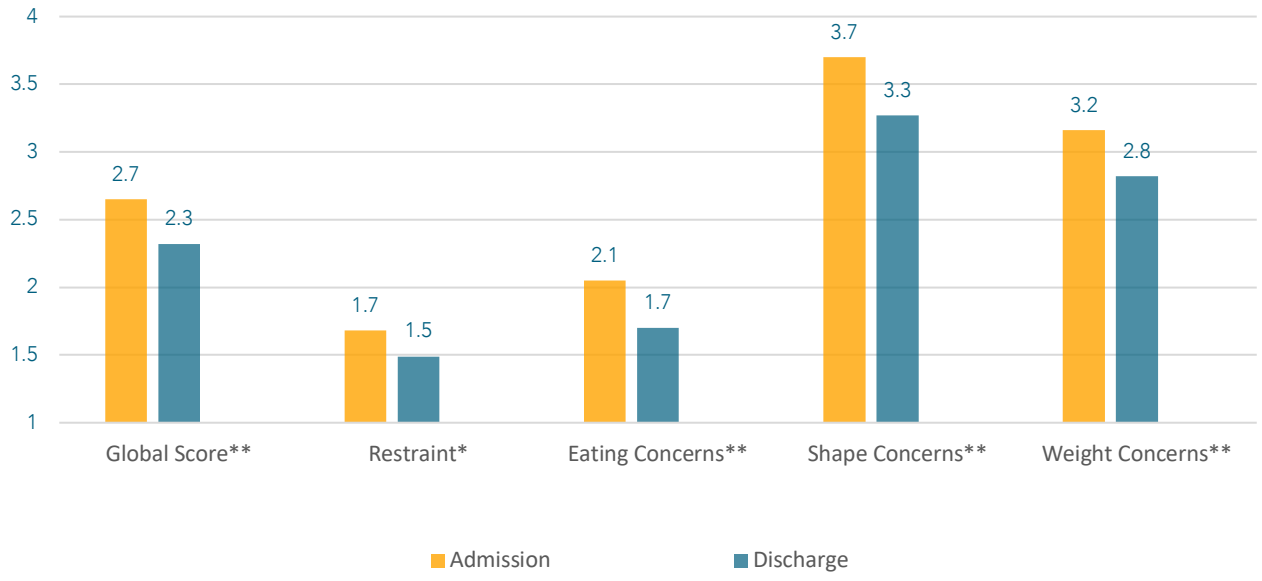
** = Statistically significant change from admission to discharge at the p <.01 level

EDE-Q Admission and Discharge Scores at Monte Nido PHP from Jan 2018-Dec 2021



**= Statistically significant change from admission to discharge at the p <.01 level
* = Statistically significant change from admission to discharge at the p<.05 level

EDE-Q Admission and Discharge Scores at Monte Nido IOP from Jan 2018-Dec 2021



**= Statistically significant change from admission to discharge at the p <.01 level
* = Statistically significant change from admission to discharge at the p<.05 level

Eating Disorder Inventory (EDI-2)

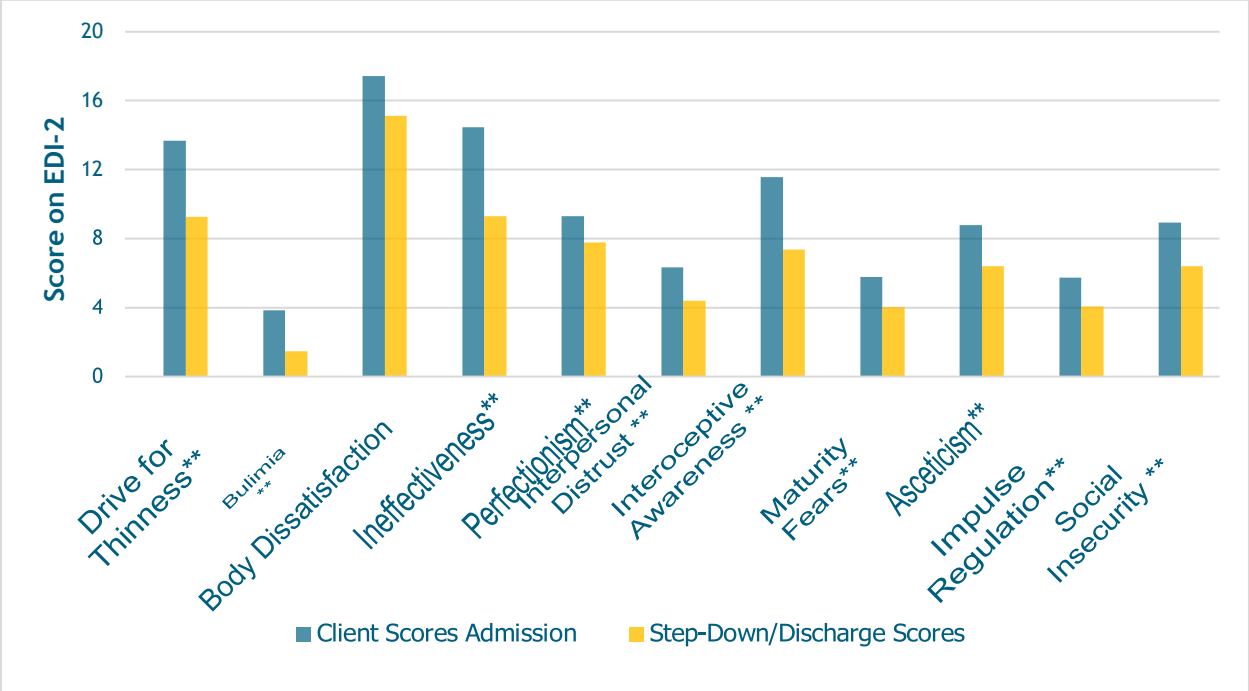
Eating disorder symptomology is also assessed using The Eating Disorder Inventory (EDI-2). The EDI-2 is a self-report measure of symptoms frequently related to anorexia nervosa or bulimia nervosa. This measure was designed to be an aid to forming a diagnosis and not as the exclusive basis for making a diagnosis. It is extremely valuable in guiding treatment planning and clinical work. The EDI-2 provides information regarding the psychological and behavioral dimensions of eating disorders. It has 91 items and 11 subscales. The subscales and a brief description of what they measure areas follows:

1. Drive for thinness (DT): an excessive concern with dieting, preoccupation withweight, and fear of weight gain.
2. Bulimia: episodes of binge eating and purging.
3. Body dissatisfaction: not being satisfied with one's physical appearance.
4. Ineffectiveness: assesses feelings of inadequacy, insecurity, worthlessness andhaving no control over their lives.
5. Perfectionism: not being satisfied with anything less than perfection.
6. Interpersonal distrust: reluctance to form close relationships.
7. Interoceptive awareness: the ability to discriminate between sensations andfeelings, such as hunger and satiety.
8. Maturity fears: the fear of facing the demands of adult life.
9. Ascetism: reflects a tendency to find value in self-deprivation, as well as denialand control of feelings, wants, desires, and urges.
10. Impulse Regulation: the ability to regulate impulsive behavior, especially bingebehavior.
11. Social Insecurity: estimates social fears and insecurity.

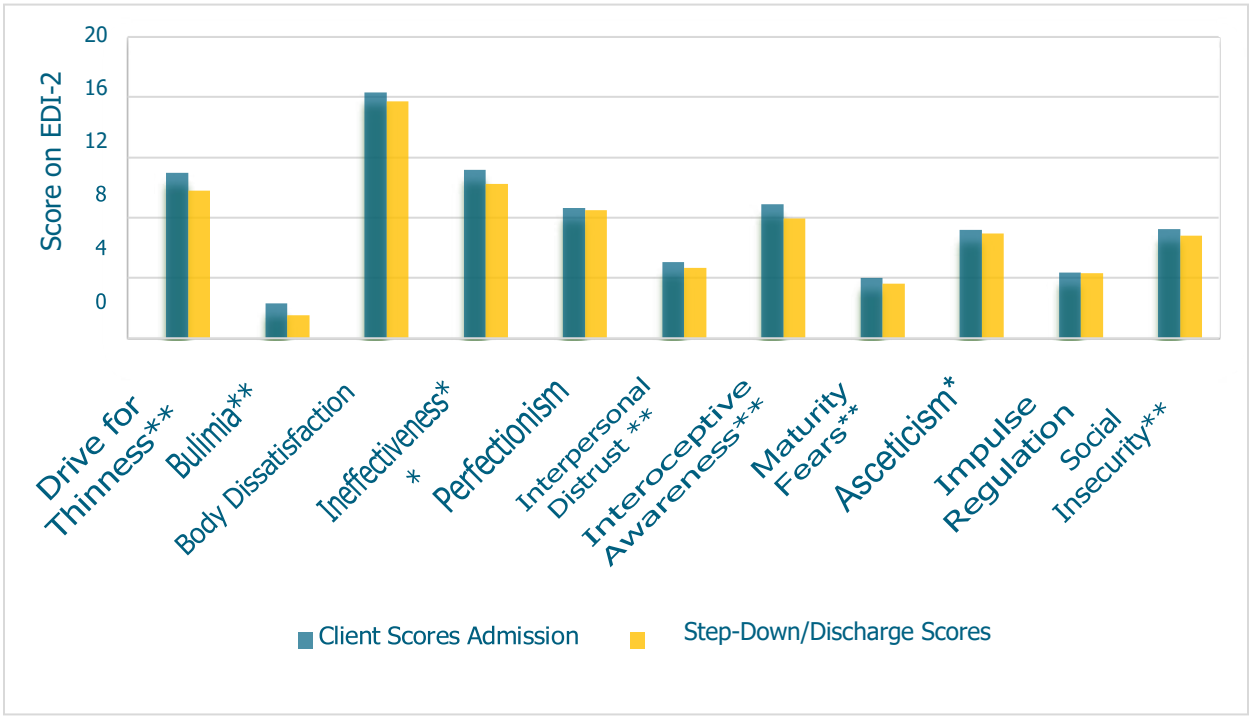
Results indicate that patients demonstrated reductions in eating disorder pathology on all subscales across the Residential, PHP and IOP programs. The majority of these reductions were statistically significant at the $p \leq 0.01$ level or the $p \leq 0.05$ level.

Of note, the EDI-2 is validated for the diagnoses of Anorexia Nervosa and Bulimia Nervosa only, therefore the diagnoses of BED, ARFID and OSFED were excluded for these specific analyses.

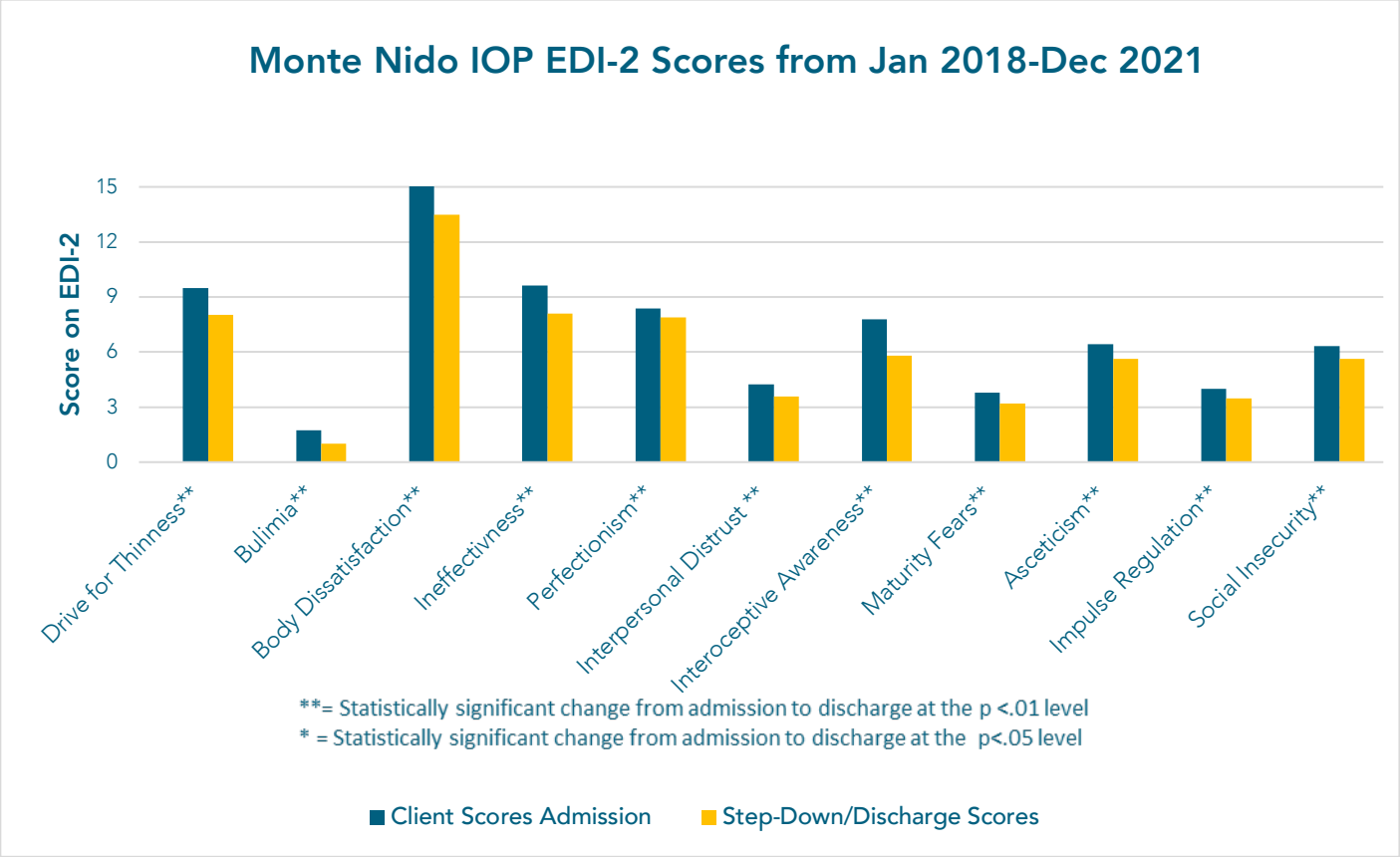
Monte Nido Residential EDI-2 Scores from Jan 2018-Dec 2021



Monte Nido PHP EDI-2 Scores from Jan 2018-Dec 2021



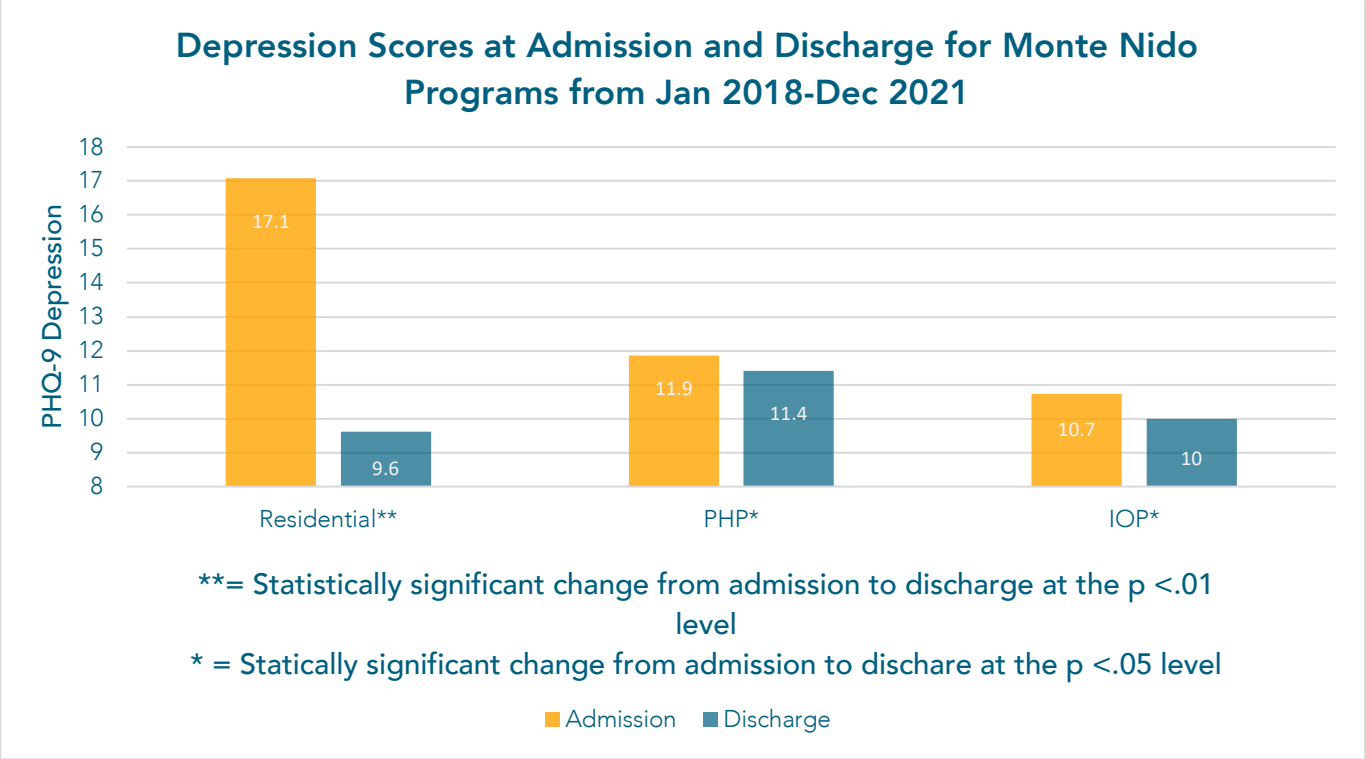
**= Statistically significant change from admission to discharge at the p <.01 level
* = Statistically significant change from admission to discharge at the p<.05 level



Depression

Symptoms of depression were assessed using the Patient Health Questionnaire-9 (PHQ- 9), a nine-item tool used for screening and measuring the severity of depression.

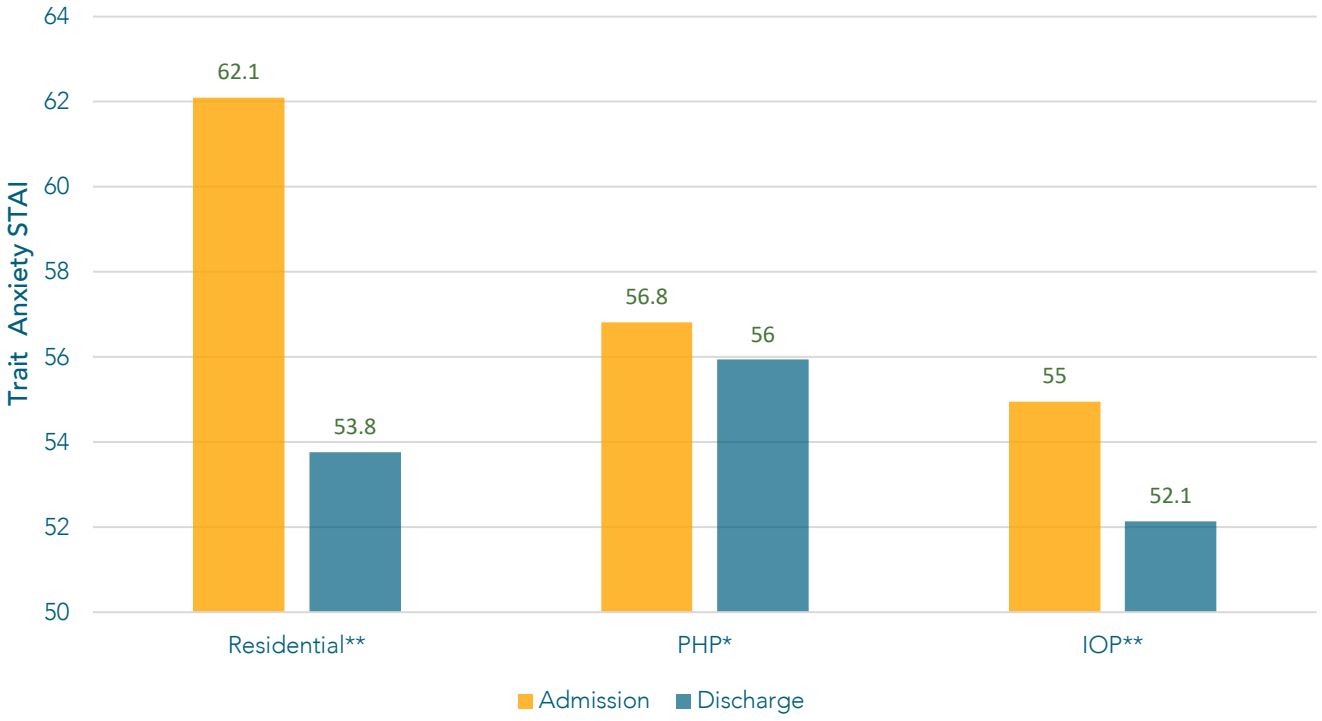
Overall, results show clinically and statistically significant depression symptom reduction across levels of care. The graph below represents changes in depression scores at the Residential, PHP and IOP levels of care.



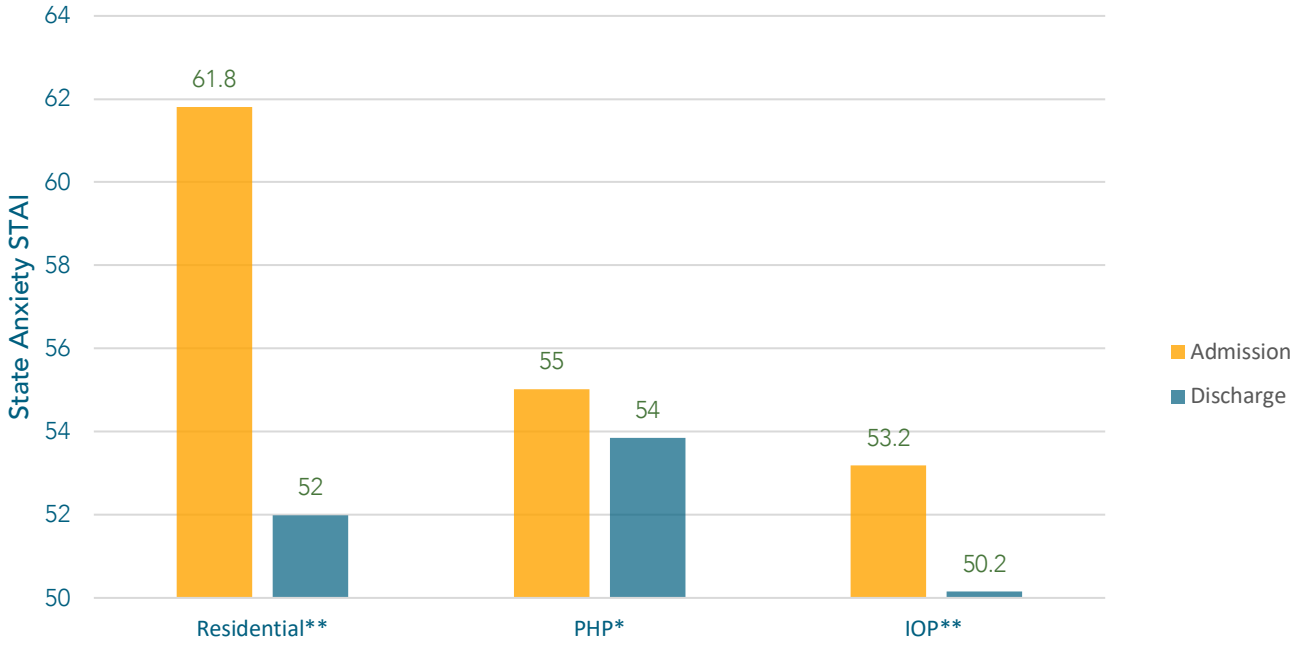
Anxiety

Symptoms of anxiety were measured using the State-Trait Anxiety Inventory (STAI), a 40item self-report measure of anxiety. This tool assesses the temporary state of feeling anxious as well as anxiety as a more general and long-standing quality, i.e. "trait anxiety". Scores indicated that patients in the Residential, PHP and IOP levels of care demonstrated statistically significant reductions in both state and trait anxiety from admission to discharge.

Changes in Trait Anxiety as Measured by the STAI at Monte Nido Programs from Jan 2018-Dec 2021



Changes in State Anxiety as Measured by the STAI at Monte Nido Programs from Jan 2018-Dec 2021



**= Statistically significant change from admission to discharge at the p <.01

Posttraumatic Stress Disorder (PTSD)

Monte Nido has also been systematically assessing for the presence and severity of PTSD and its symptoms. The presence of significant life events that either happened to an individual or was witnessed (Criterion A) was recorded after admission using the Life Events Checklist for DSM-5 (LEC-5), and in addition, other PTSD symptoms were assessed at admission and discharge using the PTSD Symptom Checklist for DSM-5 (PCL-5) (Criteria B-E). Results indicate that 46% of individuals admitted to Monte Nido programs respectively met criteria for PTSD.

Monte Nido & Affiliates (MNA) is dedicated to the assessment and treatment of our clients presenting with trauma histories as well as Posttraumatic Stress Disorder (PTSD). Thereis long-standing evidence that these factors are commonly associated with eating disorders and may contribute to more severe eating disorder symptoms. Additionally, trauma and PTSD are known factors that can often lead to treatment dropout or failure.

In 2020, the research team at Monte Nido & Affiliates published an article in the International Journal of Eating Disorders (see reference 1. below) exploring the association between traumatic events and PTSD with eating disorder symptoms as well as other co-occurring diagnoses in 642 adult clients receiving treatment at the residential level of care.

Results indicated that nearly half of this sample (47%) met criteria for PTSD using evidence-based assessment tools. These clients had significantly more severe eating disorder symptoms as well as higher levels of depression, anxiety, and worse quality of life.

These findings underscore the need to integrate therapeutic approaches that target symptoms of PTSD in the context of eating disorder treatment. In concert with expert consultation, Monte Nido & Affiliates has identified Cognitive Processing Therapy (CPT) as a therapy program that can accomplish this goal. CPT is a 12-session protocol founded on Cognitive Behavioral Therapy. As an approach, it employs psychoeducation and cognitive techniques to teach clients how to evaluate and challenge thoughts and beliefs that have been impacted by trauma. CPT is well-established in the literature as an evidence-based approach and is now considered a gold-standard treatment for trauma.

The below research articles, published in peer-reviewed journals, demonstrate MNA's research findings regarding the high prevalence of PTSD among eating disorder patients. Through this work, MNA's research is advancing the field of eating disorders treatment.

1. Brewerton TD, Perlman MM, Gavidia I, Suro G, Genet JJ, Bunnell D: The Association of Traumatic Events and PTSD Severity of Eating Disorders and Comorbid Symptoms in Residential Treatment Centers. International Journal of Eating Disorders 2020; 53:2061-2066 (published online November 7, 2020). Doi: 10.1002/eat.23401.

2. Brewerton TD, Suro G, Gavidia I, Perlman MM: Sexual and Gender Minority Individuals Report Higher Rates of Lifetime Traumas and Current PTSD Than Cisgender Heterosexual Individuals Admitted to Residential Eating Disorder Treatment. Eating and Weight Disorders 2022; 27(2): 813-820 (published online May 31, 2021). Doi: 10.1007/s40519-021-01222-4.

3. Brewerton TD, Gavidia I, Suro G, Genet JJ, Perlman MM, Bunnell D: Provisional PTSD Is Associated with Greater Eating Disorder and Comorbid Symptom Severity in Adolescents Treated in Residential Care. European Eating Disorders Review 2021; 29(6): 910-923 (published online September 16, 2021). Doi: 10.1002/erv.2864.

4. Brewerton TD, Suro G, Gavidia I, Perlman MM: Eating Disorder Onset During Childhood Is Associated with Higher Trauma Dose, Provisional PTSD, and Severity of Illness in Residential Treatment. European Eating Disorders Review 2022; 30(3): 267-277 (published online February 26, 2022). Doi: 10.1002/erv.2892.

5. Brewerton TD, Perlman MM, Gavidia I, Suro G, Jahraus J: Headache, Eating Disorders, PTSD, and Comorbidity: Implications for Assessment and Treatment. Eating and Weight Disorders 2022; (published online May 23, 2022). Doi: 10.1007/s40519-022-01414-6.