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Examining Treatment Differences in Anxiety Disorders and Body-Focused Repetitive and Related Disorders In a Pediatric Clinic Sample

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Examining Treatment Differences in Anxiety Disorders and Body-Focused Repetitive Behaviors and Related Disorders in a Pediatric Clinic Sample

by

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DEDICATION

To my family whose countless sacrifices allowed this to happen. None of this would have been possible without your limitless support. Thank you for always believing in me and your love!

Additionally, quotes were a large source of motivation for me throughout graduate school, a few in particular that hung on my wall to remind me of my goals:

“Healing begins when someone bears witness.” - *From the Character Oliva Benson on Law and Order: SVU*

“If you can dream it, you can do it!”- *Walt Disney*

“When you feel like quitting think of why you started” -*Unknown*

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ABSTRACT

Anxiety disorders are one of the most common mental health concerns that affect youth. It is estimated about 9.4% of youth have an anxiety disorder such as panic disorder, generalized anxiety disorder, social anxiety disorder, separation anxiety disorder or specific phobias (CDC, 2022). The present study includes obsessive compulsive disorder and post-traumatic stress disorder as a part of the definition of anxiety disorders. Anxiety disorders can be comorbid with many mental health conditions. The focus of this study was on the comorbidity between anxiety disorders and body-focused repetitive behaviors (BFRBs) and related disorders. BFRBs are behaviors that involve repeated picking, pulling, and biting on areas of the body, marked by difficulty stopping the behavior (APA, 2022). This includes, but is not limited to, disorders such as trichotillomania (hair-pulling disorder) and excoriation disorder (skin-picking disorder). Some youth with anxiety disorders engage in BFRBs to self-regulate negative affective states while others engage in these behaviors throughout many daily activities. There is limited research on BFRBs in youth, and in particular in youth with comorbid anxiety disorders. Therefore, the current study sought to contribute to the literature by examining treatment outcomes for anxious youth with (anxiety + BFRB) and youth without (anxiety) comorbid BFRBs. Data from 5,980 patients who received treatment from a large behavioral health clinic with locations from across the country were included in the study. Patients ranged from 5-17 years of age. Chi-square, t-tests, and mixed model ANOVAs were conducted to compare differences in pre- and post-treatment scores on depressive symptoms, obsessive compulsive symptoms, health-related quality of life, treatment connectedness and autonomy, trait anxiety, and emotionality. When

comparing the anxiety (*N*=3931) and anxiety and BFRB (comorbid) group (*N*=2049) statistical differences were seen for all clinical measures from pre- to post-test. This demonstrated that for all patients included in the study, there were treatment related gains. However, there were limited statistically significant differences between the two groups with the exception of CYBOCS Severity. Patients in the comorbid group started with statistically significant higher scores compared to the anxiety-only group. Additionally, patients with BFRBs were more likely to have symmetry related obsessions compared to patients with only an anxiety disorder. Overall, the study provided further insights into the clinical treatment outcomes related to anxiety disorders comorbid with BFRBs among youth within intensive treatment settings.

CHAPTER ONE: INTRODUCTION

Youth face burgeoning pressures throughout their lives. These pressures include academic and extracurricular performance, family stressors, bullying, and technological-related concerns, as well as mounting violence and economic inequality within society. Approximately 20% of youth are diagnosed with a variety of mental and physical health conditions such as anxiety, depression, attention-deficit hyperactivity disorder (ADHD), eating disorders, and substance abuse (Child Mind Institute, 2021). Current estimates of youth experiencing anxiety or other mental health conditions vary widely due to youth being misdiagnosed, or conditions being undetected due to stigma or failure to be screened (Whitney & Peterson, 2019). As a result, it is estimated that approximately 50% of youth with mental health conditions are left untreated (Whitney & Peterson, 2019). Stigma associated with mental health conditions is hypothesized to be related to lack of detection and limited treatment (Heflinger & Hinshaw, 2010). Stigma can be perpetuated by the youth's family who may not perceive a need for mental health treatment. Additionally, on a societal level, some providers utilize approaches which center the mental health concern rather than the well-being of the child and family. This stigma then creates shame and a reluctance for youth to seek mental health services.

One of the most common mental health concerns, anxiety, afflicts approximately 9.4% of youth (CDC, 2022). As compared to disruptive behavior disorders, where symptoms are externalized and readily apparent, anxiety disorders are characterized by internalized symptoms that are less obvious to others. This can lead to differences in treatment and timely diagnosis.

Youth who are misdiagnosed or missed by providers as being identified with a mental health concern are at risk for maladaptive coping. This leaves youth susceptible to using alternative coping methods such as abuse of substances, including illegal drugs, prescription medications, or alcohol. These substances are likely used to cope with pre-existing conditions as a result of youth's underdeveloped brains being more impulsive (Hides et al., 2008). Lack of access to diagnosis and subsequent treatment also leaves youth vulnerable to developing comorbid conditions from the stress of their symptoms. A particular concern is the research demonstrating gaps in treatment for youth who have complex mental health needs, are living in poverty, or lack access to behavioral or physical health care (Knifton & Inglish, 2020).

Anxiety disorders in youth tend to cause a ripple effect on their daily lives. Youth with anxiety disorders experience a myriad of difficulties, which frequently present in response to feared stimuli or memories in social situations with other youth and adults, at school, or at home. Symptoms of untreated anxiety disorders in youth are strongly correlated to decreased school performance, low life satisfaction, and decreased self-esteem (Nail et al., 2014; Rey & Pena, 2011). Thus, it is vital for researchers, as well as all individuals who interact with youth, to be aware of these concerns.

When conceptualizing youth mental health, it is important to note how co-occurring mental health conditions can affect symptom expression and treatment response. The present study examined comorbid body-focused repetitive behaviors and related disorders (BFRBs) among anxious youth. This specific comorbidity was examined due to the limited research within pediatric populations, including clinical pediatric populations.

Overview of Common Anxiety Disorders in Childhood

Anxiety disorders in childhood can affect youth across multiple domains of functioning. Without receiving treatment, anxious youth are at significantly increased risk for negative social, emotional, health-related and financial outcomes in later adolescence and adulthood. Social anxiety, specific phobias, and generalized anxiety disorders are some of the most common types of anxiety disorders diagnosed in youth (Bhatia & Goyal, 2018). Youth may develop anxiety disorders as a part of hereditary and environmental factors that predispose them to symptoms. Some youth develop anxiety disorders in early childhood, while for others these disorders may not emerge until adolescence or until the presence of a traumatic event.

Any child may experience symptoms or subclinical expressions of a variety of mental health conditions. The sections below will focus on the primary targets of the study; anxiety disorders and body-focused repetitive behaviors that are most commonly present in childhood and adolescence.

Anxiety Disorders and Diagnostic Criteria

It is developmentally appropriate for youth to have feelings of anxiety or develop fears that are short and responsive to parental soothing or experiential opportunities for learning. However, when anxiety becomes impairing, it is considered maladaptive and will generally meet diagnostic criteria for one or more anxiety disorders. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5-TR) features multiple anxiety and related disorders (APA, 2022). Panic disorder, separation anxiety disorder, social anxiety disorder, generalized anxiety disorders, and specific phobia exist in the “Anxiety Disorder" section.

Related disorders such as obsessive-compulsive disorder (OCD) are in the "Obsessive Compulsive and Related Disorders" section and post-traumatic stress disorder (PTSD) is in the "Trauma and Stressor Disorders" section of the DSM-V-TR. Anxiety may be present in themes that youth engage in within school, family, and play. Anxious youth experience difficulties across different domains of life. For example, a youth with social anxiety may struggle with speaking in the classroom, with peers at lunch, and even with family. Anxiety disorders are diagnosed when symptoms cause impairment. For example, Generalized Anxiety Disorder is typically diagnosed after 6 months of symptoms such as daily uncontrollable worry. Youth with this disorder may spend hours in “what if” thought patterns with concerns about loved ones’ safety and health or other themes. When diagnosing anxiety disorders practitioners tend to evaluate for other disorders such as attention deficit hyperactivity disorder (ADHD), depression, autism spectrum disorder, and other mental health concerns.

Physical health concerns such as vitamin deficiencies, infection, or autoimmune disorders also should be considered when making a diagnosis of anxiety disorder because symptoms of these common health concerns can mimic symptoms of anxiety. For some youth, anxiety manifests via somatic complaints such as stomach aches and headaches so it is even more relevant to obtain a detailed history of symptom onset (Crawley et al.,2014). Overall, anxiety disorders can affect youth in many ways and are best diagnosed and treated as early as possible (Bhatia & Goyal, 2018). Prevention such as teaching youth social emotional coping skills are vital to arm youth with tools to buffer against mental health concerns. Additionally, when symptoms are present early treatment can help prevent longer term concerns.

Overview of BFRBs

A subset of individuals in the population engage in body-focused repetitive behaviors (BFRBs). These disorders include individuals pulling, biting, and picking one or more areas of their body (TLC Foundation for Body-Focused Repetitive Behaviors, 2022). There are multiple types of BFRBs, including hair pulling (trichotillomania), nail-biting (onychophagia), hair eating (trichophagia), and skin picking (excoriation or dermatillomania). About 5% of the population has a BFRB at a clinically diagnosable level (Najera, 2022); however, the current prevalence rates for all BFRBs are thought to be underestimated due to stigma and lack of universal health literacy around what constitutes BFRBs (TLC Foundation for BFRBs, 2022). This lack of widespread health literacy for BFRBs includes not only the general population but medical and mental health care providers as well. Additionally, there are clinical and subclinical presentations of the disorders. These disorders may first present to providers in primary care, dermatology clinics, or non-mental health settings (such as estheticians, beauticians or barbers) rather than a mental health practitioner due to the effects on the hair, skin, nails, and other tissues from repeated picking, touching, or pulling. Diagnosis can become difficult as some patients are hesitant to share that their medical concerns are self-inflicted. Some individuals have more than one BFRB. For example, an individual may simultaneously repeatedly pick their skin and bite their nails. Improved diagnosis and early intervention can occur through increased use of screening measures or interview questions related to BFRBs in the context of mental or physical health visits.

Although a primary care doctor or dermatologist may not provide treatment for mental health concerns, they likely see these patients before a mental health professional sees them. Dermatological studies have estimated about 25% of patients with a skin-related disease have a

skin picking disorder (Spitzer et al.,2022). Many parents looking for mental health treatment for their youth typically present to a medical doctor first, assuming the pathology presented is from a physical cause. Dermatologists also propose guidelines for screening youth with skin picking disorder for skin diseases to target any medical conditions that may exacerbate skin picking such as psoriasis or any other dermatological concerns that causes irritation (Nemeh & Hogeling, 2022).

BFRBs tend to begin in late childhood and early adolescence. However, BFRBs also can be present in toddlers (La Buissonnière-Ariza et al., 2021). At present, there is a lack of consensus on the prevalence rates of BFRBs for men and women. There has been little research examining gender-related correlates. However, a majority of studies continue to report women exhibiting BFRBs more frequently than men at a ratio of 9:1 (TLC for BFRBS, 2016). In youth, girls have been reported to have a BFRB more often than boys (La Buissonnière-Ariza et al., 2021). These differences are hypothesized to be a result of increased acceptability of internalizing conditions in females and hormonal differences. Additionally, with young boys and men who have trichotillomania, the disorder may be more easily hidden by short hairstyles.

When looking at ethnicity and BFRBs, differences have been shown in terms of treatment-seeking behaviors and symptom severity (Grant et al., 2021). Minoritized groups were noted to spend more hours engaging in BFRB behaviors such as hair pulling and skin picking and tended to receive treatment at lower rates compared to White participants. This suggests that future research needs to include participants from minoritized populations to have more representative information that may inform treatment.

Current treatments tend to focus on environmental factors and are based on cognitive behavioral theory (Najera, 2022). These treatments tend to include extensive monitoring,

competing responses, and holistic lifestyle changes. Regarding psychiatric medications as a possible treatment, there is no single approved medication or supplement that has been approved by the FDA for BFRBs.

Overall, BFRBs have widespread impacts on individuals' lives and often co-occur with other psychiatric conditions (La Buissonnière-Ariza et al., 2021). Further investigations are needed related to BFRBs, particularly in the areas of gender differences, youth, and sub-clinical and clinical populations to better identify treatment targets and the phenomenology of symptoms. Additionally, more widespread knowledge of BFRBs is needed within health disciplines and education to promote prevention and early intervention.

BFRBs and Diagnostic Criteria

BFRBs are found under the Obsessive-Compulsive Related Disorders section in the DSM-5-TR (APA, 2022). No changes were made from the DSM-V to the DSM-5-TR for the classification of BFRBs. The DSM separates trichotillomania (hair-pulling) and excoriation disorder (skin-picking). Other BFRBs exist such as hair eating, (trichophagia), hair cutting (trichotemnomania), and nail biting (onychophagia). These additional disorders are listed under the "Other Specified Obsessive-Compulsive and Related Disorders" of the DSM-5-TR. Additionally, this study included BFRBs and related disorders such as Tics and Tourette's Disorder as a part of the conceptualization of BFRBs due to the similarities in treatment approaches utilized for these disorders. Tic and Tourette's Disorder are located within the Motor Disorders Section of the DSM-5-TR.

Tics may present similarly to a BFRB such as in the form of a complex motor tic where an individual digs into their skin. However, the etiology and function of the behavior is typically

different from a BFRB. The present study did not rule out Tics and Tourette's disorder due to the similar way treatment is approached within the behavioral health clinic where data for this study were collected. Although this is not generalizable to all treatment settings, there is prior research confirming the similarities these disorders have in terms of targets for treatment and some of the symptoms they share such as premonitory urges (Badenoch et al., 2020). Additionally, a recent study done with adults found it to be appropriate to conceptualize BFRBs on a continuum of tic like symptoms versus obsessive and compulsive related symptoms (O'Connor et al., 2018). Finally, the present study conceptualized BFRBs and tic disorders together based on the established groupings used in the prior study on which this current study is based (Scarimbolo et al., 2021).This decision was made to maintain consistency across studies and to align with the selected groupings used in the behavioral health clinic where data were collected.

Providers need to collaborate with a youth's medical team to ensure there is not a neurological or dermatological cause for the sensations leading to these behaviors. Psychosis, mania, or delusions should be ruled out as well. If a youth has a co-occurring disorder such as body dysmorphic disorder, a BFRB would not be considered the diagnosis if the behavior is being performed to perfect an appearance. Physical health conditions that should be ruled out include alopecia, autoimmune conditions, allergies, or other environmental irritants. A common misconception among families, educators, and health care providers is that BFRBs are a form of self-harm (Matthews et al., 2020). Although any behavior that is a BFRB may be conducted intentionally for self-injury, it is the intent and mechanism that determines the function of the behavior. BFRBs are sometimes performed without awareness of the behavior. Thus, professionals and parents alike must be careful not to conceptualize self-injury or BFRBs as attention-seeking and instead determine the function of the behavior(s). Youth who have BFRBs

engage in the behavior with and without awareness, and likely have had reoccurring attempts to stop the behavior.

The behavior may take up significant hours in an individual's day and cause distress (APA, 2022). Additionally, indicators of the disorder include damage to the afflicted area. This may look like bald spots, uneven lengths of hair, open wounds or scars, or jagged or shrunken nail beds. Individuals can have more than one BFRB. Depending on the severity and acceptability of the BFRB site youth may have more impairment as a result of the behavior(s). For example, dermatologists have noticed some youth pick at their skin that presents in certain patterns (Nemeh & Hogeling, 2022). For example, youth picking at an area on their back tends to have "butterfly" shaped areas of wounds on their skin. This is an area that can be hidden by clothing. For youth who engage in a BFRB for multiple hours, it takes away from their ability to socialize with friends and family, and complete schoolwork.

Aspects of Treatment Affecting Outcomes in Anxiety Disorders and BFRBs

Youth's treatment needs and comorbidities have direct effects on their diagnosis and treatment. The following sections review various factors and comorbidities affecting youth's diagnosis and treatment.

BFRBs and Comorbidity with Anxiety Disorders

BFRBs can be comorbid with a variety of mental health concerns. For this study, anxiety is the main focus. Studies have shown that individuals with BFRBs have difficulties with state-trait anxiety (Sailly et al., 2020). Thus, it is not surprising youth who have anxiety disorders may leverage their BFRB to regulate anxiety. Furthermore, anxiety disorders and OCD are some of the most common co-occurring conditions with BFRBs (La Buissonnière-Ariza et al., 2021).

Although researchers and clinicians cannot make causal conclusions about the presentation of BFRBs and anxiety, it is important to know if individuals experience symptoms of both.

Special Considerations for Comorbidity with Obsessive Compulsive Disorder and BFRBs

OCD and BFRBs are disorders that are often misunderstood. BFRBs are not OCD, but these disorders do tend to be comorbid (Miniksar et al., 2021). OCD involves reoccurring images and or intrusive thoughts. Typically, sufferers will then engage in a compulsion to alleviate the distress from the intrusive images or thoughts (APA, 2022). Although some individuals with BFRBs feel a sense of relief from pulling or picking, it is not the same type of symptom as OCD obsessions. For example, when an individual washes their hands several times or walks backward and forwards to stop the catastrophic thoughts they are having, it is not the same type of repetitive behavior as a BFRB. A BFRB and OCD may co-occur when someone has magical thinking types of obsessions and compulsions and must do everything in order of "fives" or some other number (Torales et al, 2021). For example, they may pull five eyelashes from each eye to feel relief. This is just one example of the many ways the two disorders may be comorbid.

BFRBs and Comorbidity with Depressive Disorders

BFRBs can present in response to anxious emotions, but also as boredom and sadness. For some individuals with severe symptoms such as two BFRBS, there is a higher likelihood of having depression (Grant et al., 2016). Individuals with BFRBs tend to experience shame related to these behaviors. Youth with BFRBs may be concerned about what others think of the behavior or the resulting bodily damage that has been self-inflicted (Houazane et al., 2021). As shame increases, so does the desire to self-isolate. Individuals typically engage in BFRBs at a higher

frequency when alone. Therefore, this cycle of depressive symptoms and BFRBs becomes intertwined.

Emotionality in Anxiety Disorders and BFRBs

Emotionality is the expression of emotions in response to stimuli and life events. It is paramount to examine the effects of mental health conditions upon emotionality because emotional dysregulation is related to symptoms. Children with anxiety disorders tend to overestimate threats and experience high levels of negative emotions from these symptoms (Hannesdottir & Ollendick, 2007). This limits their ability to feel positive emotions or appraise positive situations as a result of their actions. Individuals with BFRBs display similar types of dysregulation (Alexander et al., 2018). Individuals with BFRBs have more difficulty regulating emotional responses as compared to individuals with subclinical BFRBs and a control group.

Treatment Concerns Relevant to the Pediatric Population

Youth exist within the context of their family and community and are impacted by the systems within which they live (Bronfenbrenner, 1979). Youth may experience unique risks and protective factors related to mental health concerns based on their age. This can include a lack of medical independence, primarily socializing and spending the majority of their day in the school environment, and limited control of their environments such as family and home life. Although youth possess little decision-making and control over multiple domains of their lives, they do have protective factors such as spending the day in schools which can provide comprehensive support, and (for youth in healthy home environments) families who can provide reinforcement of treatment skills and build youth's sense of safety. These protective factors can help to maximize recovery from mental health concerns and instill youth with a sense of self-efficacy.

Other factors that can impact youth's ability to have optimal mental health treatment outcomes such as family, perceived autonomy and involvement in treatment, and group connectedness are explored below.

Family Involvement

When working with youth it is vital to view them within the context of their families. The level and type of family involvement in treatment will depend on the provider, family, and youth preferences. Family involvement can range from consultation, partial joint sessions, family therapy, or a combination of these types of treatment. For BFRB treatment, parent training can be particularly pertinent as parenting styles can moderate pulling and picking behaviors. For example, it has been found that frequent parent-child conflict is correlated with an increase in BFRBs (Murphy, Brennan & Flessner, 2019). When taking a systemic approach and working with families it is important to understand that parents themselves may have mental health concerns or have experienced prior treatment (Derisley et al., 2005). This can provide parents with insight and empathy for their child's condition, but also may be considered a stressor. When thinking about treatment components for anxiety, it is best practice to involve families. Family involvement in treatment has been shown to reduce accidental reinforcement of safety behaviors and decrease the use of accommodations (Bertelsen, Himle, & Haland, 2022).

Autonomy in Treatment

Youth have few decisions they are legally able to make for themselves. However, the focus of many mental health treatments is increasing one's self-efficacy. This is done with youth by teaching them to make developmentally appropriate decisions within their mental health treatment. For example, allowing adolescents to choose what to target in treatment or to select

incentives that are motivating for them (Kendall & Peterman, 2017). When youth have autonomy, it has the potential to optimize treatment buy-in, and facilitate positive therapeutic rapport, treatment engagement, and ultimately treatment satisfaction.

Group Cohesion

Group treatment allows youth to feel connected to others with similar mental health concerns. Group cohesion in youth anxiety treatment is typically seen when symptoms begin improving (Taube-Schiff et al., 2007). To reach this turning point, youth must gradually experience different elements of treatment. Youths build group cohesion in treatment when universality occurs (Dies, 991). This happens when youth see that they relate to other group members in some aspect. This does not necessarily need to be a mental health concern, but it could be a shared interest. Youth also learn how to lean on others and ask for help when needed. This can help increase their independence and ability to cope with their mental health concerns. When thinking about youth with complex conditions or symptom presentations the idea of group cohesion has the potential to increase the ability of youth to feel accepted and successful in treatment.

Health-Related Quality of Life

Health-related quality of life is an individual's understanding of how their physical and mental health affects their life (CDC, 2022). Health-related quality of life is important as it can be an indicator of how well youth perceive that they are able to manage their health conditions. Adolescents with anxiety disorders often report reduced health-related quality of life (Raknes et al., 2017). This trend also has been found in populations with trichotillomania and comorbid mental health concerns such as anxiety (Bezzera et al., 2021). Early intervention for mental

health conditions such as anxiety disorders and BFRBs can help alleviate associated negative effects on health-related quality of life.

Theoretical Model

The dual factor model of mental health examines factors related to wellness and also factors related to psychopathology (Suldo & Shaffer, 2008). The model examines both to get a broader picture of one's mental health. The model was developed based on researchers identifying multiple symptom levels of mental health. The dual factor model identifies four discrete groups, "complete mental health" (low psychopathology and high subjective well-being), "symptomatic but content" (high psychopathology and high subjective well-being), "troubled" (low subjective wellbeing and high psychopathology), and "at risk" or "vulnerable" (low psychopathology and low subjective wellbeing). This model varies from the medical model that most practitioners adhere to, in that it considers wellness as separable from illness. The dual factor model of mental health demonstrates that the lack of diagnosis or extreme symptoms can be identified as someone in need of support, as opposed to diagnosis versus no diagnosis.

Overall, the dual factor model of mental health promotes the idea that mental health is indicated by two continua; mental health involves the presence or absence of symptoms, as well as high or low levels of wellness (e.g., quality of life, subjective well-being). This is vital to youth enhancing their self-efficacy, desire to change behaviors, and motivation within the treatment. Snyder (2009) proposes the idea of hope theory. This is the idea that when individuals have higher expectations for their outcomes, they tend to perform more positively in multiple life areas such as with friends, family, school, work, and leisure activities. When youth have hope that their mental health can improve, they may perceive more control and autonomy over their treatment. This allows them to set goals and have the self-efficacy to reach these goals (Plegging,

Burger, & van Eel, 2021). The dual-factor model allows for progress to be made as reflected in high levels of well-being, not just the total absence of symptoms. The present study focused on cognitive behavioral treatments, which propose that some levels of symptoms exist to be self-protective. Thus, the dual-factor model is a more accurate representation of how this study viewed treatment progress, in that some levels of symptoms may be acceptable if coupled with high subjective well-being (i.e., a symptomatic but content status). This study aimed to evaluate mental health symptoms through this lens. Treatment progress is whole-child-focused and not simply the absence of mental health symptoms. This study included factors related to wellness such as Health Related Quality of Life as well as pathology-based scores, thus it aligns with measuring outcomes in line with the dual-factor model of mental health.

Treatment for Youth Mental Health Concerns

The current study used data from a Behavioral Health Clinic collected as a part of regular clinic practice. As a part of intensive treatment, the clinic collects intake data, daily check-ins, and weekly and end-of-treatment data. The treatments provided to patients in the Behavioral Health Clinic primarily are Cognitive Behavioral Therapy (CBT) approaches. Many of the interventions particularly focus on behavioral changes. Behavioral specialists work collaboratively within a multidisciplinary team of psychiatrists, nurses, dietitians, social workers, mental health counselors, and psychologists. Youth receive individual, small group, and larger group formats of treatment. Youth are typically grouped by age. Evidence based treatments include creating an exposure hierarchy, planning pleasant events, challenging cognitive distortions, and restructuring thoughts. CBT treatment including exposure treatment has been shown to benefit youth by reducing anxiety when it is done in a developmentally appropriate

manner (Banneyer et al., 2018). Treatment at the Behavioral Health Clinic is personalized to each youth's needs which is in line with best practice guidelines for childhood CBT treatment.

In addition to CBT treatments, a third-wave enhancement to CBT such as Acceptance and Commitment Therapy (ACT) has been shown to improve youth's treatment outcomes for anxiety and BFRBS (Banneyer et al., 2018; Twohig, 2021). The Behavioral Health Clinic provides ACT-based exercises throughout its individual and group programming in its youth treatment programs. Youth received a variety of individually based treatments as well as group daily programming that included evidence-based skills groups. Treatment never consisted of group treatment alone.

Current Study

This current study aimed to evaluate youth with anxiety disorders only and a group of youth with anxiety disorders and comorbid BFRBs. This study investigated variables such as youth's perceptions of treatment, anxiety, and associated symptoms as well as health-related quality of life. Most of the research that presently exists relates to the adult population and the symptoms of disorders. The present study contributed to the extant literature by evaluating outcome factors that align with the dual-factor model of mental health.

Research Questions

The study investigated the following research questions:

1. Does perceived autonomy in treatment (i.e., the ability to be involved in treatment planning/inclusion in decisions of care) vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (Body-focused repetitive behaviors) (anxiety + BFRBs)?

A hypothesis for this question was that the comorbid group would provide lower ratings for inclusion in treatment in comparison to the anxiety-only group, due to the increased levels of stigma and helplessness in comorbid conditions. Autonomy in treatment was measured via the Clinic's Patient Satisfaction measure question number 8, *"Your ability to be included in decisions of your care"* upon discharge.

2. Do feelings of connectedness vary among youth in treatment according to the presence of BFRBs (Body-focused repetitive behaviors) (anxiety + BFRBs)?

A hypothesis for the above question is that youth with a comorbid BFRB and related disorders would rate connectedness lower than youth in treatment for anxiety only because of the social isolation and shame associated with BFRBs. Feelings of connectedness were measured by looking at the Clinic's Patient Satisfaction measure question 18, *"Through the group treatment, I feel I am not alone"* upon discharge.

3. Does C-YBOCS (Children's Yale Brown Obsessive Compulsive Scale) severity vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

It was hypothesized that anxious youth with comorbid BFRBs, would have increased self-rated severity of symptoms at intake when compared to anxious youth without a comorbid BFRB diagnosis. Some individuals with BFRB symptoms have co-occurring OCD or OCD tendencies. The severity was measured by looking at changes in C-YBOCS severity scores between admission and discharge data.

4. Does the obsession item for symmetry on the C-YBOCS vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

The obsession checklist item for symmetry on the CYBOCS examines symptoms related to needing order or exactness. It was hypothesized that for anxious youth with comorbid BFRBs and related disorders, self-rated symmetry on the CYBOCS would be rated higher when compared to anxious youth without a comorbid BFRB diagnosis. This is attributed to some youth with BFRBs engaging in OCD behaviors in tandem with BFRB behaviors: for example, pulling hair or picking skin so that it appears to be an even shape. The presence of symmetry obsessions were measured by looking at CYBOCS symmetry checklist status upon admission.

5. Does the health-related quality of life vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

It was hypothesized that for anxious youth with comorbid BFRBs and related disorders, self-rated Health Related Quality of Life (HRQOL) would be lower at admission due to the need for managing multiple impairing conditions, particularly for the comorbid group due to the high volume of time that BFRB interventions require. Health-related quality of life was measured by an item from the Healthy Days Module within the HRQOL self-questionnaire scores for differences between admission and discharge data.

6. Does trait anxiety vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

For anxious youth with comorbid BFRBs and related disorders self-rated trait anxiety was hypothesized to be higher in the comorbid group due to increased use of the behavior to regulate emotions in fear-inducing or stressful situations. Trait anxiety was measured by looking at changes in scores on multiple questions on the Intolerance of Uncertainty Scale-Child (IUS-C) between admission and discharge data.

7. Does emotionality vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

For anxious youth with comorbid BFRBs and related disorders, it was hypothesized that self-rated emotionality would be higher when compared to anxious youth without a comorbid BFRB diagnosis. As mentioned in the literature reviewed, some individuals with BFRBs go to great lengths to cover or hide impacted areas of the body. Emotionality was measured by looking at changes in Intolerance of Uncertainty Scale- Child (IUS-C) scores between admission and discharge data.

8. Does the presence of depressive symptoms vary among anxious treatment-seeking youth according to the presence/absence of BFRBs?

For anxious youth with comorbid BFRBs and related disorders, it was hypothesized that self-rated depression would be higher at admission and discharge in the comorbid group due to isolation or stigma present with BFRBs when compared to anxious youth without a comorbid BFRB diagnosis. The literature reviewed demonstrated that some individuals with BFRBs tend to be fearful of others discovering their condition and associated symptoms. Depressive symptoms were measured by looking at changes in the Patient-Reported Outcomes Measurement Information System-Depression (PROMIS-D) scores from admission and discharge data.

Implications for Practice and Contributions to the Literature

The onset of BFRBs is typically in childhood. For some children, these disorders dissipate on their own, while for others these BFRBs continue to be chronic. Currently, BFRBs receive limited attention in clinical literature so the current study aimed to fill this gap. Additionally, many individuals with a BFRB have a comorbid mental health condition. This

study compared the two groups, with those two groups consisting of youth with anxiety disorders only and youth with anxiety disorders and comorbid BFRBs; there was not a comparison group of youth with BFRBs without anxiety. No comparison group was created as all youth in the study had an anxiety diagnosis. All youth have an anxiety diagnosis due to the inclusion criteria that youth must have an anxiety disorder or OCD to be patients within the program. Additionally, BFRBs typically do not occur as a standalone mental health condition within the populations studied. Some studies have noted that about 80% of children with trichotillomania in a clinical population were reported to have at least one other co-occurring mental health disorder (Arslan et al., 2023). Similar rates of additional psychiatric comorbidities with BFRBs also have been identified within adult populations (Gupta et al., 2015).

Key Terms

Body-Focused Repetitive Behaviors and Related Disorders

Behaviors such as, but not limited to, hair pulling, hair eating, skin picking, and nail biting. These behaviors can be difficult to discontinue. The repeated action of the behavior can result in visible damage to the affected area (e.g., hair, skin, nails). For the purposes of the diagnostic criteria utilized within this study and the groupings created, BFRBs will be referred to as the comorbid group consisting of youth with an anxiety disorder and a BFRB and related disorder. Related disorders include unspecified OCD, and Tics and Tourette's disorder. For purposes of this document, these two terms (comorbid group or BFRBs and Related Disorders) are used interchangeably.

Anxious Youth

The Behavioral Health Center provides intensive treatment to youth with a variety of mental health conditions. Youth can have any anxiety or anxiety-related condition to fall under the category of anxious youth. This included but is not limited to OCD and PTSD, specific phobias, social anxiety, generalized anxiety disorder, separation anxiety disorder, and panic disorders. An inclusionary criterion for the treatment program included a diagnosis of an anxiety disorder, thus every participant in the study had some form of a diagnosable anxiety disorder. These patients will be defined as the (anxiety) group throughout.

Group Connectedness

Defined as the sense of belongingness and community a youth feels within the treatment environment. The Clinic's Patient Satisfaction Measure examines this construct. Thus, The Clinic Patient Satisfaction Measure was used as an outcome of Treatment Satisfaction. The Behavioral Health Clinic provided group and individual treatment, and thus it is vital to examine the impact of both individual patient satisfaction and feelings of connection in group based treatment activities.

Emotionality

Defined as the expression of emotions in response to stimuli and life events. For the current study, this was being examined through selected questions on the Intolerance of Uncertainty Scales (IUS-C) that relate to emotional expression.

Health-Related Quality of Life

Defined from Health-Related Quality of life (HRQOL) and examines how individuals rate their overall health, the limitations, and effects their chronic conditions have on their lives. The HRQOL includes multiple modules including the "Healthy Days Core Symptoms", "Activity Limitations", and "Healthy Days Symptoms Module". The individual item for this construct was obtained from the "Healthy Days Symptoms Module".

Trait Anxiety

Defined as how anxiety is present across multiple situations. The present study was based on selected questions on the Intolerance of Uncertainty-Child Questionnaire (IUS-C).

Purpose of the Current Study

The purpose of this study was to further investigate treatment outcomes and symptoms related to comorbid BFRBs and anxiety disorders. This included the experience of emotions, trait anxiety, treatment satisfaction and connectedness, quality of life, and potential depressive symptoms. The overarching goal was that a better understanding of these factors would enhance the ability to target specific treatments for youth with these disorders and provide further insights into clinical populations with these disorders.

CHAPTER TWO: LITERATURE REVIEW

This chapter reviews the literature related to anxiety disorders and BFRBs present in youth. Clinical implications of anxiety disorders and BFRBs, contextual factors impacting youth, and recent treatment innovations will be highlighted. Finally, present gaps in the literature are discussed to support the rationale for this study.

Overview of Anxiety and Related Disorders in Youth

Anxiety disorders are one of the most common mental health concerns that impinge upon youth's well-being (Gibby et al., 2017). In addition to anxiety disorders, numerous related disorders exist (APA, 2022). The DSM-V-TR classifies disorders such as separation anxiety disorder, Generalized Anxiety Disorder (GAD), panic disorder, social anxiety disorder, and specific phobias, as anxiety disorders. For this study obsessive-compulsive disorder (OCD), and posttraumatic stress disorder (PTSD), also will be discussed and included in the definition of anxiety disorders. The following sections will describe the symptoms and effects of these anxiety disorders in youth. Anxiety disorders are one of the most common presenting conditions that youth experience with an estimated 9.4% of children and adolescents being diagnosed with an anxiety disorder (CDC, 2022).

Obsessive-Compulsive Disorder (OCD)

Obsessive-Compulsive Disorder (OCD) is characterized by obsessions and compulsions. Obsessions and compulsions are typically related to an individual's sense of safety regarding themselves and their loved ones, germs, health, and other themes (APA, 2022). Obsessions are

repetitive in nature and leave sufferers preoccupied with their obsessive thoughts. For example, an individual who has obsessions related to safety may engage in compulsions such as repetitively checking an alarm or door lock. Typically, distress decreases when the individual engages in compulsive behaviors. These compulsive behaviors can take up multiple hours of an individual's day and may cause disruptions in school and work responsibilities. OCD is thought to be diagnosed in about 1 to 4% of children, adolescents, and adults (Nazeer et al., 2020). Most individuals with OCD experience the onset of symptoms before age 18, but they may not be diagnosed with the disorder until much later (Nazeer et al., 2020). OCD is often underdiagnosed leading to difficulties in quality of life (Nazeer et al., 2020). OCD and related disorders are commonly prevalent within families (Carmi et al., 2022), with estimates of approximately 73% of first- or second-degree family members who have OCD and related disorders. Much of the present literature related to OCD focuses on college-age students and adult populations. Consequently, the present study aimed to expand on this by examining a clinical population of youth.

Generalized Anxiety Disorder (GAD)

Generalized anxiety disorder is marked by physical and psychological symptoms. Individuals with GAD tend to have uncontrollable worries related to various concerns and domains of life. They typically struggle with uncontrolled worrying, which can result in irritability, fatigue, and muscle pain (APA, 2022). The prevalence rate for generalized anxiety disorder in youth is estimated to range from 2.8% to 10.8% (Benjamin et al., 2010). Youth with GAD tend to primarily experience somatic symptoms and repeated worries related to school, family, and friendships. GAD is thought to be a chronic condition. The somatic symptoms can prove to be particularly problematic to school-age children who miss school due to their somatic

complaints (Keeton, Kolos & Walkup, 2010). If left untreated, the symptoms of GAD can lead to continued disruptions in daily life and other mental health concerns.

Social Anxiety Disorder

Social anxiety disorder involves preoccupations with impending social interactions and continues following social interactions with others (APA, 2022). Individuals with social anxiety may review conversations with individuals and may experience anxiety with only select populations. For example, a youth with a social anxiety disorder may feel comfortable interacting with family members, but socially anxious when they are with classmates, teachers, and other adults. Social anxiety disorder is thought to affect between 1 and 3% of children and adolescents (Mohammadi et al., 2020). This disorder can cause functional impairments for youth particularly in the school setting. Youth may have difficulty conversing with peers or responding to questions in the classroom, leading to school refusal or avoidance (Khalid-Khan et al., 2007). Similar to other anxiety disorders, youth with social anxiety disorder report somatic complaints when engaging in social activities (Khalid-Khan et al., 2007).

Panic Disorder

Panic disorder involves concentrated feelings of anxiety lasting several minutes and intense physical sensations. Some individuals confuse these episodes for heart attacks or other medical emergencies (APA, 2022). Medical conditions must be ruled out in the diagnosis of panic disorder, as many of the symptoms are psychological in nature. Sensations that are characteristic of panic disorder include sweating, feeling cold or warm, chest pains, rapid pulse, and dizziness. Individuals experiencing a panic attack may feel that something bad is about to happen or that they may die.; however, some individuals have these attacks come on suddenly

with no warning at all. Individuals with panic disorder may fear having another panic attack. This fear can lead to avoidance of situations, people, or places that have previously prompted these attacks. Panic disorder is a common anxiety disorder in children and adolescents. Earlier onset of panic disorder in youth is indicative of more severe symptoms (Elkins, Pinkins, & Comer, 2014). Panic disorder is present in about 1% of youth in non-clinical populations, and 10-15% in clinical populations (Doerflet et al., 2007). Youth with panic disorder experience disruptions in their quality of life due to their persistent fears of having reoccurring panic attacks. Panic disorder is more common in adolescents compared to children.

Separation Anxiety Disorder

Separation anxiety disorder is commonly seen in youth. It leads to apparent distress when an individual has been separated from a preferred individual, parent, or caretaker (APA, 2022). Youth with separation anxiety disorder are at risk for having continued separation anxiety symptoms or related anxiety symptoms over the life span (Silove & Rees, 2014). Some youth with separation anxiety exhibit school refusal, which can lead to difficulty with regularly attending school. Separation anxiety occurs in about 3.2 to 4.1% of youth and more commonly occurs in children as opposed to adolescents (Hanna, Fischer, & Fluent, 2006). Separation anxiety causes distress not only to the child but also to their caregivers. The average age of onset is estimated to be between 7 to 9 years old. The onset of social anxiety disorder is thought to occur during times of transition such as school or traumatic occurrences such as the loss, illness, or injury of a loved one.

Specific Phobias

Specific phobias are a type of anxiety disorder that results in severe fear triggered by certain stimuli. The stimulus may be a person, place, thing, or event. Specific phobias are present with a co-occurring condition such as other anxiety or mood disorders in about 50% of individuals (Ollendick et al., 2010). Youth with phobias tend to develop fear related to the stimulus, a physiological response to the feared stimulus, and an overestimation of the danger that the feared stimulus can cause (Muris, 2017). Specific phobias occur in about 5% of youth (Ollendick, King, & Murris, 2002). If youth do not receive treatment the fear of the specific stimulus is thought to persist. Specific phobias can cause functional impairment through continued loss of engagement in activities or connection with individuals that relate to the phobia.

Post-Traumatic Stress Disorder

PTSD is a trauma- and stressor-related disorder. Individuals can develop PTSD following exposure to a traumatic event. Distress when thinking about the traumatic event or related stimuli, physiological symptoms, flashbacks, nightmares, irritability, difficulty concentrating, and feelings of guilt are some of the symptoms that individuals with PTSD may experience (APA, 2022). For youth 6 years of age and younger, nightmares may not be specific to the trauma, and children may demonstrate reenactment of the trauma through play. Traumatic events overall are quite common in youth with about two thirds of youth reporting that they experienced at least one trauma by age 16 (SAMSHA, 2022). Youth can be at higher risk for PTSD if they have environmental factors that predispose them to traumatic events such as neighborhoods with high levels of violence or in areas at risk for severe and catastrophic weather. Youth may develop PTSD as a result of one or multiple traumas such as any form of

abuse, natural disaster, community violence, or medical procedures. Youth can have functional impairment in school and home life as a result if treatment is not obtained (Nooner et al., 2012).

Body-focused Repetitive Behaviors (BFRBs)

Body-focused repetitive behaviors (BFRBs) are behaviors that an individual does to specific areas of their body in a repetitive way, which are difficult for them to discontinue (APA, 2022). BFRBs are the defining characteristic of disorders such as trichotillomania, excoriation disorder, onychophagia, and trichophagia will be discussed as these are most commonly represented in the literature and anticipated to be captured in the present study sample. The sections below will further explain some of the more common BFRBs. Additionally, an overview of familial relationship factors and clinical correlates will be examined in the following sections.

Hair Pulling Disorder

Trichotillomania, or hair-pulling disorder, appears in the DSM-V-TR (APA, 2022). Trichotillomania, or trich, is characterized by a recurrent desire to pull one's hair. Hair can be pulled from anywhere on the body. The most common pulling sites include the scalp, eyelashes, and eyebrows. In a study conducted of youth with trichotillomania ages 4 to 17 years, almost 80% of youth in the study were found to have a comorbid condition such as an anxiety disorder or ADHD (Arslan et al., 2022). Hair pulling disorder typically leads to functional impairments in individuals when the pulling causes visible damage to the individual who is spending an extensive amount of time engaging in the behavior. Individuals with hair pulling disorder may feel extreme levels of internalized shame and socially isolate themselves. Youth with BFRBs display their symptoms differently than adult populations (Harrison & Franklin, 2012). When

considering a toddler and preschool population, pulling tends to be more automatic rather than specifically targeted pieces of hair. When young children develop hair pulling, they may not be as affected or distressed by the disorder if they do not understand the social implications of their pulling. Prevalence rates for young adult college populations and adult populations (about 1-3%) are considered well-established. However, due to limited research on the pediatric population, a prevalence rate has not been established (Harrison & Franklin, 2012).

Skin Picking Disorder

Excoriation disorder or dermatillomania are other names for skin picking disorder. This disorder involves recurrent picking at one's skin (APA, 2022). Individuals may pick at smooth or blemished skin. For some individuals, recurrent picking may lead to open wounds and create scarring. It is estimated that about 1.3% of the population across the lifespan suffers from skin picking disorder (Gallinat et al., 2021). Other studies estimate the prevalence to be 1.4% to 5.4% in the adult population (Nemeh & Hogeling, 2022). Skin picking disorder tends to first start in childhood or adolescence and continue into adulthood. Similar to other BFRBs, childhood prevalence is limited as large life span studies are only recently being published. Some studies have surveyed adults about childhood symptoms and have found that for a majority of adults the symptoms tended to first emerge in adolescence (Ricketts et al., 2022). Given that much of the current literature on skin picking disorders focuses on young adults and adults, studies including youth are needed (Nemeh & Hogeling, 2022).

Nail Biting Disorder

Nail-biting disorder, or onychophagia, involves recurrent nail biting. It is thought to affect 20-30% of the population across the lifespan (Lee & Lipner, 2022). In one sample with

youth ages 3-21, 37% of the sample were found to have a nail-biting disorder (Winerbreak et al., 2018). Childhood and college-age individuals comprise populations with the highest prevalence of this disorder. The disorder is thought to be more common in youth under age ten and for some individuals decreases with age; however, for some individuals the behavior will continue and increase over time. Individuals with a nail-biting disorder can permanently alter their nail beds through repeated biting, and repeated biting also can lead to infections. Individuals with a nail-biting disorder may be embarrassed to have their hands or toes visible. They also may experience pain from any open wounds created by the biting.

Hair Eating Disorder

Trichophagia, or hair eating disorder, is most commonly known as Rapunzel syndrome (Balawender et al., 2022). The disorder is marked by hair pulling and then the individual eats the hair. The hair collects and forms trichobezoars (balls of hair) that typically require surgical removal. If these are not removed, they may likely cause additional issues with the gastrointestinal system (Balawender et al., 2022). Prevalence for any age group for this disorder has been difficult to determine due to the method of diagnosis. Not every youth with trichophagia will develop a trichobezoar. Trichophagia is typically diagnosed when a doctor finds a trichobezoar, unless a patient self-reports their hair eating. It is estimated that about .5 to 30% of the population who have trichotillomania also has trichophagia (Tiago et al., 2012). Youth with this condition may first present with physical complaints related to trichobezoars such as difficulty with feeding and stomachaches. Trichobezoars in some cases can require emergency surgery.

Other BFRBs

Body-focused repetitive behaviors are not limited to those listed above. Additional body-focused repetitive behaviors include, but are not limited to, nail picking, skin-eating, lip-biting, cheek-biting, tongue-chewing, and hair cutting (TLC, 2022). Many individuals occasionally engage in any of these self-grooming behaviors; however, more diagnostic criteria aside from the behavior are needed to qualify an individual's symptoms as a disorder. Specifically, these behaviors must be considered repetitive and recurrent to be considered a disorder.

Tics and Tourette's Disorder

Tics and Tourette's disorder are distinct from BFRBs in the DSM-5-TR. Tics and Tourette's disorder are present within the Neurodevelopmental section of the DSM-5-TR (APA, 2022). However, due to the treatments for these disorders being behaviorally based, the present study is including Tics and Tourette's disorder as a part of the BFRB and related disorders group. Tics and Tourette's disorder are characterized by symptoms such as motor and vocal movements that have been present for at least one year. Some individuals may have vocal or motor tics only, and some individuals will have a combination of the two, and these are considered complex tics. Tics can present as sounds, repetition of words, or movements such as shoulder shrugging or eye blinking. Individuals may experience an urge before they experience the tics. Similar to BFRBs, tics can have multiple triggers such as talking about the tics or seeing the movement in another person. Tics do not occur by choice and require effort of the individual to change the movement. Tics can change in severity over different periods of time with onset of tics typically between the ages of 4-6 years (APA, 2022). When looking at Tics and Tourette's disorder there is a tendency for these disorders to be three times more common in males, and onset is before adulthood (Baizabal-Carvallo & Jankovic, 2023). When looking at additionally

comorbidities, females with Tourette's disorder are more likely to have an anxiety or mood condition whereas males are mor likely to have ADHD (Garris & Quigg, 2019).

Phenomenology of BFRBs

Each individual with a BFRB will experience variations in symptoms. The BFRB will also present with different patterns depending upon if the individual has multiple BFRBs and the precedence of co-occurring conditions. Individuals may use their fingers, tweezers, or other instruments to engage in the BFRB. A large multi-site study has sought to enhance the phenomenological literature on trichotillomania and excoriation disorder in adults (Grant et al., 2021). Within this study, they identified three subtypes of trichotillomania and two subtypes of excoriation disorder. They propose that the first subtype of pulling relates to sensory needs, moderate mood and impairment, and less frequent episodes of pulling. For the second subtype, Grant and colleagues propose similar mood and impairment as in the first group, but higher impulsivity and pulling related to emotional reactivity, and less awareness of the behavior happening. The third subtype included participants who were high on impulsivity, increased levels of impairment, and mood issues in contrast to the other groups and connected this subtype to perfectionism and difficulty in stopping the disordered behavior. For skin picking, the first proposed subtype was considered to be more emotionally reactive and had difficulty controlling their picking. The second subtype exhibited difficulties with distress tolerance but less frequent picking episodes. Although this study did not include youth, it is important to link this information to potential treatments. Furthermore, it accentuates the need for more studies on youth populations. An improved understanding of phenomenology allows for treatments to be developed that can more accurately target symptoms. Youth may either have a BFRB with an anxiety disorder or solely a BFRB, without a co-occurring diagnosis. For some youth, one

condition may exacerbate the other. A co-occurring diagnosis will likely alter the experience and presentation of the symptoms.

For some individuals with BFRBs, episodes are triggered by emotional reactivity. This typically includes anxiety, boredom, and sadness, but can even be present during times of happiness (Alexander et al., 2018). Difficulties also may be demonstrated when an individual attempts to inhibit a response to an emotional situation. Alexander and colleagues (2018) compared a group of individuals with BFRBs, subclinical BFRBs, and a control group on emotional dysregulation and found that individuals with BFRBs tended to have more emotional dysregulation even after controlling for comorbidities.

Tics and Tourette's disorder also tend to have elevated levels of comorbidity with OCD and ADHD, similar to BFRBs (Mittel, 2019). Additionally, some patients also have a sense of relief following the occurrence of a tic, and discomfort when trying to stop the urge and behaviors, also similar to patients with BFRBs. Both types of disorders can be exacerbated with stress. Some studies have highlighted these aspects of the symptoms to demonstrate that BFRBs and Tics and Tourette's disorder are more similar to each other compared to OCD spectrum disorders (Lamothe et al., 2019).

Overall, BFRBs and related disorders can affect multiple areas of an individual's life. How the symptoms are presented and their effects on the individual's life are significant factors in determining the optimal treatment for the individual. The type of BFRB and the clinical attributes of that disorder are important as well. Much of the present research has been done with adults and this study's objective was to fill the gap as much as possible by including a child and adolescent population.

Presentation of Symptoms

BFRBs are variable in the severity and intensity that individuals experience. The reasoning for pulling/picking will vary as well (Grant et al., 2021). Compounding stress can be a mediating factor for some individuals' behavior. For others, having idle time is a prompt for behavior. Genetic vulnerability is another factor that affects an individual's presentation of symptoms and understanding of their symptoms. When BFRBs are examined under the lens of the biopsychosocial model it allows for a more comprehensive understanding of the conditions (Franklin & Tolin, 2007). The biopsychosocial model brings together factors such as stressors, life circumstances, social stigma, lack of social interactions, and biological vulnerability as driving forces behind these behaviors. This biopsychosocial model aligns with gold standard treatment components of BFRBs which will be discussed in the treatment section of the chapter (Phelps & Bethurem, 2022).

Age and Gender-Related Differences

When examining BFRBs gender differences have been noted in terms of severity (Houghton et al., 2018). Women for example have been noted to demonstrate more distress related to BFRBs such as hair pulling and nail biting. Some studies cite gender differences such as higher rates of trichotillomania in women; however, more recent population-based studies have disputed these differences (Grant et al., 2020). What does differ however is the age of onset. Grant and colleagues noted that the mean onset for BFRBs was 19 years of age for males and 14.8 years of age for females. Other factors for these differences also can be linked to the pattern of females participating more often in these studies (Solley & Turner, 2018). When looking at skin picking, in particular, quality of life and impairment tended to be the same across genders (Grant & Chamberlain, 2022). As larger population-based studies are conducted this

area of literature has the opportunity to be expanded upon. When looking at anxiety disorders women tend to be diagnosed more frequently than men. Researchers in one study found that lifetime prevalence is also higher in women with about 33% of women and 22% of men being diagnosed with an anxiety disorder (McLean et al., 2011). There are many factors in mental health overall that can lead to these gender differences. For example, for women and girls internalizing symptoms is more common than in men and boys. Stigma also can play a role in treatment-seeking behavior and therefore also be representative of what populations are represented in the literature.

Many studies done regarding BFRBs and related disorders are specific to a certain type (i.e., only related to skin picking) and include college-age participants. Pediatric populations are not as frequently studied within this clinical area; thus, the goal of this present study was to fill this gap in the literature.

Health-Related Quality of Life

Health-related quality of life is a key factor to include in the present study as it relates to how individuals cope with their present mental and physical health concerns. This gives further insight into individual's functioning aside from clinical symptoms which is why it is included as a target in the present study. Measuring Health Related Quality of Life also aligns with the dual-factor model of mental health, which is a major theoretical conceptualization of this study. Health-related quality of life is particularly pertinent to this study because even in populations with subclinical BFRBs quality of life was reduced (Solley & Turner, 2018). One study identified up to 79% of participants having a comorbid condition in addition to a BFRB (Grant, Dougherty, & Chamberlain, 2020). Some of the most common conditions were anxiety or depressive disorders. Participants in this study rated their hair pulling as more distressing than

their other co-occurring mental health conditions. This is important, particularly looking at Health-related quality of life to have more information on how youth's health condition affects them. Similar patterns in reduction in quality of life were demonstrated in youth with Tics and Tourette's disorder as well (Storch et al., 2007). This proposed study seeks to add to the literature by examining the health-related quality of life in a youth with anxiety and you with anxiety and a comorbid BFRB. Additionally, many of the studies discussing quality of life did not specify health-related quality of life, but instead just focused on more general quality of life measures.

Comorbidity of Anxiety Disorders and BFRBs

Youth with anxiety disorders and BFRBs present with additional clinical risk factors. However, there are multiple protective factors to consider as well. Additionally, there are anxiety disorder-specific comorbidity factors to examine. For example, current estimates for OCD comorbidity with skin picking and hair pulling disorders range from 5-30% (Anwar & Jafferany, 2019).

Anxiety disorders can influence an individual's engagement in a BFRB. Grant and colleagues (2017) found that adults with trichotillomania and an anxiety disorder tend to have increased levels of pulling symptoms. However, this study only included individuals who are 18 and older. Further research looking at clinical characteristics of child and adolescent populations is warranted. The current study hopes to contribute to the ongoing academic conversation by analyzing clinical outcomes in youth populations.

GAD is a common, co-occurring, internalizing condition for individuals with BFRBS (Snorrason et al., 2021). A study conducted with adults with trichotillomania found that these individuals have higher levels of concern regarding physical appearance (Norberg et al., 2007).

Additionally, they found that participants with trichotillomania display higher levels of concern related to how other individuals evaluate them in social situations (Norberg et al., 2007). BFRBs, such as skin picking, are associated with lower frequency in social interactions. This has been attributed to shame and time spent engaging in picking and pulling behaviors (Flessner & Woods, 2006).

When examining how social anxiety affects youth, these youth typically have more difficulty with social functioning. This may worsen during times of transition such as school changes (Ginsburg et al., 2018). These feelings of shame and social concern may be more profound in youth with BFRBs. Much of the present literature related to social anxiety and BFRBs discusses factors such as concerns about social appearance as opposed to social anxiety disorder. Existing research also tends to focus on the adult population. The present study broadens the empirical literature by providing more information on youth with anxiety disorders and BFRBs.

When looking at panic disorder and BFRBs, one study found with adults ages 18 to 69 skin-picking disorder tended to have a high co-occurrence (25%) with panic disorder (Grant & Chamberlain, 2020). Upon examination of the present literature, no individual studies have been found discussing the links between panic disorder and BFRB symptoms in youth.

Youth with separation anxiety who demonstrate their distress with behavioral manifestations may engage in hair pulling and skin picking, or thumb sucking (Dhote et al., 2021). Some researchers believe that early separation anxiety may be related to BFRBs as a means of tolerating distress (Nejad et al., 2016). This finding was based on a case study of a singular 4-and-a-half-year-old; therefore, further research is needed in this area.

Prior studies have investigated clinical correlates of BFRBs; however, no specific studies could be found linking BFRBs and specific phobias (Lochner et al., 2019).

When looking at comorbid trauma and PTSD, individuals who have experienced trauma demonstrate disassociation as a symptom. For individuals with BFRBs, the behavior occurs in both focused and unfocused forms. Those who pull in an unfocused manner are thought to experience a "trance-like state" similar to disassociation. Researchers such as Nakell (2015) have highlighted the need for further research on these phenomena. In addition, one study found that individuals with skin picking or hair pulling who have disassociation may experience more difficulties in clinical treatment (Özten et al., 2015). These researchers hypothesize that disassociation could lead to difficulties in treating both the trauma and BFRB, as if an individual is dissociated, they cannot be fully present to focus on their symptoms. This study was done with adults who had experienced childhood trauma. Other researchers have continued to note that there are not yet enough studies or information to indicate a causal relationship between trauma and BFRBs (Houghton et al., 2016). Presently, researchers recommend looking at more specific traumas to gain additional information. BFRBs also are hypothesized to be a form of self-soothing for the emotional reactivity individuals with PTSD experience (Gerhsuny et al., 2006). Overall, a majority of these comorbidity-related studies have been limited to adult populations. The present adds to the literature by focusing on youth.

Risk Factors

BFRBs can increase in severity based on stressors, such as familial relationships, other comorbid conditions, medications, and biological factors. A common concern of mental health practitioners and researchers are issues with sleep duration and quality (Clement-Carbonell et al., 2021). Lack of sleep and poor sleep quality can negatively affect health-related quality of life

and mental health. Poor sleep also was found to be a risk factor in a study of youth with BFRBs (Clark et al., 2022). Clark and colleagues highlighted the difficulties sleep disturbance causes in executive functions, which in turn may exacerbate BFRBs. They examined data from 516 youth ages 7 to 17 years, including a subclinical BFRB group, a clinically present BFRB group, and a control group of youth. The youth with BFRBs demonstrated poorer sleep on self-report measures compared to the other two groups of participants. The researcher hypothesized that increased BFRB activity before bed leads to delayed sleep. In turn, difficulties with sleep may lead to reduced executive functioning, which tends to lead to more BFRB behaviors. These researchers implored youth with sleep problems to be included in BFRB research in general, and also recommended further research be conducted on specific phenomenology and risk factors that exist. Of importance, this study highlights the need for future researchers to include sleep as both an assessment and a potential treatment target.

Additional comorbidities with a BFRB, such as ADHD, have been shown to affect sleep as well. Individuals with comorbid BFRBs and ADHD may experience issues with executive dysfunction. Specifically, individuals with ADHD and a BFRB may be vulnerable to increased impulsivity, which can exacerbate the impairment the disorders cause (Chesivoir et al., 2022). This concern with impulsivity also is present in individuals who have eating disorders and BFRBs (Kiser et al., 2022). Kiser and colleagues sought to highlight the potential link between BFRBs, impulsivity, and comorbidity. Individuals with BFRBs who experienced distress from the behavior were more likely to endorse impulsive and compulsive eating disorder behaviors than those not distressed by the behavior. These additional comorbidities demonstrate the importance of treatment providers being aware of how an individual's co-occurring concerns relate.

In a study done with 140 participants ages 18-65 years, researchers found stress and comorbid mental health conditions to be risk factors for increased BFRB symptoms (Grant et al., 2015). The participants in their sample had either skin-picking or hair-pulling disorders and were assessed on measures related to stress, the severity of symptoms, and quality of life. Researchers found that those with high levels of stress and high levels of BFRB behaviors tended to have elevated anxiety or depression symptoms. This is important to note as it shows that increased stressors can exacerbate symptoms of both conditions. Similarly for youth with Tics and Tourette's disorder bullying and social concurs were shown to be more prevalent stressors compared to children without these disorders (Charania et al., 2022)

Increased severity of the BFRB for participants led to the increased time spent performing the behavior. Performance of the behavior takes away from the individual's time to complete valued or required activities which can further compound stress. Individuals with higher levels of perceived stress also had a decreased level of quality of life. In anxiety disorders, parental anxiety and harsh parenting styles can also be predictive of anxiety symptoms in youth (Donovan & Spence, 2000). Overall, co-occurring conditions and stress are large risk factors for decreased mental health.

Protective Factors

For youth with mental health concerns, some factors can provide support and allow them to thrive. In anxiety disorders, including obsessive compulsive and related disorders, prevention programs that target individuals who are at risk for psychiatric disorders are considered to be a protective factor (Fullana et al., 2020). In childhood anxiety disorders, protective factors include having familial and/or peer social support (Donovan & Spence, 2000). When vulnerable

individuals have others as outlets to spend quality time with this can be a buffer against mental health symptoms and prompt the use of coping strategies.

Being taught a coping skill for mental health concerns and being provided with early treatment are protective factors. When parents are highly involved in youth's lives this can be protective as well, and if they are monitoring their child's health and well-being they will be more likely to refer them to treatment if needed. Parental modeling of handling stressors and explicitly teaching children how to handle stressors can better support their emotional regulation. This is a protective factor for both anxiety and BFRBs and related disorders as emotional regulation difficulties lead to increased symptoms in both disorders. Little was present in the research related to protective factors for BFRBs specifically, or protective factors for BFRBs in a pediatric population. Presently more literature exists on protective factors and overall risk factors in anxiety disorders as compared to BFRBs and related disorders.

Shame and Guilt

Individuals with mental health concerns are susceptible to feeling intense feelings of shame and guilt related to their conditions. Youth with anxiety disorders have been demonstrated to display high levels of guilt as it relates to internalizing symptoms (Muris et al., 2015). Researchers found that youth in their 12 to 18-year-old group compared to the 4 to 11-year-old groups had higher levels of guilt and shame. The age group related finding is developmentally appropriate given youth's understanding of self, concerning others during that age range. When looking at BFRBs and shame and guilt literature, there is a well-established connection in the adult literature (Houazene, et al., 2021). Individuals with BFRBs may have increased shame related to the behavior and thus experience increased symptoms as a result and feel guilty about this worsening of symptoms or inability to stop. Therefore, this process is

cyclical. These difficulties with shame and self-esteem were similarly found in youth with Tourette's disorder (Cox et al., 2019. The present study will add to the literature by examining aspects of shame and guilt. Shame and guilt will be examined by including an analysis of questions related to one's feelings about treatment from patient satisfaction measures for youth with both conditions.

Emotionality and Trait Anxiety

Emotionality relates to emotional responsiveness and regulation. Emotionality is a factor that youth with anxiety disorders and youth with BFRBs experience challenges. When presented with negative events, youth with poor emotional regulation and anxiety tend to respond with negative emotions (Herres et al., 2018). Youth with enhanced emotional regulation skills tend to respond with less negative effects to difficult events. This demonstrates that emotional regulation can be an important factor in the treatment of youth anxiety. In adults with BFRBs, emotional reactive pulling is associated with greater severity of impairment from the condition (Grant, Asland, & Chamberlain, 2021). Youth with BFRBs were shown to have increased BFRBs in response to stressful events when asked questions related to state and trait anxiety (Sailly et al., 2020). Minimal studies could be located in this area of research. The present offers further insight into emotionality and trait anxiety for a youth population with both anxiety disorders and youth with anxiety disorders and BFRBs.

Treatments for Anxiety Disorders and BFRBs

Cognitive Behavioral Therapy (CBT)

CBT is a type of treatment implemented for multiple mental health conditions such as anxiety disorders, ADHD, eating disorders, depressive disorders, and BFRBs. CBT involves the connections to how thoughts, feelings, and behaviors are related (Beck & Beck, 2011). CBT uses

a combination of strategies to target these expressions of mental health concerns. For example, psychoeducation, cognitive restructuring through the use of cognitive distortions and Socratic questions, role-playing, and self-monitoring are common aspects of treatment. CBT is an effective treatment for youth and is considered the gold standard treatment for anxiety disorders (Compton et al., 2010).

Exposure for Anxiety Disorders

In addition to components such as psychoeducation, and cognitive restructuring, behavioral exposures are a vital part of CBT for anxiety. Exposure therapy involves making a hierarchy of aversive stimuli to gain practice with behavioral exposure tasks (Reid et al., 2018). This can be done for youth with anxiety disorders and relate to a variety of situations. For example, this can include social situations for youth with social anxiety, traumatic events when related to PTSD, physiological symptoms of panic disorder, or feared stimuli in phobias. Exposures can be conducted in vivo, or as imaginal exercises.

For patients diagnosed with PTSD this process of exposure is somewhat different to that of treatment for disorders such as social anxiety and phobias. For PTSD, prolonged exposure is a type of evidence-based CBT treatment that is typically utilized (VA, 2019). This treatment focuses on exposures to situations or environmental variables which approximate elements of what the patient finds impairing such as feelings, triggering sounds, smells, and memories. The current study utilizes data from a clinic that primarily provides CBT therapy including exposure components.

Specific Treatments for BFRBs and Related Disorders

There are a multitude of specific treatments used to treat BFRBs. Habit Reversal Training (HRT) and other behavioral models are presently the most commonly selected forms of

treatments for BFRBs. HRT is a type of cognitive-behavioral therapy incorporating awareness, competing for a response, and social support. It relies upon data collection and massed practice of skills (Roberts, O'Connor, & Belanger, 2013). HRT is a potentially more effective treatment for children and adolescents with trichotillomania because these age groups tend to engage in more automatic pulling. When an individual cannot recognize their behavior, it may be more difficult to prevent it.

A treatment that includes elements of HRT is the Comprehensive Behavioral Treatment for Trichotillomania (COMb; Carlson et al., 2021). This form of treatment focuses on five specific areas including sensory cues, cognitions, affective states of regulation, motor movements, and place. For example, sensory cues focus on certain sensations or textures that make the BFRB more likely to occur. An example of cognitions is "If I pick one more spot I will be done". For affective states, this means having the individual become more aware of how their feelings relate to the behavior, even if that is understanding boredom as a cue. Motor movements refers to individuals who have their arms or another portion of their body a certain way may be more likely for them to engage in the BFRB. For place, understanding how locations such as a bedroom or isolated location may increase the likelihood of the behavior happening is critical. This model targets more than just motor movements but aims to provide patients with tools to target multiple aspects of their condition. These multiple areas are presented in treatment as the SCAMP (Sensory, Cognitive, Affective, Motor, Place) model to represent each of the targeted areas of treatment (Phelps & Beuthrem, 2022). This model also is used to assess for BFRBs and how they are present. The affective states part of the model can be particularly important when co-occurring conditions are present. When HRT is used alone it may not alleviate the symptoms of an anxiety disorder. SCAMP adds to the overall treatment by promoting the use of skills to

regulate the various sensory components, thus integrating into treatment other co-occurring mental health concerns. Clinical trials of the ComB model have demonstrated participants' and therapists' acceptability of the treatment (Carlson et al., 2021). For treatment outcomes the results were mixed. Researchers compared a group of individuals with trichotillomania who received the ComB model for 12 weeks compared to a group who received weekly check-ins. Researchers noted that those in the ComB groups did not have significant remission of the behavior or clinically significant reduction. However, the ComB group did see improvements in self-reports of the behavior. The ComB model also requires specific training, so further research is dependent upon having skilled practitioners to provide the training and engage patients in the treatment.

When determining behavioral treatment targets such as ComB and HRT, the subtypes of pulling are important to consider when designing intervention strategies. The subtypes proposed by Grant and colleagues (2021) are similar to the sensory and “unfocused” or “focused” theories of BFRBs that exist. In a study of BFRB treatments with youth, McGuire (2020) and colleagues explored how various presentations of BFRBs respond to treatment. While they could not definitively conclude whether one presentation of the behavior responds more positively to treatment, their research suggests that if clinicians can assess the presence of the behavior, they can better target the pulling or picking. For youth with "automatic" pulling, the behavior happens with little awareness. A youth may appear in a trance-like state and pull or pick for a prolonged period. For youth with more “focused” presentations, they may select specific parts of skin or hair to pull. This type of behavior involves more manual manipulation, such as touching or biting the desired hair or skin. Additionally, McGuire and colleagues (2020) noted that youth in the study with more “focused” presentations of a BFRB experienced more improvements compared

to those with more “automatic” presentations of a BFRB. Thus, clinicians should encourage patients to carefully collect data to maximize treatment success.

Sensory needs related to BFRBs constitute a main part of treatment. This involves the assessment of sensory needs related to BFRBs. Some individuals with BFRBs are partial to certain colors, textures, or sounds that the desired target creates (Phelps & Bethurem, 2022). This can appear as different colored or textured hairs, or raised bumps, discolorations, or imperfections in the skin. For some, an episode of the behavior can be triggered by a desire to gain access to a specific type of hair or part of the skin.

Trends in treatment are shifting toward integrating more third-wave approaches such as Acceptance and Commitment Therapy (ACT) into BFRB treatment. In a study examining the effect of ACT-enhanced group behavior therapy on adults with skin picking, hair pulling, or both disorders. Participants demonstrated improvements from pre- to post-group treatment (Asplund et al., 2021). The group utilized HRT and ACT components. The group was found to be acceptable by the participants and had high levels of group attendance. Participants with skin-picking and hair-pulling disorders were shown to be more willing to experience and avoid urges to engage in the behavior. For the hair-pulling group, long-term improvements were not seen significantly as in skin picking group. Researchers hypothesize this based on the time it takes for hair-related damage to recover versus skin recovering more quickly. Other studies that focus on the involvement of ACT have been done as well. Twohig and colleagues (2021) conducted an online behavior therapy for adolescents with trichotillomania. Adolescents aged 12 to 16 participated in the study. The most commonly comorbid diagnoses present in study participants were anxiety and depression. The youth in the study received the treatment via Zoom. Compared to a waitlist for treatment youth who received treatment had lower self-related trichotillomania

severity at the end of treatment. The researchers also noted high treatment acceptability and feasibility. A striking component of the results is the emphasis on the few studies done with trichotillomania specifically in an adolescent population. Additionally, they implore the need for more providers to be trained to competently provide BFRB treatment as echoed in the adult ACT study (Asplund et al., 2021). Researchers noted a concern particular to comorbidity with ADHD (Twohig et al., 2021). They explored the difficulties with impulsivity and the ability to describe urges that can have implications for treatment. This is a particular concern regarding treatment targets, particularly with adolescents as ADHD is a common childhood diagnosis. The present study will add to the literature for BFRBs in adolescence as it will include youth ages 6 to 18 years, thus capturing the adolescent age range. The behavioral health clinic incorporates elements of ACT into its treatment thus it was included in the review of the literature.

Tics and Tourette's Disorder Treatments

The main evidence-based treatment for Tics and Tourette's Disorder is the Comprehensive Behavioral Intervention for Tics (CBIT) (Piacentini et al., 2010). This treatment improves patient's awareness and understanding of tics through psychoeducation and behavioral treatments. CBIT has demonstrated reductions in tics in individuals compared to supportive therapies. Similar to BFRBs, treatments for Tics and Tourette's disorder include components of Habit Reversal Training (HRT). In addition to HRT there also is a functional analysis portion to CBIT (McGuire et al., 2014). For Tics and Tourette's Disorder, HRT focuses on increasing a person's awareness of their tics and designing behavioral responses that make it difficult for the tic to occur. Tics and Tourette's disorder are commonly comorbid with OCD, OCD spectrum disorders, ADHD, and disruptive behavior disorders (Mcguire et al., 2014). These disorders are also often treated with behavioral interventions.

Treatment Components and Targets for Anxiety Disorders and BFRBs and Related Disorders

Youth treatment is affected by a variety of contextual factors. The type of treatment they are treated with, the setting, their family, and other personal child-specific factors can change their treatment trajectory. The following section will explore these areas in the literature.

Family Involvement

Family members can have effects on youth with mental health conditions and their recovery trajectory. Family accommodation of youth anxiety disorder symptoms has been demonstrated to correlate with increased levels of family stress and heightened symptoms in youth (Taboas et al., 2015). Family accommodation, for example, is if a parent helps a child engage in an OCD ritual, which can in the short term decrease the child's distress. However, it keeps the symptoms of mental health conditions active. Factors that are beneficial in treatment include parents being involved in exposure. When parents are trained in how to lead children through anxiety-related exposure they can be partners in the child's care and reinforce the reduction of symptoms and treatment adherence.

For children with BFRBs, researchers examined the relationship between anxiety-inducing or anxiogenic parenting practices that affected youth (Murphy et al., 2019). The study defined anxiogenic as practices that induce anxiety or cause conflict in the relationship. Youth who had parents who engaged in more anxiogenic parenting practices and had higher levels of anxiety demonstrated a higher likelihood to engage in BFRBs such as skin picking and nail biting. Researchers however did not demonstrate this finding in hair pulling disorder. Other researchers have demonstrated similar results when looking at family cohesion. When comparing youth with OCD and youth with trichotillomania, the trichotillomania group was found to have

statistically significantly lower family cohesion (Peris et al., 2019). Overall, this demonstrates how positive parenting styles and relationships with children can have the ability to lead to more favorable treatment outcomes.

When looking at parental coping in youth anxiety disorders and OCD, researchers have found that parents tend to use more avoidance coping strategies in response to their children in comparison to youth without clinical concerns (Derislay et al., 2005). When evaluating parental coping of adolescents with trichotillomania researchers found that many parents had concerns as to whether their parenting led to the adolescent developing the disorder (Stevens & O'Conner-von, 2016). Another common theme was grief that their child was suffering from a mental health condition. Parents noted that finding ways to help their child cover physical damage, coordinating with school staff, and learning more about the condition were positive ways to cope. This information provides a strong rationale for including parents in youth care. Although the present study does not directly target family functioning or cohesion, the data are being sourced from a behavioral health clinic that routinely involves parents in youth care. These factors also are important to understand the variety of implications for youth's treatment.

Treatment Modalities

In the present study youth received group and individual treatment in an intensive outpatient format or partial hospitalization setting. Youth in the study received a combination of individual and group treatments. Youth with anxiety disorders have been shown to benefit from CBT treatment in group and individual formats (Flannery-Schroeder, & Kendall, 2000). Group treatments provide youth with socialization alongside peers with similar concerns and receive support and feedback from these peers. Thus, group treatment can provide youth with a safe space to learn effective coping strategies. Partial hospitalization programs that utilize evidence-

based CBT treatments can improve youth outcomes (Pelcoviz et al., 2022). However, a majority of the youth anxiety and mental health literature tends to include youth receiving standard outpatient care, school-based care, or virtual care. Specific studies including the level of care for BFRBs could not be identified at present. The current study added to the literature by including youth who have received intensive levels of treatment.

Treatment Satisfaction

When examining treatment satisfaction much of the literature focused on parent or family satisfaction with treatment rather than assessing the satisfaction of the youth involved in the treatment. A meta-analysis by Olsson and colleagues (2021) revealed that when examining treatment satisfaction from CBT among youth with anxiety disorders and depression, youth often found the treatment to be acceptable. This is important information as if youth are demonstrating treatment satisfaction this can relate to their buy-in and motivation for treatment. When looking at youth with BFRBs and CBT treatment satisfaction, studies to date have asked for parents' rating of treatment (Tolin et al., 2007) with scant attention given to the child or adolescent satisfaction with treatment. The present study contributes to the literature on youth treatment satisfaction by utilizing data from a patient self-report measure.

Summary

The current study analyzed archival data to address several key gaps in the literature related to pediatric anxiety disorders and BFRBs and related disorders. A majority of the published studies on comorbidity and BFRBs have focused on young adult and adult populations. This focused on youth who received individual and group treatments in an intensive setting (intensive outpatient and partial hospitalization). This study also targeted gaps in health-related quality of life in mental health conditions. Although quality of life is well established in

the literature, it is not typically assessed in youth with pediatric mental health conditions. This study added to the literature by examining and conceptualizing treatment outcomes from the dual-factor model of mental health.

CHAPTER THREE: METHODS

The present study compared a group of youth with anxiety disorders (anxiety) and the comorbid group (anxiety+BFRB and related disorders) on multiple clinical outcomes through analysis of pre-existing data. Quantitative methods were employed to examine differences between these two groups on the following variables: Health Related Quality of Life, Depressive Symptoms, Obsessive and Compulsive Related Symptoms, and components related to treatment satisfaction such as Treatment Autonomy and Treatment Connectedness. This chapter provides a detailed discussion of the study's research design, participants and setting, measures used to collect the pre-existing data, analyses, procedures, and ethical considerations.

Research Design

This study utilized a non-experimental design. Archival data were obtained from a Behavioral Health Clinic with locations throughout the United States. To obtain these data, the Behavioral Health Clinic required an Institutional Review Board application and data request form. The University deemed this study as exempt from Institutional Review Board approval because there were no changes to standard clinical practice occurring and archival data was being obtained. A data use agreement was required to ensure that the data were handled in an appropriate and secure manner. Quantitative data including descriptive and inferential statistics were used to analyze the data set. Due to the use of archival data, it was not possible to have a control group in this study. However, the Behavioral Health Clinic had many fidelity checks in place to ensure that groups were experiencing similar treatment conditions.

There was a single independent variable and multiple dependent variables included in the study. The independent variable represented the status of BFRB (present or absent), shown by categorizing youth between the ages of 6 and 18 years from the Behavioral Health Clinic into two groups: Group 1 consisted of youth with an anxiety disorder diagnosis only (anxiety) and Group 2 consisted of youth with an anxiety disorder and BFRB diagnosis, Tics and Tourette's disorder and OCD unspecified. (anxiety+BFRB). Youth were identified based on having these diagnoses within their file. The dependent variables consisted of constructs from standardized measures as well as a clinic-specific treatment satisfaction measure used at the clinic. For research question 1, the dependent variable of autonomy in treatment was measured by several items from the Clinic's Patient Satisfaction Scale (CPS). For research question 2, connectedness in treatment also was measured using items from the Clinic's Patient Satisfaction Scale (CPS). For research question 3, the severity of symptoms was measured by the Child Yale-Brown Obsessive-Compulsive Scale (CYBOCS). For research question 4, symmetry symptoms were measured by the symmetry obsession checklist of the Child-Yale-Brown Obsessive-Compulsive Scale. For research question 5, health-related quality of life was measured by the Health-Related Quality of Life Scale. For research questions 6 and 7, trait anxiety and emotionality were measured by items on the Intolerance of Uncertainty Scale-Child version. Finally, for research question 8, depressive symptoms were measured by the total score of the Patient-Reported Outcomes Measurement Information System-Depression (PROMIS-D) and the Quick Inventory of Depression (QIDS). For OCD Severity, Depression, Health Related Quality of Life, Trait Anxiety, and Emotionality, data were obtained from the admittance and discharge data points.

Participants

The present study utilized pre-existing data from a Behavioral Health Clinic that included an intensive outpatient and partial hospitalization program. The Behavioral Health Clinic has multiple locations throughout the United States and the data request included all these sites that offered the treatment program of interest. This included 19 clinics, located throughout the country in suburban and urban locations. A request was made for all available data and the clinic provided data for patients from 2016 to 2023. The PI requested all available data, from all available time points possible. This was requested to capture as many participants as possible with these diagnoses. Patients were included in the study if they were discharged when the data was requested. Data were requested through a data request form that included the option to specify the treatment programs from which data were obtained. For the purpose of this study, the Child and Adolescent Anxiety and OCD Treatment program were specified. To be a patient in the Anxiety and OCD treatment program, youth were required an anxiety disorder or Obsessive Compulsive Disorder diagnosis. For the purpose of this study, Group 1 consisted of data from youth participating in this program who had an anxiety disorder diagnosis. For Group 2, data were included from youth who had an anxiety disorder diagnosis of any kind, and a comorbid body-focused repetitive behavior. Comorbid BFRBs were defined as diagnostic codes for unspecified obsessive and compulsive disorders that were unspecified, tics, Tourette's disorder, as well as trichotillomania, and excoriation disorder. Unspecified Obsessive and Compulsive disorders were included in the BFRB group based on DSM-V-TR categorization. For example, hair eating, or excessive lip biting are listed under Unspecified Obsessive and Compulsive disorders in the DSM-V-TR (APA, 2022). The average length of treatment at the Behavioral

Health Clinic ranges from 3-12 weeks. Specifically, a request was made to obtain data from all youth between the ages of 6 and 18 years in the OCD and Anxiety treatment program.

Before being cleaned the data set received included information on a total of 7, 390 patients. The data was then cleaned and included youth ages 5,980 youth ages 5 to 17 (*M*=13.89, *SD* =2.41). This treatment sample had an average length of stay of 26.5 days with a range of 10-113 days. While the present study excluded participants based on length of stay in treatment in the main analyses, follow-up analyses were done to see if the length of stay had an effect on treatment outcomes. The sample included patients who attended the Intensive Outpatient Program (IOP) and the Partial Hospital Program (PHP). Patients' placements for treatment and the amount of time were dependent upon their response to intervention and initial data collection.

For PHP the range for lengths of treatment was between 4-12 weeks and for IOP the range for length of treatment was 3-6 weeks. Length of stay as a factor in child and adolescent intensive treatments are currently limited in scope within the literature. Prior studies conducting cognitive-behavioral therapy with youth have found mixed results, with length of stay being a predictive variable of treatment outcomes, in youth with OCD. Therefore, the study examined this as a factor in the follow up analyses to further investigate if length of stay was related to meaningful differences between the groups (Björgvinsson et al., 2008).

It was originally anticipated that the BFRB group would be smaller than the anxiety-only group given the higher incidence of anxiety disorders compared to BFRBs. This hypothesis was demonstrated as the BFRB group had 2,049 patients and Anxiety group had 3,931 patients.

Data were requested through the Data Analytics Team at the Behavioral Health Clinic, and the types of data requested were based on the independent and dependent variables. Outcome data included demographic variables such as patient information related to age,

diagnoses, race/ethnicity, length of stay, and gender. Clinical measures data were retrieved from the Yale-Brown Obsessive Compulsive Scale-Child (severity and obsessions subscales), The Clinic's Patient Satisfaction Scale (CPS), the Health-Related Quality of Life measure (HRQOL), Patient-Reported Outcomes Measurement Information System-Depression (PROMIS-D), Quick Inventory of Depressive Symptomology (QIDS), and The Intolerance of Uncertainty-Child scale. In the original data request the QIDS was not included. However, in order to capture all ages within the Anxiety and OCD program the clinic provided data for the QIDS. The request was originally made for the PROMIS-D; however, the PROMIS-D was only given to the child population in the clinic, whereas the QIDS was administered to adolescents. Data were included from intake and discharge to evaluate changes as a result of treatment. Data were requested at the item level for all measures and reliability analyses were conducted. The process for managing missing data included scanning for patients who did not have discharge or admittance data. The data were filtered for patients with less than ten days of treatment (*N*=1,1410 patients, 19.07% of the original sample). The original data set included 7,390 patients, which was then reduced to 5,980 patients after 1,410 patients were initially removed from the data due to the above exclusionary criteria (i.e., treatment of less than 10 days, only patients with pre-or post-data for relevant measures). When looking at the main study sample for gender, 61.5% of the sample was female. A majority of the sample was Non-Hispanic (80.2%). With regard to program treatment in the clinic, 58.8% of the participants were in the partial hospitalization program and 41.2% were in the intensive out treatment program. In the dataset received, 34.26% of patients were classified as having BFRBs. The percentage of females in the BFRB sample was 59.3%. Each research question had its own individual sample as well. This was recorded at the question level. There was variability among questions due to the clinic utilizing some measures for a

portion of the years data was collected. The clinic updated its measures throughout the time the data was collected, thus each question had sample sizes that varied. Additional demographic data and diagnoses prevalence for the sample are presented in Tables 1 and 2 below. Diagnoses are provided for the whole sample rather than by order of diagnoses because the clinic does not record diagnoses for research in order.

Table 1

Demographic Characteristics of Participants (N = 5980)

	n	%
Gender		
Female	3675	61.5
Male	2283	38.2
Race		
White	4556	76.2
Unknown	608	10.2
Refused/ Didn't Know	223	3.7
Asian	180	3.0
Other	108	1.8
Black/African American	99	1.7
American Indian/Alaskan Native	26	0.4
Group		
Anxiety	3931	65.7
Comorbid group	2049	34.3

Table 2

Diagnoses Frequencies for the Full Treatment Sample

Dx Code[a]	Frequency	Percent[b]
Generalized Anxiety Disorder	3384	56.59
OCD, Unspecified	2326	38.9
Mixed Obsessional Acts	2259	37.78
Social Anxiety Disorder	2132	35.65
Major Depressive Dis order, Single Episode	1097	18.34
ADHD, Combined Type	980	16.39
Unspecified Anxiety Disorder	675	11.29
Panic Disorder	671	11.22
Major Depressive Disorder, Recurrent, Moderate	624	10.43
ADHD, Inattentive Type	513	8.58
Autism Spectrum Disorder	495	8.28
Major Depressive Disorder, Recurrent, Severe	467	7.81
Major Depressive Disorder, Moderate, Single Episode	435	7.27
ADHD, Unspecified Type	374	6.25
Separation Anxiety Disorder	281	4.7
Eating Disorder Unspecified	251	4.2
Post-Traumatic Stress Disorder, Unspecified	246	4.11
Major depressive disorder, single episode, severe	226	3.78
Obsessive Compulsive Disorder	200	3.34
Trichotillomania	187	3.13
Other Specified Phobia	182	3.04
Tourette's Disorder	179	2.99
Disruptive Mood Dysregulation Disorder	175	2.93
Excoriation Disorder	159	2.66
Major depressive disorder, recurrent, in partial remission	149	2.49
Unspecified Mood Disorder	139	2.32
Pervasive Developmental Disorder, unspecified	130	2.17
Chronic Motor or Vocal Tic Disorder	125	2.09
Other Specified Eating Disorder	122	2.04

[a] Diagnostic codes for the comorbid group included unspecified obsessive and compulsive disorders, tics, Tourette's disorder, as well as trichotillomania, and excoriation disorder
[b] Percentage corresponds to total sample *N*=5980

Setting

The current study utilized data from a Behavioral Health Clinic that operates treatment programs for youth and adults across the country for a variety of mental health concerns. The Behavioral Health Clinic is a not-for-profit clinic and treats mental health and addiction concerns. All locations of the Behavioral Health Clinic collect data in evidence-based sequences. The Behavioral Health Clinic collects intake, discharge, and progress monitoring data, and the specific types of data collected depended upon the treatment program. Types of data collected include patient satisfaction measures as well as clinical rating scales to regularly evaluate treatment progress. These data are only available to individuals who have made a formal request to the data effectiveness department of the clinic. Additionally, the data are utilized by the mental health professionals who work in the clinic to evaluate patient progress and overall program effectiveness.

The sample was obtained from 19 treatment locations. This included suburban and urban locations. Each clinic location provided multiple levels of care and evidence-based treatment. Some locations had 24-hour residential treatment programs. However, this study only included data from patients who participated in either of two levels of treatment: intensive outpatient and/or partial hospitalization programs. Both programs operated five days a week; however, the intensive outpatient program (IOP) was three to four hours a day of programming and the partial hospitalization was approximately 6 hours a day. Treatment was tailored to meet each patient's needs and all treatment is evidence-based and rooted in cognitive behavioral therapies (CBT) for group and individual treatments. Each patient worked with a behavioral health specialist who is the primary person responsible for their care. Patients received treatment as part of a multidisciplinary team including nurses, psychiatrists, and nutritionists to meet their unique

needs. Patients and their families were involved as much as possible throughout the process of treatment to promote optimal treatment outcomes. The Behavioral Health Clinic treats over 24,000 patients each year and treats patients throughout the United States and some portions of Canada.

The Behavioral Health Clinic provides a structure that encourages youth to develop autonomy in continuing to choose treatment strategies. While at the Behavioral Health Clinic, all youth were at different points of their treatment journey. Youth were encouraged to openly express their experiences and shared how recovery has impacted them. Youth were taught in structured ways how to work together and praise one another, creating a positive treatment climate. Thus, patient satisfaction was chosen as an outcome variable for this study. Overall, the Behavioral Health Clinic promoted data collection and sharing of this information with patients.

Measures

The present study utilized demographic information from the clinic to obtain descriptive statistics for the sample as well as portions of the Yale-Brown Obsessive Compulsive Scale (C-YBOCS), Intolerance of Uncertainty-Scale for Children (IUS-C), Health-Related Quality of Life Scale (HRQOL), Patient-Reported Outcomes Measurement Information System-Depression (PROMIS-D), Quick Inventory of Depression (QIDS) and Clinic's Patient Satisfaction Scale. Table 3 provides a quick overview of each measure and detailed descriptions are provided in the paragraphs below the table.

Table 3

Clinic Measures and Interpretation

Measure	Scoring	Data Collection
Clinic Patient Satisfaction Measure	• 0 = Extreme dissatisfaction; a complete lack of satisfaction • 0 ~ 1.0 = Very dissatisfied • 1.0 ~ 2.0 = Overall more dissatisfied than satisfied • 2.0 ~ 3.0 = Overall more satisfied than dissatisfied • 3.0 ~ < 4.0 = Very satisfied • 4.0 = Possible highest level of satisfaction on this survey	Progress Monitoring and Discharge
PROMIS-D	Higher Scores means higher levels of depression • Less than 50 = None to slight • 50.0-54.9 = Mild • 55.0-64.9 = Moderate • 65 and over = Severe	Progress Monitoring and Discharge
QIDS	Severity Range: • 0-5 = None • 6-10 = Mild • 11-15 = Moderate • 16-20 = Severe • 21-27 = Very Severe	Progress Monitoring and Discharge
HRQOL	Scores are looked at individually, whereas the healthy days question is standalone. A greater number of days is more days where a patient felt healthy	Progress Monitoring and Discharge
IUS-C	Total Score from 27-135 Higher Score Reflect more difficulty with Uncertainty Scored (1) Not at all to (5) Very Much	Progress Monitoring and Discharge
C-YBOCS	Average Admission Range: 25 Average Discharge 12 Severity Range: • 0-7 = Subclinical • 8-15 = Mild • 16-23 = Moderate • 24-31 = Severe • 32-40 = Extreme	• Checklist done at admittance • Severity Ratings done at admittance and discharge

Clinic Patient Satisfaction Survey (CPS)

The Clinic Patient Satisfaction Measure (CPS) is a measure that patients complete as part of their discharge paperwork. The purpose of the measure is to better identify patient needs and experiences while in the Behavioral Health Clinic. There are 21 questions in total on the survey and questions range from information related to treatment providers, satisfaction with specific types of treatment, and quality of treatment. Specific items regarding telehealth treatment are included in the survey as well. The Clinic Patient Satisfaction Measure uses a five-point response system ranging from check boxes that allow for "Very dissatisfied, Dissatisfied, Neither Satisfied nor dissatisfied, Satisfied, or Very Satisfied" to be selected. The total score for several questions was added together and Cronbach's alpha was calculated for the aggregate groups of questions. For treatment autonomy, the questions: *"Your ability to be included in decisions of your care" and "Are you satisfied with the way your care provider discussed with you whether your treatment goals and needs were met?"*, were utilized in the analyses. For treatment connectedness, the questions *"Through the group treatment, I feel I am not alone." and "Through the group treatment, I feel I am connected meaningfully with others*." were utilized. The two item scores were added together. Higher scores indicate higher satisfaction on the measure. There are no formal studies completed on this measure as it is unique to this clinic. Each patient in the clinic receives this as a part of the Behavioral Health Clinic's commitment to patient satisfaction.

Patient-Reported Outcomes Measurement Information System-Depression (PROMIS-D)

The PROMIS – Depression (PROMIS-D) is a measure that stands for Patient Reported Outcomes Measurement Information Systems for Depression (NIH, 2004). The PROMIS-D,

developed by the National Institute of Health, is a child self-report measure that is freely available and translated in multiple languages. The measure is a targeted tool of items assessing symptoms of depression as part of a larger system of self-report instruments. The questionnaire can be used with children and adults and includes 28 questions with an 8-item short version form. The questions are answered on a Likert scale from 1 (*never*) to 5 (*always*) for how a patient has been feeling over the last seven days. Questions target symptoms of depression such as hopelessness and helplessness. A total score for the measure was used to compare differences in the two groups. Higher scores are indicative of more severe levels of symptoms. Both versions of the form have been shown to have strong validity and reliability, (α =0.988) for the 28-item version and (α = .974) for the short 8-item version (Nolte et al., 2019).

The Quick Inventory of Depressive Symptoms (QID)

The Quick Inventory of Depressive Symptoms (QIDS) is a self-report measure that evaluates symptoms of depression (Rush et al., 2003). The QIDS is a measure that was developed based on the Inventory of Depressive Symptomology. It is meant to be a shorter measure and also exists as a self-report and a clinician version. It has 16 items, and the scale assesses the severity of depression on a 0-27 total score. Individual questions are rated from 0-3. If a patient has a high score their severity is higher. The questions ask patients to rate their depressive symptoms regarding physical symptoms such as appetite and sleep, as well as psychological, and behavioral symptoms such as restlessness and sadness. When studied in adolescent populations the versions of the form have sufficient levels of validity and reliability.

Health-Related Quality of Life Questionnaire (HRQOL)

The Health-Related Quality of Life Enjoyment and Satisfaction Questionnaire (HRQOL) is a self-report measure from the Center for Disease Control (CDC, 2021). It is a 14-item self-

report measure that examines youth's feelings related to their health. The scale can be given to children and adults. The questionnaire is freely available through the CDC in both English and Spanish. Some questions require a yes or no response and others are rated on a Likert scale from 1 (*excellent*) to 5 (*poor*). The HRQOL measure is scored by subscale. There is a subscale for number of days that were good health days, difficult mental or physical health days, and limitation days. Total scores for the multiple scales will be used for the analyses in this study. The measures have strong retest reliability ($\alpha = .750$; Andersen et al., 2003). The CDC provides a readily available version of the form and associated research studies on the use of the measure.

Intolerance of Uncertainty Scale (IUS-C)

The Intolerance of Uncertainty Scale (IUS-C) is a 27-item self-report measure that measures a child's (ages 7-17) responses to uncertainty across several situations. All questions are replied to on a Likert scale of 1 (Not at all) to 5 (Very much). The child is asked to circle based on the situations provided how much they agree that it is how they feel. The total number of items is summed, with a high score indicating higher levels of uncertainty. Several questions responses were aggregated together and then a Cronbach's alpha was calculated. For trait anxiety the following question responses will be added together: *"Not knowing what will happen in the future makes life hard", "When it is time to do things, not knowing what could happen keeps me from acting", "When I am not sure of something I can't work very well", "When I am not sure of something I can't go forward"*. For emotionally the following questions were aggregated: *"Things that are unclear stress me", "I don't like being taken by surprise", "Not knowing what will happen makes me unhappy or sad", and "It frustrates me to not have all of the information I need", and "Not knowing what will happen makes me unhappy or sad".* These questions were selected based on their themes relating to trait anxiety. This measure has strong internal

consistency and convergent validity with other common childhood anxiety measures (α =0 .91-0.94; Comer et al., 2009). However, since individual items are being used and added together the present study calculated reliabilities.

Children's Yale-Brown Obsessive Compulsive Scales – Clinician Rated (CY-BOCS-CR)

The Children's Yale-Brown Obsessive Compulsive Scales – Clinician Rated (CY-BOCS-CR) is a measure where a semi-structured interview is conducted by a clinician or interviewer about the youth's obsessions and compulsions. The measure includes three parts, the obsessions symptom inventory, the compulsions symptom inventory, and the symptom severity checklist. It is a valid and reliable measure that is commonly used in mental health settings and research for assessing OCD (Scahill et al., 1997). Specific obsessions and compulsions are defined and explained. Patients and family members are interviewed together and asked to rate the severity and identify the presence of the symptoms. For the Obsession Checklist there is a current or past checkbox to examine themes in the obsessions. For the severity scale there is a Likert Scale from 0 (none) to 4 (extreme) that asks five questions related to severity and five related to obsessions. The scores on these subscales are added together to create a total severity score. The higher the number the more impairing the OCD symptoms are for the youth. When more obsessions are checked with a "yes", this means the youth has obsessions from multiple categories. These obsessions are then turned into hierarchical targets for treatment. For the purposes of this study a total score from the severity section was examined as well as the total score in the ordering (symmetry) related obsessions checklist. This was done in order to examine "just right' symptoms that are seen in BFRBs.

Procedures

Prior to initiation of the study, the proposed project was reviewed and approved by the Institutional Review Board (IRB) of the Behavioral Health Clinic. Simultaneously, the University IRB was contacted to determine if the study required full review or if it was exempt due to the use of pre-existing data. The University IRB determined that IRB approval was not required for a study that utilized archival data. Upon completion of these steps and subsequent approval, the PI completed a data use agreement (DUA) that was reviewed and approved by both the clinic and university. The DUA provided information and guidelines about how the data was obtained from the clinic and maintained on a secure university computer. To adhere to the Health Insurance Portability and Accountability Act (HIPAA) procedures, the data were de-identified and securely accessed. No individual patient data was able to be separated to trace back to a specific patient. The data had unique number identifiers to separate each patient. The PI or any other individuals who had access to the data had to agree to abide by the regulations which included keeping the patient's data de-identified. No member of the committee or the PI was entitled to trace the data back to an individual patient. All committee members signed a form adhering to this agreement. Following approval of the DUA, the university had advised the PI to only access the data on a university encrypted laptop. The PI requested an encrypted laptop from the University Research Library. The PI agreed to the lending terms of the Research Library. The PI was allowed to maintain the laptop for an initial period of one month, and then renew it on a monthly basis. The laptop was retained by the PI until the completion of all data analyses and provisions of feedback from the committee in the event additional analyses were needed. The University's Information Technology department remote accessed the device and installed the remote software. The laptop was password protected, as well as the data set. The Behavioral

Health Clinic provided the data set and password in two separate encrypted emails. The PI accessed the data and completed analyses using the encrypted device. The PI then evaluated the data set for errors, duplicates and omissions. After cleaning the data, the PI met with the Behavioral Health Clinic's data department to jointly develop a code book. The PI then conducted all analyses.

Ethical Considerations

Data from the Behavioral Health Clinic was sent and requested according to the ethical guidelines of the clinic. The clinic required a DUA agreement, which was signed by the entire committee to protect against misuse of the data. Data were accessed from password-protected files and devices. The clinic deidentified all data before sending it to the PI. Data were only accessed in secure and private locations to maintain confidentiality. The only identifiers within the data set included an ID number created by the data team employed by the Behavioral Health Clinic. This allowed the PI to clean the data for duplicates. The data were permissible to use from patients in the Behavioral Health Clinic as the standard intake procedures included informed consent that notifies patients in advance that their data may be used for research. The current study did not provide information regarding the gender identity of participants in the study because this information was missing for 28% of the sample. After consultation with the data team, it was determined that due to the limited number of participants in each category, it could make the patients potentially more identifiable.

Analyses

The following section describes the research questions and preliminary analyses. Additionally, in order to determine if the number of treatment days had an effect on patients' scores, an ANOVA was conducted for each research question. The ANOVA's compared scores

for individuals who had ten days of treatment or less to those of participants with more than ten days. This group was 54.5% female and 81.5% were not Hispanic or Latino. This was done to ensure that length of stay did not significantly alter the results obtained for the treatment groups. These analyses were completed as a part of follow-up analyses to the main study questions.

1. Does perceived autonomy in treatment (i.e., the ability to be involved in treatment planning/inclusion in decisions of care) vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (Body-focused repetitive behaviors) (anxiety + BFRBs)?

Autonomy in treatment was measured via the Clinic's Patient Satisfaction measure questions *"Your ability to be included in decisions of your care" and "Are you satisfied with the way your care provider discussed with you whether your treatment goals and needs were met?"* Reliability was determined for the group of questions and then a mixed model ANOVA was conducted. This was done using discharge data for the two groups and included were the anxiety-only group and the comorbid group. Cronbach's alpha was calculated for the questions in the measure to determine reliability.

2. Do feelings of connectedness vary among youth in treatment according to the presence of BFRBs (anxiety + BFRBs)?

The Clinic's Patient Satisfaction Survey was used to measure connectedness in treatment. The questions utilized included *"Through the group treatment, I feel I am not alone." and "Through the group treatment, I feel I am connected meaningfully with others."* Reliability was determined for the group of questions and then a mixed model ANOVA was conducted for this variable. This was done using discharge data for the two groups and included the two groups included were the anxiety-only group and the comorbid group.

3. Does CYBOCS (Children's Yale Brown Obsessive Compulsive Scale) severity vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

The CYBOCS severity subscale was meaningfully compared for the two groups. This included all subscales within the severity total score. This was done by using a mixed-model ANOVA. The two-time points included treatment admittance to discharge, and the two groups included were the anxiety-only group and the comorbid group. Cronbach's alpha was calculated for the questions in the measure to determine reliability of the CYBOCS severity ratings.

4. Does the obsession checklist for symmetry on the CYBOCS vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

The CYBOCS Obsession checklist for symmetry specifically was meaningfully compared for the two groups. The two groups were categorized as 'yes' if participants endorsed symmetry as an obsession and 'no' if the symmetry question was not endorsed. This was done conducting a chi square to evaluate the yes/no responses of the anxiety and comorbid groups.

5. Does health-related quality of life vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

The HRQOL response to question 14 *("During the past 30 days, for about how many days have you felt VERY HEALTHY AND FULL OF ENERGY?")*, was compared for the two groups to measure health-related quality of life. Due to the type of HRQOL questions being based on the number of days a patient experienced symptoms and checklists, reliability was not calculated for this question. This was done by using a mixed-model ANOVA. The two-time points included treatment admittance to discharge, and the two groups included were the anxiety-only group and the comorbid group.

6. Does trait anxiety vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

Selected items from the Intolerance of Uncertainty-Child scale were used to measure trait anxiety in the sample. The questions utilized included *"Doubts stop me from having strong opinions," "Not knowing what will happen in the future makes life hard", "When it is time to do things, not knowing what could happen keeps me from acting", "When I am not sure of something I can't work very well", "When I am not sure of something I can't go forward"*. An aggregate score was calculated for the question responses. Reliability was determined for the group of questions and then a mixed model ANOVA was conducted for this variable. The two time points included treatment admittance to discharge, and the two groups included were the anxiety-only group and the comorbid group.

7. Does emotionality vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

Selected items from the Intolerance of Uncertainty-Child scale were used to measure emotionality and anxiety in the sample. The questions utilized included: *"Things that are unclear stress me", "I don't like being taken by surprise", "Not knowing what will happen makes me unhappy or sad", and "It frustrates me to not have all of the information I need", and "Not knowing what could happen keeps me from enjoying life".* An aggregate score was completed for the question responses. Reliability was determined for the group of questions and then a mixed model ANOVA was conducted for this variable. The two time points included treatment admittance to discharge, and the two groups included were the anxiety-only group and the comorbid group.

8. Does the presence of depressive symptoms vary among anxious treatment-seeking youth according to the presence/absence of BFRBs?

The total score from the PROMIS-D measure was meaningfully compared for the two groups. This was done by using a mixed-model ANOVA. The two time points included treatment admittance and discharge data and the two groups included were the anxiety-only group and the comorbid group. Cronbach's alpha was calculated for the questions in the measure to determine reliability in the PROMIS-D measure.

After all initial analyses were completed, follow-up analyses were conducted to further explore any interactions. For example, on any questions where there was an interaction, the clinical cutoff scores for that scale were evaluated. This was done to determine if the interaction showed not only statistical significance, but clinical significance as well. Additionally, the scores were placed on a graph to compare the groups for meaningful differences in order to determine if there was a reduction in the targets indicated in the above questions.

CHAPTER FOUR: RESULTS

Introduction

The purpose of this study was to examine aspects of treatment outcomes, such as perceptions of treatment, anxiety, depressive symptoms, and other associated symptoms as well as health-related quality of life for youth who have BFRBs and co-morbidity with an anxiety disorder in comparison to youth diagnosed with anxiety disorders only. This chapter begins with a discussion of how missing data in the dataset received were managed and then presents results from multiple analyses as they relate to the following research questions (RQs):

RQ 1. Does perceived autonomy in treatment (i.e., the ability to be involved in treatment planning/inclusion in decisions of care) vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (Body-focused repetitive behaviors) (anxiety + BFRBs)?

RQ 2. Do feelings of connectedness vary among youth in treatment according to the presence of BFRBs (anxiety + BFRBs)?

RQ 3. Does CYBOCS (Children's Yale Brown Obsessive Compulsive Scale) severity vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

RQ 4. Does the obsession checklist for symmetry on the CYBOCS vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

RQ 5. Does health-related quality of life vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

RQ 6. Does trait anxiety vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

RQ 7. Does emotionality vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

RQ 8. Does the presence of depressive symptoms vary among anxious treatment-seeking youth according to the presence/absence of BFRBs?

Missing Data

There were originally 7,390 participants in the dataset received from the Behavioral Health Clinic. Of this total, 1410 participants had less than 10 days of treatment and were not included in the main sample, reducing the main sample size to 5,980 participants. For all follow-up analyses, the group of patients with less than 10 days of treatment was included as a comparison group. Each analysis had a variable number of participants due to certain measures being given at various years within the clinic. For example, if a participant was included from 2020 and the CPS was not administered at that time there were no available data to report for that participant. Additionally, the statistical analyses utilized automatically removed individuals missing baseline or post-treatment scores on the given measures. Participants remained in the data set if they were only missing information from some of the measures (e.g., if a participant had baseline and post-treatment scores for the IUS-C and the PROMIS-D but not the CYBOCS). However, if baseline and/or post-treatment data were excluded, then the participant was removed. The above removal consideration was utilized for all questions except for the Clinic's Patient Questionnaire (CPS) and CYBOCS symmetry item. These measures were only administered at progress monitoring points throughout patients' treatment and at discharge. For

the purposes of this study, the CPS discharge satisfaction data were analyzed at discharge and the CYBOCS symmetry item was analyzed at the start of treatment.

Data Analyses

Initially, two independent samples t-tests, a chi-square, and five ANOVAs were conducted. Follow-up analyses also were conducted within each section and are presented below. An additional ANOVA was conducted for RQ 8 upon receipt of the data. This was due to a difference in measures provided by the clinic based on patient age. For all t-tests completed, equal variances were not assumed, as separate variance t-tests were conducted. For all mixed-model ANOVAs conducted, follow-up tests were done to compare differences between the study sample and the sample group with less than ten days of treatment (M=5.36, SD= 2.60) and a range of 0-9 days. The main study sample had an average length of stay of 26.5 days of treatment (SD=12.09) and a range of 10-113 days. The length of stay is adjusted to include total treatment days without holidays or weekends. Questions related to emotionality and trait anxiety do not utilize a clinical significance comparison as those questions utilized an aggregate score from several questions versus the total score.

Research Question One

Does perceived autonomy in treatment (i.e., the ability to be involved in treatment planning/inclusion in decisions of care) vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (Body-focused repetitive behaviors) (anxiety + BFRBs)?

In order to test the difference in perceived autonomy for youth with anxiety and youth in the comorbid group, an independent samples t-test looked at selected question (*"Your ability to be included in decisions of your care" and "Are you satisfied with the way your care provider discussed with you whether your treatment goals and needs were met?"*) from the Clinic's

Patient Satisfaction Scale (CPS). This sample had data from 2,188 patients with 63.8% female and 35.7% male. The aggregate score for two questions from the CPS as well as the total CPS measure had high internal reliability as measured with a Cronbach's Alpha of 0.80 and 0.95, respectively.

Results from an independent samples t-test indicated patients with anxiety disorders (M = 6.31, SD = 1.53, N = 1457) and patients with anxiety disorders and BFRBs (M = 6.31, SD =1.57, N = 731) did not have a statistically significant difference in perceived autonomy in treatment at post-intervention, $t(2186) = 0.10$, p =0.925;d=-0.004. The 95% confidence interval around the difference between the group means was -0.13 to 0.14.

Follow-Up Analyses. Sensitivity analyses were conducted to ensure the excluded sample did not impact results. There was no significant difference between the study sample (M = 6.31, SD =1.54, N = 2188) and the group of patients who received less than 10 days of treatment (M = 6.43, SD =1.54, N = 430; $t(2616) = -1.51$, p =0.131; d= -0.90). Results from these analyses are included in Table 3.

Table 3

Results of Question 1 and Descriptive Statistics for Outcomes

	Group						95% CI for Mean Difference		
	Anxiety			Cormorbid					
	M	SD	n	M	SD	n		t	df
CPS Autonomy	6.31	1.53	1457	6.31	1.57	731	-0.13, 0.14	0.1	2186
CPS <10 days	6.3	1.54	2188	6.43	1.54	430	-0.28, 0.04	-1.51	2616

Research Question Two

Do feelings of connectedness vary among youth in treatment according to the presence of BFRBs (anxiety + BFRBs)?

In order to compare feelings of connectedness in treatment for youth with anxiety and youth in the comorbid group independent samples t-test was conducted looking at the differences in selected questions from the Clinic's Patient Satisfaction Scale (CPS). The aggregate score for two questions (*"Through the group treatment, I feel I am not alone." and "Through the group treatment, I feel I am connected meaningfully with others*.") from the CPS as well as the total CPS measure had high internal reliability as measured with a Cronbach's Alpha of 0.98 for the aggregate questions and 0.95 for the whole measure. This sample had 2,404 patients with 63.8% female and 35.7% male. When testing the difference in CPS scores between the group with anxiety disorders (M = 8.54, SD = 2.24, N = 1614) and patients with anxiety disorders and BFRBS (M = 8.69, SD =2.23, N = 790) a statistically significant difference in feeling of connectedness was not found, t (2402) = -1.5, p =0.137; d=-0.07. The 95% confidence interval difference between the group means was -0.15 to 0.02.

Follow-Up Analyses. Sensitivity analyses were conducted in order to ensure the excluded sample did not impact results. There were no significant differences between the study sample M = 8.59 SD =2.24, N = 2404) and the group of patients who received less than 10 days of treatment (M = 8.57, SD =2.20, N = 474; t(2876) = -.19, p =0.849; d= 0.1. Results from these analyses are included in Table 4.

Table 4

Results of Question 2 and Descriptive Statistics for Outcomes

	Group						95% CI for Mean Difference		
	Anxiety			Comorbid Group					
	M	SD	n	M	SD	n		t	df
CPS Connected	8.54	2.24	1614	8.69	2.23	790	-0.33, 0.05	-1.50	2402
CPS <10 days	8.59	2.24	2404	8.57	2.20	474	-0.20, 0.24	0.91	2616

Research Question Three

Does CYBOCS (Children's Yale Brown Obsessive Compulsive Scale) severity vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

In order to compare scores on the severity of OCD symptoms for youth with anxiety and youth in the comorbid group, a mixed model ANOVA was conducted looking at the differences in Child Yale-Brown Obsessive Compulsive Scale (CYBOCS) scores from admissions to discharge for the two groups. This sample had 4, 612 patients with 61.7% female and 38.0% male. In order to calculate reliability Cronbach's Alpha was used. The CYBOCS severity measure had high internal reliability as measured with Cronbach's Alpha of 0.94. When testing the difference in CYBOCS scores between the group with anxiety disorders compared to the group with anxiety disorders and BFRBs at admission to discharge the main effect for time was significant F (1, 1) = 1148.50, p > .001. The group with anxiety disorders and BFRBs (M =

20.84, N =1445) started with higher scores at admission compared to the group with anxiety disorders only (M = 16.40, N = 3138).

Additionally, the interaction was significant, F (1, 1) = 140.06, p < .001, meaning that the anxiety only group started treatment with lower scores on CYBOCS than the comorbid group (See Figure 1). The clinical significance line indicates the average discharge of 12 on the CYBOCS severity measure. This means that participants' scores decreased from the moderate range to the mild range of the measure. Additionally, participants in this sample scored similarly to clinic patients on average at discharge.

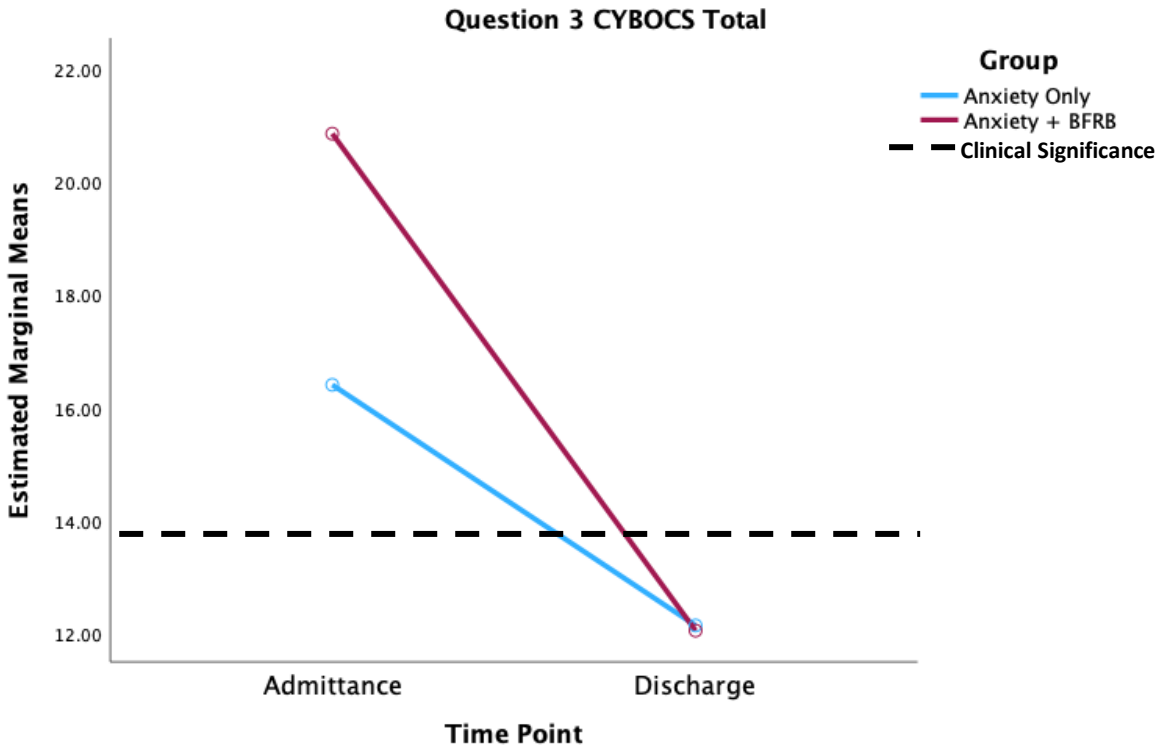

Figure 1. *Question 3 CYBOCS Total*

Follow-Up Analyses. When a follow-up test was done to see if the number of treatment days made a difference, an additional mixed model ANOVA was completed comparing the study

sample to the group with less than 10 days of treatment. A main effect was found for group (less than ten days of treatment versus ten or more days of treatment) (F (1, 1) =396.23, p > .001). The group with less than ten days of treatment had lower scores on the CYBOCS at baseline. (see Figure 2).

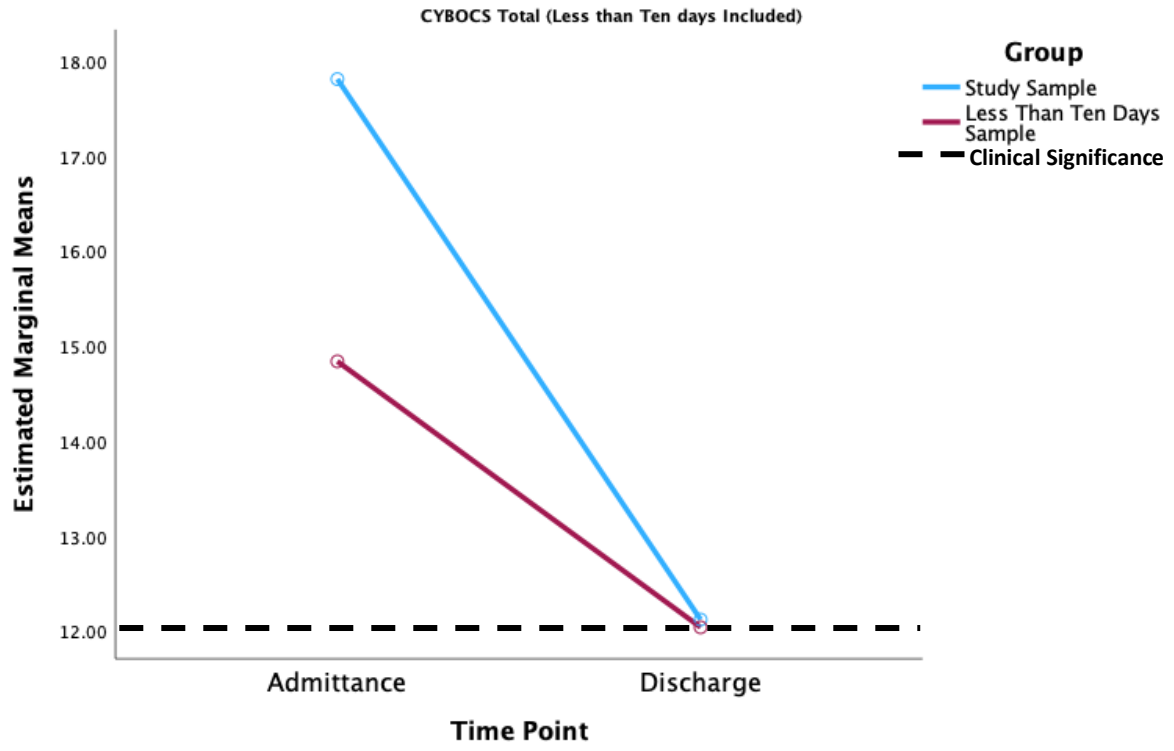

Figure 2. *CYBOCS Total (Less Than Ten Days Included)*

Research Question Four

Does the obsession checklist for symmetry on the CYBOCS vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

In order to examine the relationship of symmetry obsessions for youth with anxiety and youth in the comorbid group, Chi-squares were completed for the Child Yale-Brown Obsessive Compulsive Scale (CYBOCS) yes/no responses at admittance for the two groups. This sample had 2,609 patients with 62.8% female and 36.7% male. When examining the presence of

symmetry obsession scores between the group with anxiety disorders and patients with anxiety disorders and BFRBs at baseline, a statistically significant relationship was found *(χ^2 = 11.61; df = 2; p = <0.01).* These results indicate that those in the comorbid group were statistically significantly more likely to endorse yes (42%) to the symmetry item on the CYBOCS at baseline compared to the anxiety-only group (35.4%). When examining the presence of symmetry obsession scores between the group with anxiety disorders and patients with anxiety disorders and BFRBS at discharge, a meaningful analysis could not be completed due to the small sample size. Only 20 participants completed this questionnaire at discharge. The comorbid group endorsed yes (9.1%) to the symmetry item on the CYBOCS at discharge compared to the anxiety-only group (22.2%).

Research Question Five

Does health-related quality of life vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

In order to compare scores on health-related quality of life for youth with anxiety and youth with anxiety and the comorbid group a Mixed-Model ANOVAs was conducted looking at the differences in responses to question 14 *("During the past 30 days, for about how many days have you felt VERY HEALTHY AND FULL OF ENERGY?")* from admission to discharge for the two groups. This sample had 1,995 patients with 64.1% female and 35.3% male. When examining the difference in Health-Related Quality of Life (HRQOL-Q14) between the group with anxiety disorders and the group with anxiety disorders and BFRBs the main effect for group was not present, $F(1, 1) = 43.90$, $p = 0.867$. There was however a main effect for time $F(1, 1) = 0.030$, $p < 0.001$ for the two groups. This meant that at the end of treatment, both the anxiety group ($M = 13.10$, $N = 1368$) and the anxiety and BFRB group ($M = 13.58$, $N = 630$) had

statistically significant increases in their number of healthy days based on question 14 (see Figure 3).

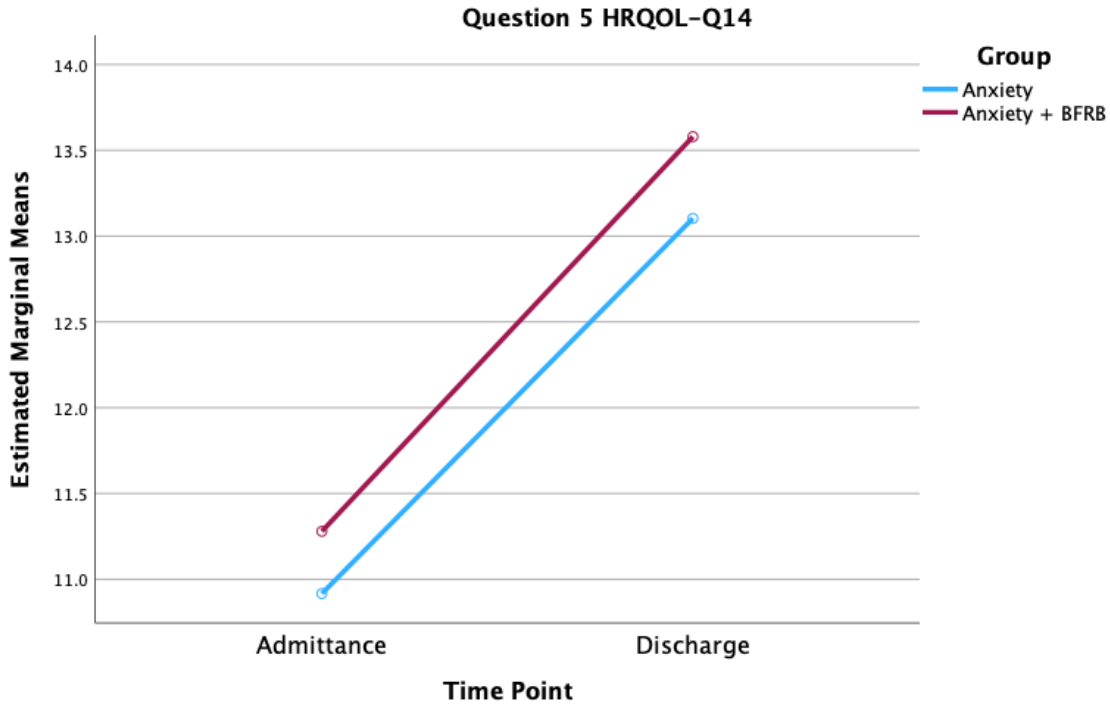

Figure 3. *Question 5 HRQOL Question 14*

Follow-Up Analyses. When a follow-up test was conducted to see if the number of treatment days made a difference in patient scores on the HRQOL, an additional mixed model ANOVA was completed comparing the study sample (M = 13(F(1, 1)=28.80.23, p > .00.25, SD =9.98, N = 1998) to the group with less than 10 days of treatment (M = 9.98, SD =10.12, N = 367) . A main effect was found for time (F (1, 1) =396.23, p<0.001). However, there was no interaction based on time point and number of treatment days completed (F (1, 1) =0.05, p=0.820). This meant that patients in both the study sample and patients who participated in less than 10 days of treatment increased in the number of "healthy days" they reported from baseline to discharge (see Figure 4).

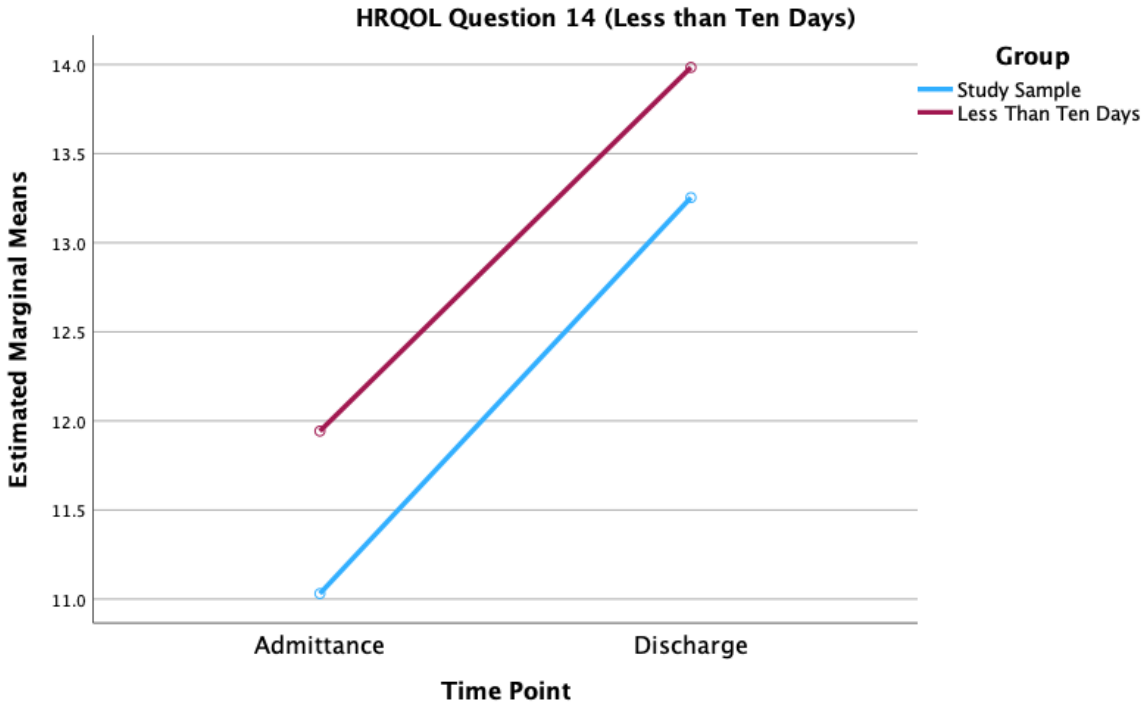

Figure 4. Question 5 HRQOL Question 14 (Less Than Ten Days)

Research Question Six

Does trait anxiety vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

In order to compare trait anxiety for youth with anxiety and youth in the comorbid group a mixed model ANOVA was conducted looking at the differences in selected questions from the Intolerance of Uncertainty Scale-Child (IUS-C) scores from admission to discharge for the two groups. This sample had 3,788 patients with 61.9% female and 37.8% male. When examining the differences in scores on the aggregate IUS-C questions at admission a main effect was found for time ($F(1, 1) = 279.34$, $p < 0.001$). The anxiety-only discharge ($M = 11.90$, $SD = 4.83$, $N = 2588$) and the anxiety+ BFRB groups ($M = 12.00$, $SD = 4.73$, $N = 1200$) both demonstrated

statistically significant decreases in trait anxiety.at discharge (see Figure 5). There was not a statistically significant finding for the interaction between the comorbid group and time (admission to discharge) (F (1, 1) =0.14, p=0.708).

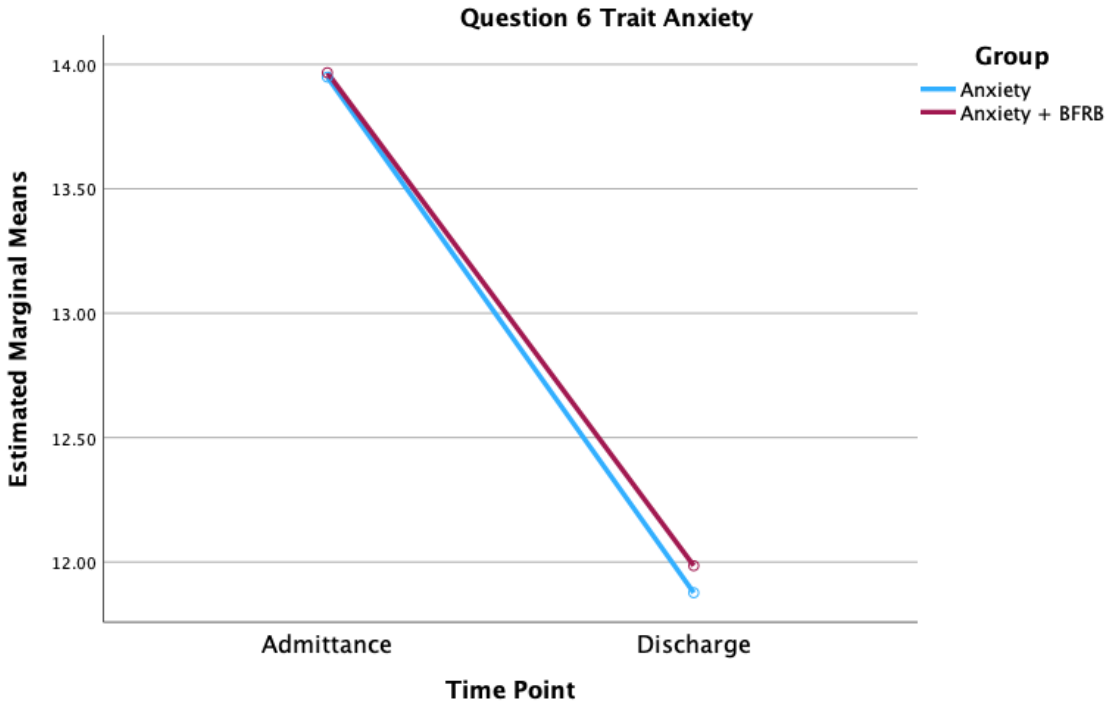

Figure 5. *Question 6 Trait Anxiety*

Follow-Up Analyses. The complete IUS-C measure had high internal reliability as measured with a Cronbach's alpha of 0.96. In order to calculate the reliability of the selected questions *("Not knowing what will happen in the future makes life hard", "When it is time to do things, not knowing what could happen keeps me from acting", "When I am not sure of something I can't work very well", "When I am not sure of something I can't go forward".)* another Cronbach's alpha test was completed utilizing an aggregate score of the selected questions. The internal reliability of the two aggregate items was high at 0.84. When a follow-up test was done to see if the number of treatment days made a difference in scores an additional mixed model ANOVA was completed comparing the study sample to the group with less than 10 days of treatment. A

main effect was found for the group (less than ten days of treatment versus 10 or more days of treatment) (F (1, 1) =94.873.23, p < .001) and an interaction for time (F (1, 1) =29.31, p<0.001). This meant that the group who received less than 10 days of treatment scored lower on trait anxiety at the beginning of treatment and their scores decreased significantly by the end of treatment. In comparison, the group who received treatment for more than 10 days started with a higher score and decreased by the end of treatment (see Figure 6).

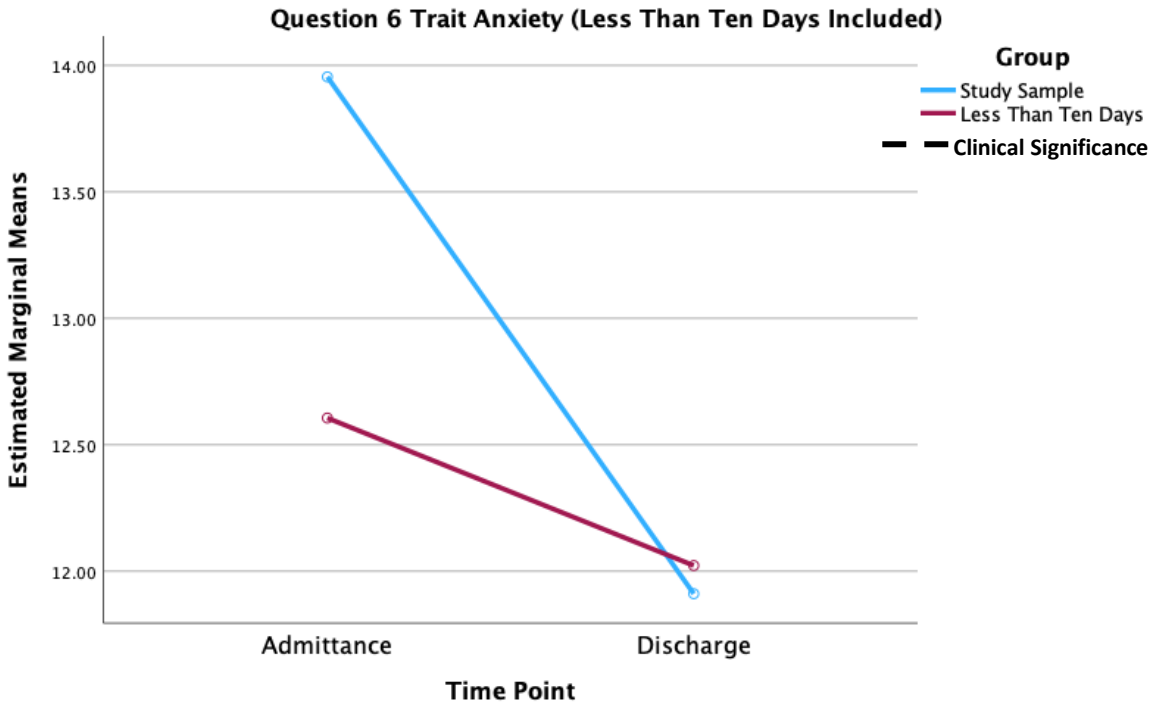

Figure 6. *Question 6 Trait Anxiety (Less Than Ten Days Included)*

Research Question Seven

Does emotionality vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

In order to compare levels of emotionality for youth with anxiety and youth in the comorbid group, a mixed model ANOVA was conducted to examine the differences in selected questions from the Intolerance of Uncertainty Scale-Child (IUS-C) scores from admission to

discharge for the two groups. This sample had 3,788 patients with 61.9% female and 37.8% male. In order to calculate reliability of the entire IUS-C measure, Cronbach's alpha was used. In order to calculate the reliability of the selected questions (*"Things that are unclear stress me", "I don't like being taken by surprise", "Not knowing what will happen makes me unhappy or sad", and "It frustrates me to not have all of the information I need", and "Not knowing what will happen makes me unhappy or sad".*) another Cronbach's alpha test was completed utilizing an aggregate score of the selected questions. The internal reliability of the five items was high at 0.85. When examining the difference in IUS-C scores for the group with anxiety disorders (M = 12.20, SD = 5.20, N = 2588) and patients with anxiety disorders and BFRBS (M = 14.50, SD =5.30, N = 1200) and discharge (M = 12.50, SD =5.01, N = 1200) a statistically significant main effect was found for time ($F(1, 1) = 283.15$, $p < 0.001$), but not for the interaction between time and comorbidity ($F(1, 1) = 1.01$, $p = 0.314$). Both groups saw decreases in scores from admittance to discharge (see Figure 7).

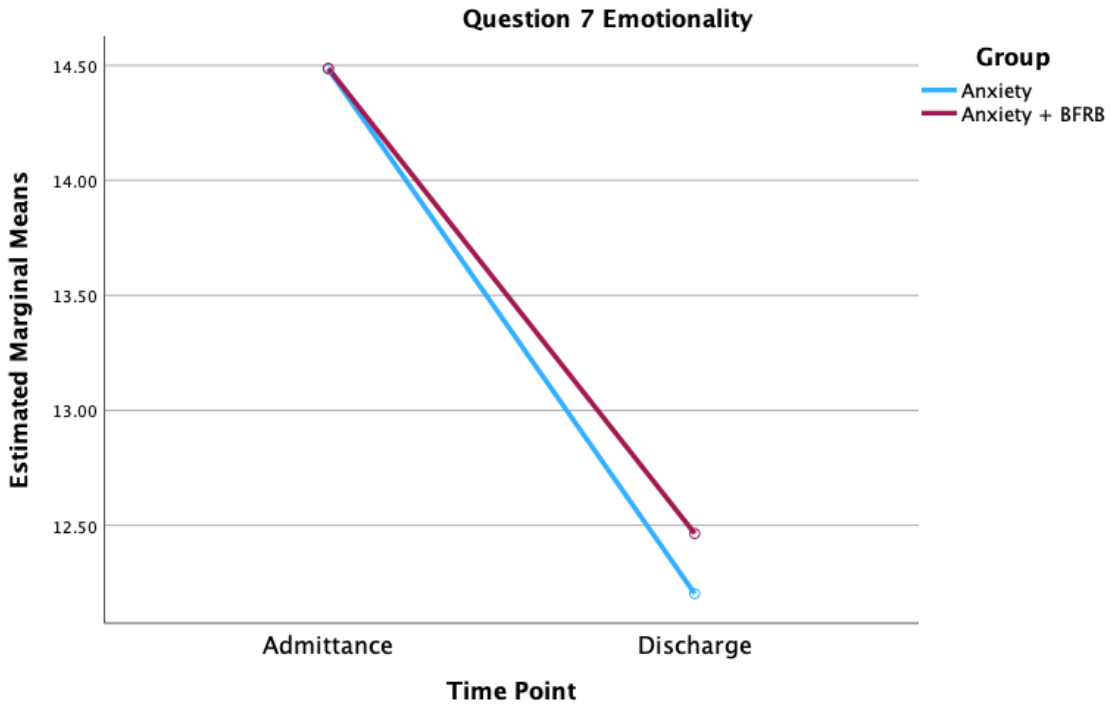

Figure 7. *Question 7 Emotionality*

Follow-Up Analyses. When a follow-up test was done to see if the number of treatment days made a difference in scores an additional mixed model ANOVA was completed comparing the study sample to the group with less than 10 days of treatment. A statistically significant main effect was found for time (F (1, 1) =205.79, p < .001). The interaction for number of days in treatment and time (F (1, 1) =29.31, (F(1, 1) =5.92, p=0.15),) was not statistically significant. This meant that the levels of emotionality decreased for both groups from the start to the end of treatment (see Figure 8).

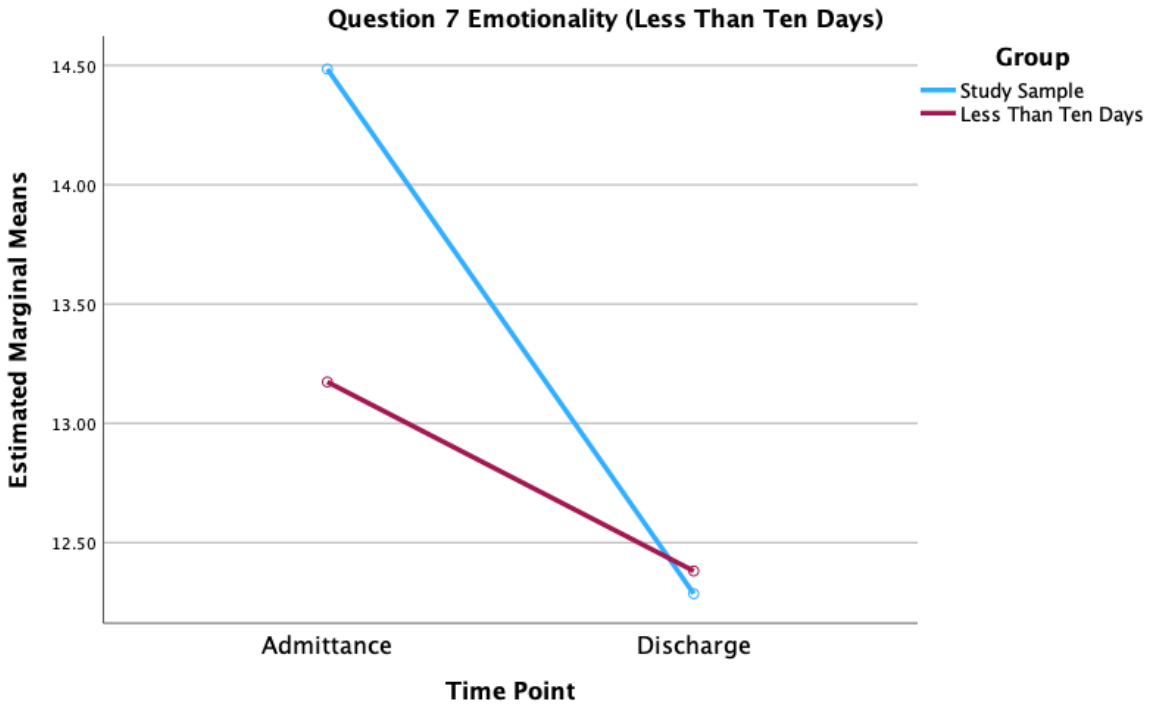

Figure 8. *Question 7 Emotionality (Less Than Ten Days)*

Research Question Eight

Does the presence of depressive symptoms vary among anxious treatment-seeking youth according to the presence/absence of BFRBs?

In order to compare scores of depressive symptoms for youth with anxiety and youth in the comorbid group, a mixed model ANOVA was conducted looking at the differences in Patient-Reported Outcomes Measurement Information System-Depression (PROMIS-D) scores from admission to discharge for the two groups for all participants over 13 years of age. An additional mixed model ANOVA was completed looking at differences in the Quick Inventory of Depressive Symptomatology (QIDS) scores for all participants under 13 years of age from admission to discharge. The PROMIS-D sample had 1,573 patients with 59.6% female and 40.4% male. The PROMIS-D measure had high internal reliability as measured with Cronbach's

alpha of 0.94. The QIDs measure also had high internal reliability as measured with Cronbach's alpha was 0.82. The QIDS sample had 1,513 patients in it with 67.0% female and 32.6% male. When examining the difference in PROMIS-D scores between the group with anxiety disorders (M = 52.09 SD = 10.73, N =1098) and patients in the comorbid group (M =53.50, SD = 10.84, N = 475) a statistically significant difference in the main effect was found ($F(1, 1)$ =205.80, $p <$ .001). There were no interactions present between time and comorbidity (F (1, 1) =673.96, p =0.015). This meant that depressive symptoms for patients in both groups decreased by the end of treatment (see Figure 9). However, there were no statically significant differences when looking at comorbidity. The clinical significance line is placed at the moderate range of scores.

Figure 9

Question 8 PROMIS-D

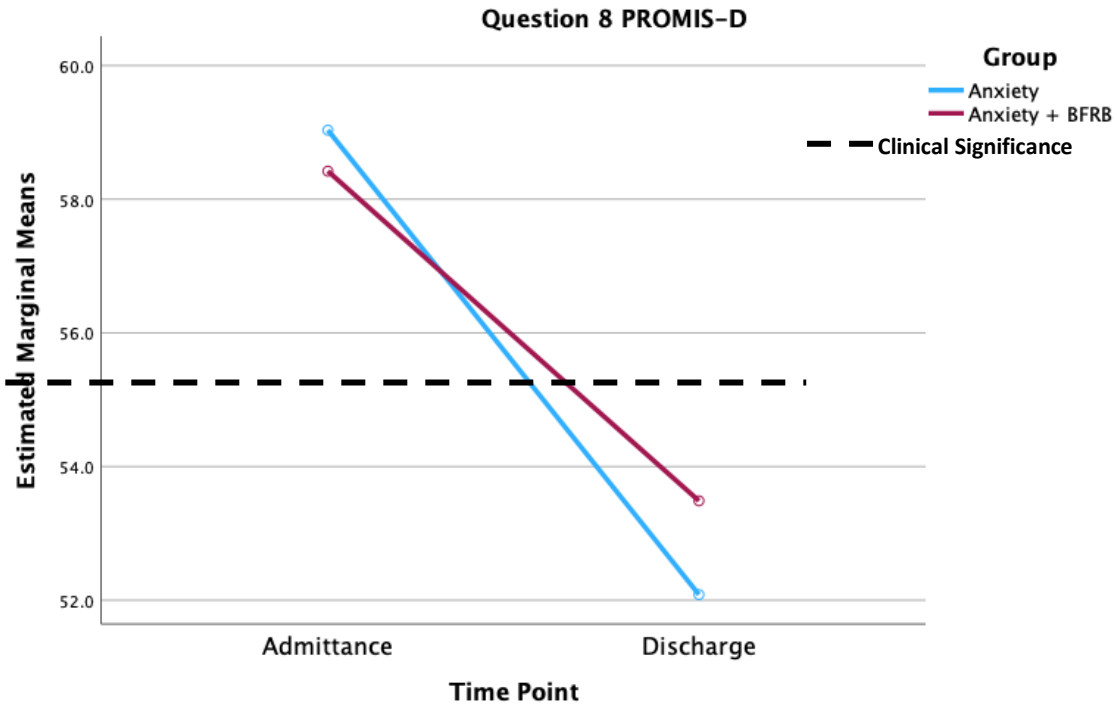

Figure 10. *Question 8 QIDS*

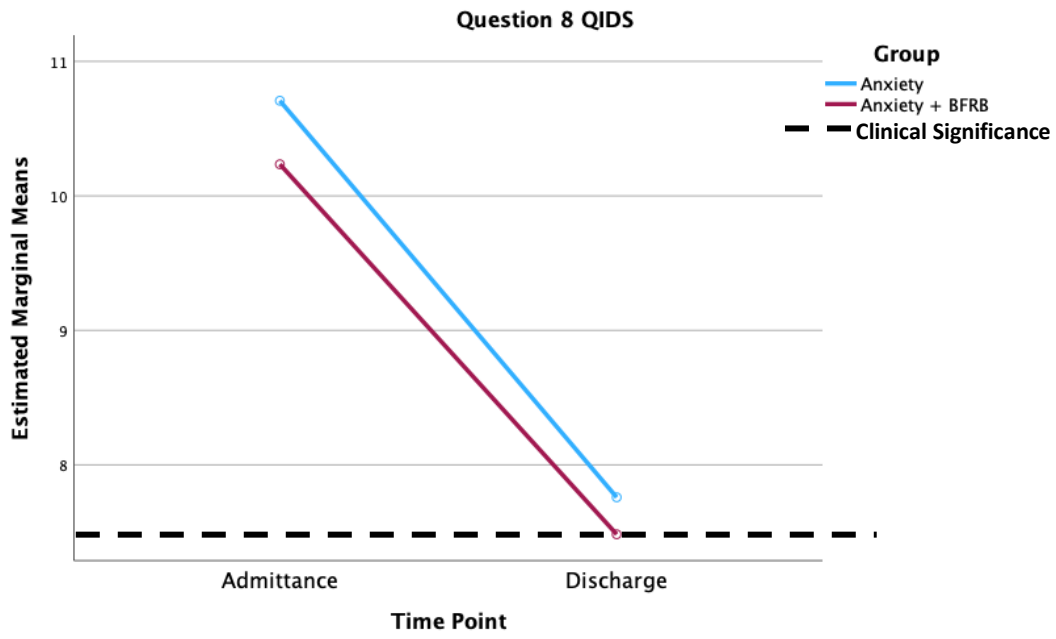

Figure 10. *Question 8 QIDS*

When examining QIDS scores between the group with anxiety disorders ($M = 7.76$ $SD = 5.41$, $N = 998$) and the comorbid group ($M = 7.48$ $SD = 4.98$, $N = 515$) a statistically significant main effect was found for time ($F(1, 1) = 182.55$, $p < 0.55$), but not for the interaction between comorbidity and time point ($F(1, 1) = 0.020$, $p = 0.640$). This meant that QIDS scores for both groups decreased from baseline to discharge (see Figure 10). The clinical significance line is placed at the start of the mild range to demonstrate the decrease in scores post treatment.

Follow-Up Analyses. An additional mixed model ANOVA was completed comparing the study sample to the group with less than 10 days of treatment was completed. When comparing PROMIS-D scores, a main effect was found for the group (less than 10 days of treatment versus 10 or more days of treatment) ($F(1, 1) = 128.34$, $p < .001$) and for the interaction between group and time point ($F(1, 1) = 12.18$, $p < .001$). This meant that the study group started out with significantly higher scores on the PROMIS-D, and both groups had statistically significant

decreases from admission to discharge scores (see Figure 11). The clinical significance line is placed at the moderate range of scores.

When a follow-up test was done to see if the number of treatment days made a difference in QIDS scores, an additional mixed model ANOVA was completed comparing the study sample to the group with less than 10 days of treatment. When comparing QIDS scores, a main effect was found for time (F (1, 1) =106.19, p < .001), but not for the interaction between group and the time point (F (1, 1) =0.99, p =0.320). This meant that both groups had significantly higher scores at baseline compared to discharge (see Figure 12). The clinical significance line is placed at the start of the mild range to demonstrate the decrease in scores post treatment.

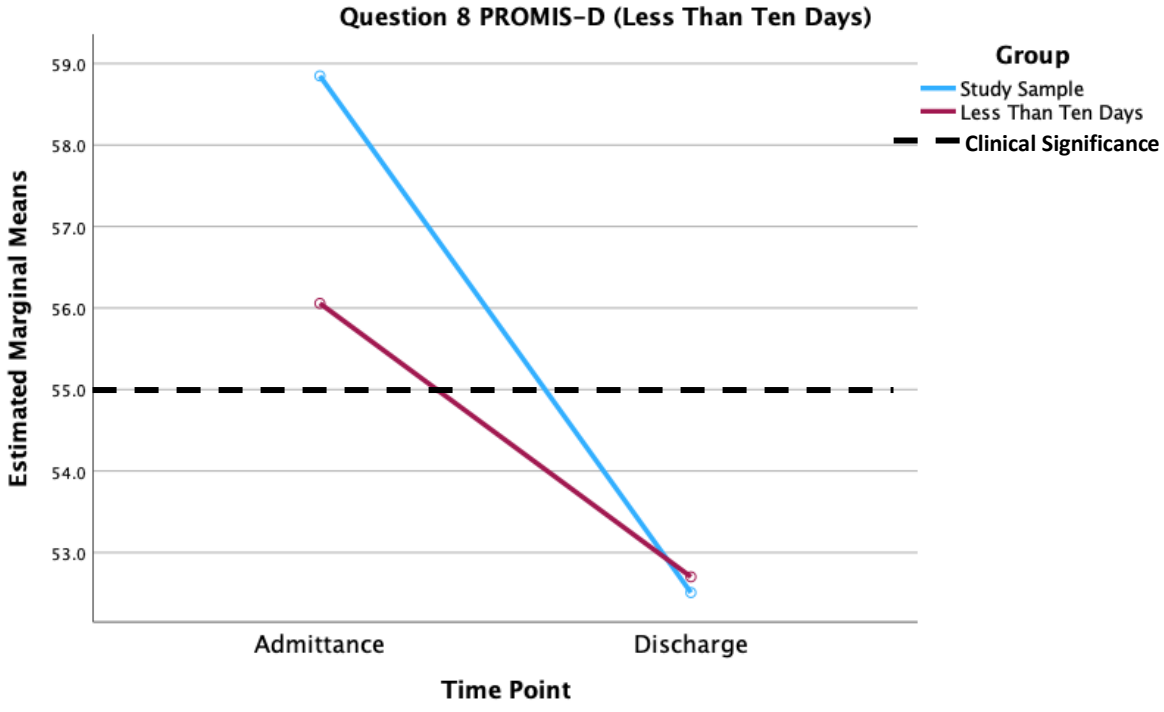

Figure 11. *Question 8 PROMISD-D (Less Than Ten Days)*

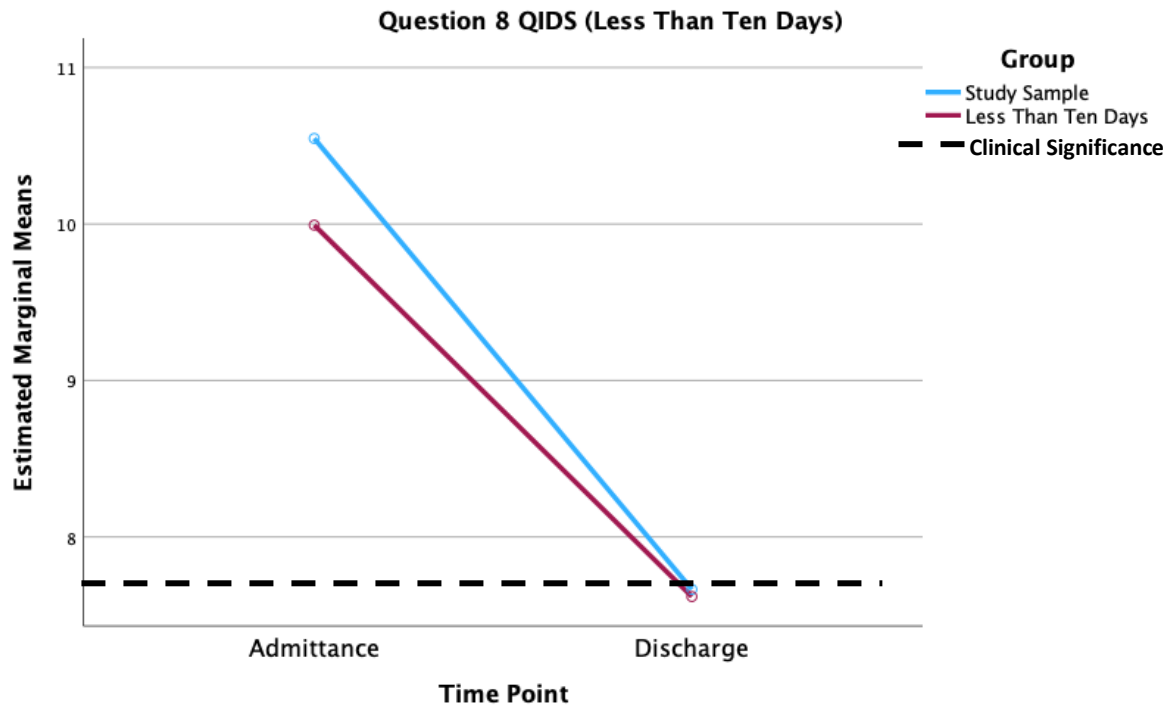

Figure 12. *Question 8 QIDS (Less Than Ten Days)*

Conclusion

Based on the results of the mixed model ANOVAs there was no statistical difference found between the anxiety and comorbid groups in terms of differences in treatment connectedness and autonomy on the CPS measure at discharge. When looking at differences in treatment gains from pre- to post-treatment, statistically significant differences were found on the following measures: CYBOCS, HRQOL, IUS-C, PROMIS-D, and the QIDS.

Regarding the difference in the number of days of treatment, statistically significant differences were not seen for patients' scores on the CPS measure, IUS-C, HRQOL and QIDS measures. Differences based on the number of days in treatment were identified for the CYBOCS and PROMIS-D. In summary, across all analyses treatment had a positive effect on patient's scores. It was variable, however, if having a comorbid condition made a significant

difference in the patient's outcomes on the measures examined. The biggest differences were seen for the comorbid group with the CYBOCS related questions.

CHAPTER FIVE: DISCUSSION

This study examined differences in perceived autonomy and connectedness in treatment, obsessive compulsive disorder symptoms and severity, health related quality of life, trait anxiety, emotionality, and depressive symptoms, between patients with anxiety disorders and patients with anxiety disorders and comorbid Body-Focused Repetitive Behaviors (BFRB) and related disorders. The goal of this study was to expand on the types of symptoms and potential areas of intervention for youth with comorbid anxiety disorders and BFRBs.

The focus of this chapter is to interpret the study results in light of the anticipated hypotheses and the existing literature. Additionally, implications for practitioners and study limitations will be discussed. The chapter concludes with an overall summary of the study findings.

Interpretation of Results

Research Question One

Does perceived autonomy in treatment (i.e., the ability to be involved in treatment planning/inclusion in decisions of care) vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (Body-focused repetitive behaviors) (anxiety + BFRBs)?

The results of this study demonstrated that there were no significant differences in perceived autonomy across both groups at discharge. As a part of the clinic model of treatment, clinicians attempt to include patients in their plan of care. The findings of this study demonstrate that having a comorbid BFRB did not hinder these patients' perceived levels of autonomy in

their treatment. This is important because prior studies have found that autonomy in youth mental health treatment is beneficial to overall treatment outcomes (Karver et al., 2006).

Additionally, when comparing the study sample to the group of patients with less than ten days of treatment *(M*=5.36, *SD*= 2.60) there were no significant differences as well. This demonstrates that the number of days in treatment did not influence patient's feelings about their autonomy in treatment. It is noted that high levels of reliability were found on the CPS measure used for these analyses, suggesting that reliability of the measure did not contribute to the nonsignificant outcome.

Research Question Two

Do feelings of connectedness vary among youth in treatment according to the presence of BFRBs (anxiety + BFRBs)?

Youth with BFRBs and related disorders tend to feel alienated from peers, thus it was predicted that they would have lower levels of connectedness in treatment (Mathew, Harvey, & Lee, 2021). However, this study found no significant results regarding ratings of connectedness in treatment between the two groups at discharge. One hypothesis for this finding is these concerns may have been addressed as a part of the CBT treatment provided in the clinic. Treatment focuses on enhancing youth's social and emotional skills through group and individual treatment modalities. Therefore, the social aspect of treatment may have contributed to this finding. This hypothesis is unable to be tested by examining pre- and post-test differences. These data are only collected every two weeks within the OCD and anxiety treatment program at progress monitoring points in treatment and again at discharge. Reliability analyses completed showed high levels of internal reliability for the selected items from the CPS measure and the CPS, thus this was not a factor in the nonsignificant findings.

Research Question Three

Does CYBOCS (Children's Yale Brown Obsessive Compulsive Scale) severity vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

There were statistically significant differences between the anxiety and comorbid groups when examining CYBOCS severity ratings between pre- and post-test scores. Both the anxiety and comorbid group showed statistically significant decreases in CYBOCS severity scores from before starting treatment to the end of treatment. When comparing the means of CYBOCS scores from pre- to post-test, the scores also were clinically significant for both groups. The scores decreased from the moderate to mild range. This demonstrates that treatment was effective for youth with anxiety disorders and youth in the comorbid group. The similarities in scores could potentially be explained by symptomology severity being similar as reported in prior studies comparing participants with OCD and Trichotillomania (Peris et al., 2021). Although, these prior studies focused on individuals with OCD, the Behavioral Health Clinic utilized in the present study included both individuals with OCD and other anxiety disorders in their treatment programming.

When looking at the interaction between the groups and time points of pre- to post-treatment there also was an interaction. The nature of the interaction reflected differences present at the pre-test time point. The comorbid group started out with statistically significantly higher CYBOCS scores compared to the anxiety only group. These high CYBOCS severity scores at pre-test for the comorbid group make sense clinically, as the severity subscale asks about difficulty with resistance to perform the action and interreference with daily activities. These are symptoms associated with BFRBs as well (APA, 2022). The number of endorsed symptoms and OCD subtypes were not controlled in the study. Therefore, the high scores also could be

associated with increased levels of distress due to multiple obsession types. However, the scores were not clinically or statistically significantly different at post-test. Therefore, this provides emerging support that both groups demonstrated treatment gains. The Anxiety only group started treatment in the lower limits of the moderate score range and the comorbid group started treatment in the upper limits of the moderate score range. Of note, the comorbid group exhibited a steeper decrease in treatment; however, both groups ended treatment with scores in the Mild range on the CYBOCS.

Finally, regarding reliability, the severity total score for this sample demonstrated high internal reliability. When conducting follow-up analyses to compare youth who had less than ten days of treatment to the study sample, the group with less than ten days of treatment also was found to have statistically lower scores at the start of treatment and decreases from pre to post at the end of treatment. This demonstrates that for CYBOCS severity for youth with less than ten days of treatment and youth with over ten days of treatment both experienced gains in treatment.

There was no statistical significance for the CYBOCS Severity scores from pre- to post-treatment for either the study sample or youth with less than ten days of treatment. Additionally, there was no substantial clinical significance between the two groups in the amount of change they experienced. Both groups started in the low-mid moderate range and ended treatment in the mild range.

Research Question Four

Does the obsession checklist for symmetry on the CYBOCS vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

When comparing endorsement of the symmetry item on the CYBOCS, the results indicated that patients in the comorbid group were statistically significantly more likely to

endorse yes (42%) on the symmetry item within the CYBOCS at baseline compared to the anxiety-only group (35.4%). These results could not be compared to discharge data because data only existed for 20 patients for the CYBOCS symmetry checklist post treatment. Clinically, this is logical, as the CYBOCS checklist is typically used to generate targets for treatment. This presence of symmetry related obsession in BFRB populations is endorsed in prior clinical literature as well. The symmetry obsession of OCD and BFRBs can be intertwined (Torales et al., 2021). For example, patients with BFRBs may need to engage in the behavior until it looks symmetrical or even. Thus, this could explain some of the differences between the anxiety and comorbid BFRB group.

When conducting follow-up analyses and comparing the study sample and the group with less than ten days of treatment, 37.9% endorsed 'yes' for the symmetry question in the study sample and 28.9% endorsed 'yes' in the less than ten days sample. A possible hypothesis of this finding is the study sample endorsing less than ten days had fewer concerns noted at the start of treatment. However, another hypothesis such as insurance criteria for remaining treatment could have led to shortened length of stay as well. When examining outcomes in youth anxiety treatment prior studies have demonstrated that it is difficult to identify one moderator of treatment outcomes (Norris & Kendall, 2021)

Research Question Five

Does health-related quality of life vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)

When examining the differences in health-related quality of life, specifically looking at question #14 on the Health Related Quality of Life (HRQOL) measure that asks patients about number of healthy days experienced, there was not a statistically significant difference in the

number of healthy days between the anxiety and comorbid group. The number of healthy days was significant for the time interaction which meant both groups increased in the number of healthy days from the start to the end of treatment. This demonstrates that both groups had similar increases in the number of healthy days and improvement in health at the end of treatment. These results were similar for youth who had less than ten days of treatment compared to the group with over ten days of treatment. These outcomes suggest that the presence of comorbidity did not alter the number of days youth felt healthy. This result was similar to prior literature demonstrating increased HRQOL scores in adults who responded positively to treatment for obsessive compulsive and related disorders (Hollander et al., 2016). However, they also found that adults with higher OCD severity symptoms, or those who did not respond to treatment, tended to have lower HRQOL scores. Additionally, studies examining health-related quality of life in youth with OCD utilizing other measures such as the Questionnaire for Measuring Health-related Quality of Life in Children and Adolescents (KINDL-R) have demonstrated similar results (Weidle et al., 2015). Although the present study found that the comorbid group had higher OCD severity ratings, there was no difference in the HRQOL improvement between the anxiety group and the comorbid group. The clinic's treatment model had an emphasis on providing families with tools to support youth, thus it was hypothesized that despite the higher severity for the comorbid group, there was still improvements in HRQOL due to this treatment model.

Research Question Six

Does trait anxiety vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

When examining trait anxiety in the anxiety and comorbid groups there was a statistical difference in scores from pre- to post-treatment, demonstrating both groups had improvements related to treatment participation. However, there were no significant differences between the anxiety and comorbid groups. Both groups had similar scores clinically and statistically at the start and end of treatment. Prior studies have found similar findings, but also suggest more research must be done to make conclusive statements regarding trait anxiety (Teng et al., 2004). In the present study trait anxiety refers to how anxiety is present across multiple situations. Contrary to the proposed hypothesis, the results suggest that the presence of a BFRB and related disorders does not have an influence on trait anxiety within this treatment population. This was potentially attributed to youth utilizing the skills used in treatment to regulate emotions, and thus they responded with less self-reported rating of trait anxiety. When examining reliability analyses on the aggregate items for trait anxiety in the IUS-C and for the full IUS-C measure, both had high internal reliability.

Research Question Seven

Does emotionality vary among anxious treatment-seeking youth (anxiety) according to the presence of BFRBs (anxiety + BFRBs)?

When examining emotionality in the anxiety and comorbid groups, both demonstrated statistically significant differences in scores from pre- to post-treatment, suggesting that treatment resulted in decreased scores in emotionality. One hypothesis for these findings is the difficulties with emotional regulation that individuals with anxiety disorders and individuals with BFRBs experience (Cisler et al., 2010; Roberts et al., 2016). However, there are multiple models of behavioral reinforcement that exist for anxiety disorders and BFRBs, and for some individuals' emotions are not the only internal driving factor of the behavior.

When examining differences between the study sample and the sample with less than ten days of treatment, the study sample had statistically significant higher scores on emotionality at the start of treatment when compared to the sample with less than ten days of treatment. This does not mean the less than ten days group necessarily has less emotionality at the start of treatment. Other factors such as prior treatment may have been a factor in the score for this group. However, at post-test there were no significant differences in the scores of the two groups. Both the study sample and the group with less than ten days had statistically significantly lower scores pre- to post-treatment. This suggests that treatment within the clinic potentially had beneficial effects on the participant's levels of emotionality. The CBT treatment within the clinic focuses on replacement self-regulatory skills and cognitive restructuring techniques. This type of treatment allows youth to catastrophize their anxiety related thoughts. When completing follow-up analyses the IUS-C measure and the selected questions from IUS-C had high internal reliability.

Research Question Eight

Does the presence of depressive symptoms vary among anxious treatment-seeking youth according to the presence/absence of BFRBs?

When examining differences in depressive symptoms among the anxiety group and the comorbid group two measures were utilized. The first analysis used scores from the PROMIS-D measure. There were no clinically significant differences between the anxiety and comorbid group's scores. However, there was a clinically significant difference between pre- and post-test scores for both groups. These results suggest that treatment at the Clinic was effective at reducing youth's depressive symptoms. When looking at follow-up analyses the study sample and the sample with less than ten days of treatment had significant differences based on time and

group. Both groups had significant differences from pre- to post-test. Additionally, the group with less than days of treatment had statistically significantly lower scores at pretest than the sample group. The PROMIS-D measure had high reliability.

When examining QIDS scores between the anxiety and comorbid groups, there were no significant differences between the groups. However, both groups had statically significant decreases in scores from pre- to post-test. The same results were found for the follow-up analyses examining scores of the sample group and the sample with less than ten days of treatment. The QIDS measure was found to have high levels of reliability. Prior studies measuring levels of depression symptoms in youth with BFRBs in a clinical sample noted higher levels of depression among this age group as well (Ricketts et al., 2022).

Implications for Practitioners

Although there were limited significant findings when examining treatment factors such as health related quality of life, obsessive compulsive symptoms, depressive symptoms, emotionality, and trait anxiety between the two groups, the current study still has implications for practitioners. Both groups demonstrated statistically significant decreases in clinical concerns and increases in health-related quality of life following treatment. This means that for this sample, individuals with BFRBs were able to make clinically and statically significant gains during treatment at a rate observed in the anxiety only group. This is with the exception of the CYBOCS severity scores. CYBOCS severity was clinically and statistically significantly higher to start in the comorbid group versus the anxiety only group.

Additionally, when practitioners consider length of treatment for youth the results should be interpreted with caution. Although, for the clinical variables studied the groups with less than

ten days did see significant differences across scores, their prior treatment could not be controlled for. The individuals in the study may have prior outpatient or other intensive patient treatment. For example, many patients enter the program at the Behavioral health clinic after attending residential treatment, or after not meeting adequate treatment goals in traditional outpatient therapies. Additionally, the Behavioral Health Clinic has well established clinical outcome data demonstrating the average length of stays that are recommended. These were based on what is needed to see sustained clinical growth. Although it is positive to see the improvements even with limited treatment days, this is not meant to be utilized as a guideline to recommend fewer treatment days. There are many factors that may have limited the individuals in this group to less than 10 days of treatment such as limited insurance coverage, travel restrictions to participate in treatment, time barriers, and/or prior treatment that may have led to shorter lengths of stay.

Another implication for practitioners is the consideration of what types of treatment to utilize. For example, when looking at differences in emotionality for both groups, there were decreases. Individuals in treatment in the Behavioral Health Clinic primarily receive cognitive behavioral therapy (CBT) and dialectical behavior therapy (DBT) as a part of their treatment. Therefore, these results cannot generalize one specific type of treatment relating to a patient's reduction in symptoms and quality of life. However, the study does demonstrate that CBT and DBT continue to be efficacious mental health interventions for youth. Additionally, youth demonstrated satisfactory ratings for connectedness and autonomy in treatment which correlate to some aspects of the group treatment.

Additionally, for the BFRB group, there were no data about BFRB symptom severity. Therefore, it is not possible to determine if patients' overall BFRB decreased in addition to the anxiety symptoms. For both anxiety disorders and BFRBs a holistic, dual-factor model of mental health treatment would be beneficial. This would allow for a focus on symptom reduction and improvement in health-related quality of life. The study demonstrated improvement in Health Related Quality of life for both groups. However, adding elements focused intentionally on Health Related Quality of Life can enrich patient's lives. The present study focused on Health Related Quality of Life as an outcomes measure; specifically, the number of healthy days. This was in combination with mental health symptoms. This aligns with the dual factor model of mental health because indicators of wellness were examined. Additionally, the clinic focused on not only decreasing symptoms but increasing wellness and functionality in patients' lives. Anxiety and BFRBs decrease from positive emotions and experiences that patient experience, therefore focusing on the changes that occur versus total symptoms reduction is more beneficial to patients. Typical to other treatment studies, patients scores did not diminish down to zero on any measure, therefore examining mental health from the dual-factor model would increase flexibility for understanding recovery. For example, a youth may still have some scenarios they are anxious to do or engage in occasional skin-picking, this does not mean they have not made progress in their recovery. For patients with a BFRB comorbidity a model of treatment such as the Comprehensive Behavioral Treatment for Trichotillomania (COMb) would provide this approach. This treatment focuses on multiple aspects of the condition including regulating affective states (Carlson et al., 2021). These affective states can be part of symptomology from conditions such as anxiety, depression, or any other mental health condition. Additionally, it is quite rare that BFRBs are present without a comorbid condition (Teng et al., 2002). Therefore,

although co-occurring conditions were not controlled for, it is typical in clinical populations for individuals with BFRBs to have co-occurring concerns. Practitioners should keep this in mind when examining mental health and physical health conditions. These factors should be further explored in a study that utilizes BFRB specific outcome measures to see if those specific symptoms improved.

Limitations

The present study was archival in nature; therefore, the PI was unable to add any new measures to the study or retrieve missing data. Another potential limitation for this study was the use of a measure that was unique to the clinic. The Clinic's Patient Satisfaction Survey is a reputable measure from the Behavioral Health Clinic; however, there are no reliability or validity data available on this measure. The present study completed reliability analyses and evaluated the psychometric properties for the measure. Additionally, some of the research questions utilized only specific items from a measure instead of the total score. Particularly when examining item 14 on the HRQOL scale, one of the analyses completed utilized one item in order to see if there was any relation to subjective well-being. Additionally, there were unequal groups of youth with BFRBs and anxiety disorders compared to the anxiety group only. All efforts were made to minimize the potential limitations present in this study. Although there was a robust sample, the data were collected across locations across the country. While fidelity to treatment was a part of practice within the Behavioral Health Clinic there is natural variability from clinician to clinician that occurs. Additionally, the data analyzed was obtained from multiple years (2016-2023) of treatment within the clinic. The measures used in the clinic changed throughout the years therefore, this created sample size differences across questions.

This resulted in some questions having significantly less data from patients compared to another question evaluated within the present study. Prior to the year 2020, the clinic allowed each location to use their own combinations of assessments, and this was dependent upon location, specific treatment program, and level of care. Starting in 2020, all programs were standardized across locations to use the same measures. Data for each sample are available per question so that these differences are transparent.

An additional limitation was the representativeness of the sample, particularly with regard to diversity in race. This study sample mainly included White participants and is not representative of the general population. However, this is the trend of other studies conducted with youth with anxiety disorders. When looking at populations of individuals with BFRBs there is an underrepresentation of diverse populations. Although there is limited diversity present within this study this is typical when compared to other studies of youth mental health. There are a variety of environmental factors that lead to decreased representation of minoritized populations within intensive mental health treatment programming. Some of these factors include stigma, lack of access to care, and lack of appropriate treatments (Himmelstein et al., 2016). Additionally, patients with socioeconomic barriers may have limited access to intensive treatment due to insurance barriers. All insurances are not accepted at intensive treatment clinics. Minoritized populations are also at risk for healthcare disparities due to experiencing mistreatment and racism by medical providers and thus may be hesitant attend treatment. The longer individuals do not receive treatment, the more intense mental health problems can become. The clinic reported that they provide bilingual services and assess stressors such as racial trauma to reduce barriers in treatment including the accessibility of treatment to linguistically, ethnically, and racially diverse patients.

Regarding treatment, the researcher was unable to identify the specific components of treatment utilized in the clinical settings. Although the core components of the treatment program used by the clinic are part of CBT, is it unknown if all participants with BFRBs received Habit Reversal Training or group treatment. Thus, it was unknown what aspects of treatment led to the decreased symptoms and increased quality of life for the comorbid group.

Finally, the selection procedures of the groups could be considered a limitation. Groups were manually created based on the clinic-provided diagnosis codes. The study utilized codes for trichotillomania, excoriation disorder, other obsessive-compulsive disorders unspecified, and tic disorders to create the BFRB group. This was done so that all participants that had a BFRB or related disorder were captured in the study sample. In the DSM-V, onychophagia, trichophagia, and other BFRBs were not included as distinct diagnosis codes and are captured in some clinical settings as tics or unspecified obsessive-compulsive disorders (APA,2022). However, this could have led to some differentiation among the group, and it is not possible to know which was the most frequent type of BFRB seen aside from trichotillomania and excoriation disorder. O'Connor and colleagues (2014) identified that metacognition about the behavior, whether it is a tic or BFRB can lead to the patient engaging in the behavior. Therefore, due to the similar clinical presentation, and lack of an available method to purely filter for BFRBs this group was included in the present study. All efforts were made in the study to include a representative sample and minimize irregularities in the data set.

Future Directions

Future studies should consider measuring quality of life in a more targeted manner. This would include a measure that directly targets quality of life symptoms related to mental health

conditions such as the Mental Health Quality of Life questionnaire (MHQoL; Van Krugten et al., 2021). This measure assesses variables such as mood, self-image, independence, relationships, physical health, and psychological well-being. Such a measure would assess quality of life directly related to the mental health condition. Another option would be the Health Literacy and Resiliency Scale (Bradley-Klug et al., 2017). This would better capture the dual-factor model of mental health and potentially provide insight into youth's understanding of their mental health conditions.

Regarding diagnoses, when examining available demographic data for the study additional comorbidities were noted. The majority of the most frequent diagnoses were anxiety disorders, depressive disorders, Autism, and ADHD. Depressive symptoms were part of the research questions, and thus were not further explored as a comorbidity. Autism and OCD are previously well established in the literature to have high levels of comorbidity (Lewin et al., 2011). Therefore, the prevalence of autism was not further explored. Due to the gap in the literature this was further explored by La Buissonnière-Ariza and colleagues (2021). Their study suggested that due to the impulsivity and prior comorbidities, the prevalence of ADHD within this population should be investigated. When comparing ADHD diagnoses (hyperactive, inattentive, combined, unspecified, other type) across the two groups, the BFRB group had a slightly higher incidence of patients with an ADHD diagnosis (28%) compared to the anxiety only group (22.7%). A chi-square revealed that this is a statistically significant difference in the incidence between the groups *($\chi^2 = 20.21; df = 1; p = <0.01$).* The connections between BFRBs and ADHD as a comorbidity is an emerging area of research and clinical interest within the field (Chesivoir et al., 2022). This comorbidity should be further explored to enhance assessment and interventions for patients with this additional comorbidity.

Another area of future study would be to investigate these conditions within an integrated behavioral health setting. Individuals with anxiety disorders and body-focused repetitive behaviors are present in primary care, pediatric clinics, specialty clinics, and dermatology settings. (Spitzer et al., 2022). There have been some emerging studies examining the prevalence and symptoms within populations of patients with anxiety disorders and obsessive and compulsive-related disorders. However, the prevalence may be underreported within these settings. Future studies should focus on more accurately identifying the diagnoses and specific associated symptoms. This may be done through brief clinical interviewing assessing symptoms as well as the impact symptoms have on patients' quality of life.

Additionally, for mental health practitioners, it would be beneficial to partner with medical providers to treat these conditions more comprehensively. Particularly for youth with comorbid BFRBs, they present to their primary care provider or specialty clinic such as dermatology for initial evaluation. However, while symptoms may be rooted in mental health-related causes, they may have a relationship with physical symptoms. Skin-picking for example may be worsened by a biologically based skin condition such as psoriasis or eczema, or individuals with chronic health conditions who are experiencing a flare-up may experience more anxiety symptoms and utilize a BFRB to modulate those symptoms of anxiety. It is important for a variety of providers to be educated about these symptoms to be aware of alternative causes (Madan, Davidson, & Gong, 2023). Results of this study can support medical professionals' knowledge by enhancing their understanding of the specific symptoms of anxiety disorders and BFRBs. Mental health practitioners should be sure to make their recommendations specific to the medical providers with whom they consult. This information could be shared through

consultation, written materials, and venues such as trainings and conferences. Consultation can be a particularly effective tool to focus on education and problem solving.

Overall, if mental health and physical health providers collaborated, more information could be gained regarding how symptoms overlap or are affected, and medical providers could have increased awareness about psychological conditions that may present as physical ailments. Together, providers could create more targeted treatment plans that focus on physical and mental wellness.

Future studies also should consider grouping the comorbid and anxiety patients differently. Instead of utilizing diagnosis codes as the sole method of grouping, formal measures demonstrating the presence of a BFRB would be more specific and reduce heterogeneity of the diagnoses. Another example would be to further break down the anxiety groups and examine if there are differences among the specific types of anxiety disorders and BFRBs. This would allow researchers to see if the specific type of anxiety disorder is related to different types of impairment with the various comorbidities.

Conclusions

Overall, the purpose of this study was to compare a clinical population of youth with anxiety disorders and youth with anxiety disorders and a comorbid BFRB at intake and/or post-treatment. Health-related quality of life, connectedness, and autonomy in treatment, depressive symptoms, emotionality, trait anxiety, and obsessive-compulsive symptoms were the examined factors in this study. This study contributes to the emerging existing literature about youth in mental health treatment settings particularly, youth with anxiety disorder and BFRBs. Findings from the study demonstrated that youth in both groups improved in specific mental health

outcomes with intensive treatment. This study contributes to the existing literature by providing additional information about youth with anxiety disorders and BFRBs receiving treatment in an intensive treatment setting. Practitioners can benefit from enhancing their clinical skill sets to treat the multifaceted and global effects these disorders have on youth.

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APPENDIX A: MEASURES

Quick Inventory of Depressive Symptomatology- Self Report (QIDS-SR)

Instructions: Please mark the box next to the selection which best reflects how each statement applies to you. Be sure to choose the statement that applies to how you have felt and behaved during the past **week**. Please answer each one of the questions.

1. Falling Asleep:

- ☐ I never take longer than 30 minutes to fall asleep
- ☐ I take at least 30 minutes to fall asleep, less than half the time
- ☐ I take at least 30 minutes to fall asleep, more than half the time
- ☐ I take at least 60 minutes to fall asleep, more than half the time

2. Sleep During the Night:

- ☐ I do not wake up at night
- ☐ I have a restless, light sleep with a few brief awakenings each night
- ☐ I wake up at least once a night, but I go back to sleep easily
- ☐ I awaken more than once a night and stay awake for 20 minutes or more, more than half the time

3. Waking Up Too Early:

- ☐ Most of the time, I awaken no more than 30 minutes before I need to get up
- ☐ More than half the time, I awaken more than 30 minutes before I need to get up
- ☐ I almost always awaken at least one hour or so before I need to, but I go back to sleep eventually
- ☐ I awaken at least one hour before I need to, and can't go back to sleep

4. Sleeping Too Much:

- ☐ I sleep no longer than 7-8 hours/night, without napping during the day
- ☐ I sleep no longer than 10 hours in a 24-hour period including naps
- ☐ I sleep no longer than 12 hours in a 24-hour period including naps
- ☐ I sleep longer than 12 hours in a 24-hour period including naps

5. Feeling Sad:

- ☐ I do not feel sad
- ☐ I feel sad less than half the time
- ☐ I feel sad more than half the time
- ☐ I feel sad nearly all the time

6. Decreased Appetite:

- ☐ My usual appetite has not decreased
- ☐ I eat somewhat less often or lesser amounts of food than usual

- ☐ I eat much less than usual and only with personal effort
- ☐ I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat

7. Increased Appetite:

- ☐ My usual appetite has not increased
- ☐ I eat somewhat less often or lesser amounts of food than usual
- ☐ I eat much less than usual and only with personal effort
- ☐ I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat

8. Decreased Weight (Within the Last Two Weeks):

- ☐ My weight has not decreased
- ☐ I feel as if I've had a slight weight loss
- ☐ I have lost 2 pounds or more
- ☐ I have lost 5 pounds or more

9. Increased Weight (Within the Last Two Weeks)

- ☐ My weight has not increased
- ☐ I feel as if I've had a slight weight gain
- ☐ I have gained 2 pounds or more
- ☐ I have gained 5 pounds or more

10. Concentration/Decision Making:

- ☐ There is no change in my usual capacity to concentrate or make decisions
- ☐ I occasionally feel indecisive or find that my attention wanders
- ☐ Most of the time, I struggle to focus my attention or to make decisions
- ☐ I cannot concentrate well enough to read or cannot make even minor decisions

11. View of Myself:

- ☐ I see myself as equally worthwhile and deserving as other people
- ☐ I am more self-blaming than usual
- ☐ I largely believe that I cause problems for others
- ☐ I think almost constantly about major and minor defects in myself

12. Thoughts of Death or Suicide:

- ☐ I do not think of suicide or death
- ☐ I feel that life is empty or wonder if it's worth living
- ☐ I think of suicide or death several times a week for several minutes
- ☐ I think of suicide or death several times a day in some detail, or have actually tried to take my life

13. General Interest:

- ☐ There is no change from usual in how interested I am in other people or activities
- ☐ I notice that I am less interested in people or activities

- ☐ I find I have interest in only one or two of my formerly pursued activities
- ☐ I have virtually no interest in formerly pursued activities

14. Energy Level:

- ☐ There is no change in my usual level of energy
- ☐ I get tired more easily than usual
- ☐ I have to make a big effort to start or finish my usual daily activities (for example shopping, homework, cooking, or going to work)
- ☐ I really cannot carry out most of my usual daily activities because I just don't have the energy

15. Feeling Slowed Down:

- ☐ I think, speak, and move at my usual rate of speed
- ☐ I find that my thinking is slowed down or my voice sounds dull or flat
- ☐ It takes me several seconds to respond to most questions and I'm sure my thinking is slowed
- ☐ I am often unable to respond to questions without extreme effort

16. Feeling Restless:

- ☐ I do not feel restless
- ☐ I'm often fidgety, wringing my hands, or need to shift how I am sitting
- ☐ I have impulses to move about and am quite restless
- ☐ At times, I am unable to stay seated and need to pace around

Questionnaire developed by Dr. A. John Rush, MD, derived from the 30-item Inventory of Depressive Symptomatology (IDS)

Patient Satisfaction Survey

We would like to hear about your experience at the Behavioral Health Clinic. Please indicate your current level of satisfaction for each of the following areas.

1. Meals
   - ☐ Very dissatisfied
   - ☐ Dissatisfied
   - ☐ Neither satisfied nor dissatisfied
   - ☐ Satisfied
   - ☐ Very satisfied
   - ☐ Not applicable

2. The care provided by your nurses
   - ☐ Very dissatisfied
   - ☐ Dissatisfied
   - ☐ Neither satisfied nor dissatisfied
   - ☐ Satisfied
   - ☐ Very satisfied
   - ☐ Not applicable

3. Your Care Provider – Psychiatrists/nurse practitioners
   - ☐ Very dissatisfied
   - ☐ Dissatisfied
   - ☐ Neither satisfied nor dissatisfied
   - ☐ Satisfied
   - ☐ Very satisfied
   - ☐ Not applicable

4. Your Care Provider – Therapist/case manager
   - ☐ Very dissatisfied
   - ☐ Dissatisfied
   - ☐ Neither satisfied nor dissatisfied
   - ☐ Satisfied
   - ☐ Very satisfied
   - ☐ Not applicable

5. Your Care Provider – Other team members recreational therapists
   - ☐ Very dissatisfied
   - ☐ Dissatisfied
   - ☐ Neither satisfied nor dissatisfied
   - ☐ Satisfied
   - ☐ Very satisfied
   - ☐ Not applicable

6. Program Activities
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

7. Your feeling of safety on the unit
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

8. Your ability to be included on decisions of your care
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

9. Your treatment facility
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

10. Overall level of satisfaction with your care
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

11. Are you receiving telehealth treatment?
    - ☐ Yes
    - ☐ No

If you answer "Yes" to Question #11, please respond to the following questions (#12 to 21).

If you answer "No" to Question #11, please skip to questions #19-21.

12. The instructions for how to use the telehealth program are clear and easy to follow.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

13. I am able to communicate well with my care provider through the telehealth program/software.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

14. The quality of sound and video on the telehealth program is good.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

15. I feel very secure and protected for my privacy and confidentiality during the communication over the telehealth setup.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

16. I feel overall satisfied with receiving treatment remotely through the Behavioral Health Clinic's telehealth system.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied

- ☐ Very satisfied
- ☐ Not applicable

17. Through the group treatment, I feel I am connected meaningfully with others.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

18. Through the group treatment, I feel I am not alone.
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

19. Are you satisfied with the way your care provider asked you what your treatment goals and needs were?
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

20. Are you satisfied with the way your care provider discussed with you whether your treatment goals and needs were met?
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

21. How satisfied with Behavioral Health Clinic's staff's sensitivity to your identity (Age, Disability Status, Religion, Ethnic and Racial Identity, Socioeconomic Status, Sexual Orientation, Indigenous Heritage, National Origin, Gender Identity, etc.)?
    - ☐ Very dissatisfied
    - ☐ Dissatisfied
    - ☐ Neither satisfied nor dissatisfied
    - ☐ Satisfied
    - ☐ Very satisfied
    - ☐ Not applicable

Intolerance of Uncertainty Scale for Children (IUSC)

You will find below a series of statements which describe how people may react to the uncertainties of life. Please use the scale below to describe to what extent each item is characteristic of you. Please circle a number (1 to 5) that describes you best.

		1 = not at all **2** **3 = somewhat** **4** **5 = very much**
1	Doubts stop me from having strong opinions	1 2 3 4 5
2	Being unsure means that a person is mixed-up	1 2 3 4 5
3	Not knowing what will happen in the future makes life hard	1 2 3 4 5
4	It's not fair that we can't predict the future	1 2 3 4 5
5	I can't relax if I don't know what will happen tomorrow	1 2 3 4 5
6	Not knowing what will happen in the future makes me uneasy, anxious, or stressed	1 2 3 4 5
7	Surprise events upset me greatly	1 2 3 4 5
8	It frustrates me to not have all of the information I need	1 2 3 4 5
9	Not knowing what could happen keeps me from enjoying life	1 2 3 4 5
10	One should always think ahead to avoid surprises	1 2 3 4 5
11	Plans can be ruined by things you didn't think would happen	1 2 3 4 5
12	When it is time to do things, not knowing what could happen keeps me from acting	1 2 3 4 5
13	Being unsure of things means that I am not great	1 2 3 4 5
14	When I am not sure of something I can't go forward	1 2 3 4 5
15	When I am not sure of something I can't work very well	1 2 3 4 5
16	Other kids have less doubts than I do	1 2 3 4 5
17	Not knowing what will happen makes me unhappy or sad	1 2 3 4 5

18	I always want to know what will happen to me in the future	1	2	3	4	5
19	I don't like being taken by surprise	1	2	3	4	5
20	The smallest doubt can stop me from doing things	1	2	3	4	5
21	I should be able to prepare for everything in advance	1	2	3	4	5
22	Being unclear about things means that I am not confident	1	2	3	4	5
23	It's not fair that other kids are more sure of things	1	2	3	4	5
24	Not knowing what can happen keeps me from sleeping well	1	2	3	4	5
25	I must get away from all situations where I don't know what will happen	1	2	3	4	5
26	Things that are unclear stress me	1	2	3	4	5
27	I don't like being undecided about the future	1	2	3	4	5

CY-BOCS Severity Ratings

Children's Yale-Brown Obsessive Compulsive Scale

Administering the CY-BOCS Symptom Checklist and CY-BOCS Severity Ratings

1. Establish the diagnosis of obsessive compulsive disorder.
2. Using the CY-BOCS Symptom Checklist (other form), ascertain current and past symptoms.
3. Next, administer the 10-item severity ratings (below) to assess the severity of the OCD during the last week.
4. Readminister the CY-BOCS Severity Rating Scale to monitor progress.

Patient _____

Date 1st Report _____ Date This Report _____

Obsession Rating Scale (circle appropriate score)

Note: Scores should reflect the composite effect of all the patient's obsessive compulsive symptoms.
Rate the average occurrence of each item during the prior week up to and including the time of interview.

QUESTIONS ON OBSESSIONS (ITEMS 1-5) *"I AM NOW GOING TO ASK YOU QUESTIONS ABOUT THE THOUGHTS YOU CANNOT STOP THINKING ABOUT."*
(Review for the informant(s) the Target Symptoms and refer to them while asking questions 1-5).

1. Time Occupied by Obsessive Thoughts
(Be sure to exclude ruminations and preoccupations which, unlike obsessions, are ego-syntonic and rational (but exaggerated))

	None	Mild	Moderate	Severe	Extreme
		less than 1 hr/day or occasional intrusion	1 to 3 hrs/day or frequent intrusion	greater than 3 and up to 8 hrs/day or very frequent intrusion	greater than 8 hrs/day or near constant intrusion
Score	0	1	2	3	4

2. Interference Due to Obsessive Thoughts
- How much do these thoughts get in the way of school or doing things with friends?
- Is there anything that you don't do because of them? (If currently not in school, determine how much performance would be affected if patient were in school)

	None	Mild	Moderate	Severe	Extreme
		slight interference with social or school activities, but overall performance not impaired	definite interference with social or school performance, but still manageable	causes substantial impairment in social or school performance	incapacitating
Score	0	1	2	3	4

3. Distress Associated with Obsessive Thoughts

	None	Mild	Moderate	Severe	Extreme
		infrequent, and not too disturbing	frequent, and disturbing, but still manageable	very frequent, and very disturbing	near constant, and disabling distress/frustration
Score	0	1	2	3	4

4. Resistance Against Obsessions
- How hard do you try to stop the thoughts or ignore them? (Only rate effort made to resist, not success or failure in actually controlling the obsessions. If the obsessions are minimal, the patient may not feel the need to resist them. In such cases, a rating of "0" should be given.)

	None	Mild	Moderate	Severe	Extreme
	makes an effort to always resist, or symptoms so minimal doesn't need to actively resist	tries to resist most of the time	makes some effort to resist	yields to all obsessions without attempting to control them, but does so with some reluctance	completely and willingly yields to all obsessions
Score	0	1	2	3	4

5. Degree of Control Over Obsessive Thoughts

	Complete Control	Much Control	Moderate Control	Little Control	No Control
		usually able to stop or divert obsessions with some effort and concentration	sometimes able to stop or divert obsessions	rarely successful in stopping obsessions, can only divert attention with difficulty	experienced as completely involuntary, rarely able to even momentarily divert thinking
Score	0	1	2	3	4

Obsession subtotal (add items 1-5) _____

QUESTIONS ON COMPULSIONS (ITEMS 6-10) *"I AM NOW GOING TO ASK YOU QUESTIONS ABOUT THE HABITS YOU CAN'T STOP"*
(Review for the informant(s) the Target Symptoms and refer to them while asking questions 6-10)

6. Time Spent Performing Compulsive Behaviors

	None	Mild less than 1 hr/day	Moderate 1 to 3 hrs/day	Severe greater than 3 & up to 8 hrs/day	Extreme greater than 8 hrs/day
Score	0	1	2	3	4

7. Interference Due to Compulsive Behaviors
- How much do these habits get in the way of school or doing things with friends?
- Is there anything you don't do because of them? (If currently not in school, determine how much performance would be affected if patient were in school.)

	None	Mild slight interference with social or school activities, but overall performance not impaired	Moderate definite interference with social or school performance, but still manageable	Severe causes substantial impairment in social or school performance	Extreme incapacitating
Score	0	1	2	3	4

8. Distress Associated with Compulsive Behavior
- How would you feel if prevented from carrying out your habits? How upset would you become?

	None	Mild only slightly anxious if compulsions prevented	Moderate anxiety would mount but remain manageable if compulsions prevented	Severe prominent and very disturbing increase in anxiety if compulsions interrupted	Extreme incapacitating anxiety from any intervention aimed at modifying activity
Score	0	1	2	3	4

9. Resistance Against Compulsions
- How much do you try to fight the habits? (Only rate effort made to resist, not success or failure in actually controlling the compulsions.)

	None makes an effort to always resist, or symptoms so minimal doesn't need to actively resist	Mild tries to resist most of the time	Moderate makes some effort to resist	Severe yields to all obsessions without attempting to control them, but does so with some reluctance	Extreme completely and willingly yields to all obsessions
Score	0	1	2	3	4

10. Degree of Control Over Compulsive Thoughts
- How strong is the feeling that you have to carry out the habit(s)?
- When you try to fight them, what happens?

	Complete Control	Much Control experiences pressure to perform the behavior, but usually able to exercise voluntary control over it	Moderate Control moderate control, strong pressure to perform behavior, can control it only with difficulty	Little Control little control, very strong drive to perform behavior, must be carried to completion, can only delay with difficulty	No Control no control, drive to perform behavior experienced as completely involuntary and overpowering, rarely able to delay activity (even momentarily)
Score	0	1	2	3	4

Compulsion subtotal (add items 6-10) _____

CY-BOCS total (add items 1-10) ☐

Total CY-BOCS score: range of severity for patients who have both obsessions and compulsions

0-7	**Subclinical**	**24-31**	**Severe**
8-15	**Mild**	**32-40**	**Extreme**
16-23	**Moderate**		

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CY-BOCS Symptom Checklist

Children's Yale-Brown Obsessive Compulsive Scale

Administering the CY-BOCS Symptom Checklist and CY-BOCS Severity Ratings

1. Establish the diagnosis of obsessive compulsive disorder.
2. Using the CY-BOCS Symptom Checklist (below), ascertain current and past symptoms.
3. Next, administer the 10 item severity ratings (other form) to assess the severity of the OCD during the last week.
4. Re-administer the CY-BOCS Severity Rating Scale to monitor progress.

Patient_____ Date _____

CY-BOCS Symptom Checklist

Children's Yale-Brown Obsessive Compulsive Scale

CY-BOCS Obsessions Checklist

Check all symptoms that apply (Items marked "*" may or may not be OCD Phenomena)

Current	Past	Contamination Obsessions
☐	☐	Concern with dirt, germs, certain illnesses (e.g., AIDS)
☐	☐	Concerns or disgust with bodily waste or secretions (e.g. urine, feces, saliva)
☐	☐	Excessive concern with environmental contaminants (e.g., asbestos, radiation, toxic waste)
☐	☐	Excessive concern with household items (e.g., cleaners, solvents)
☐	☐	Excessive concern about animals / insects
☐	☐	Excessively bothered by sticky substances or residues
☐	☐	Concerned will get ill because of contaminant
☐	☐	Concerned will get others ill by spreading contaminant (aggressive)
☐	☐	No concern with consequences of contamination other than how it might feel *
☐	☐	Other (describe) _____
		Aggressive Obsessions
☐	☐	Fear might harm self
☐	☐	Fear might harm others
☐	☐	Fear harm will come to self
☐	☐	Fear harm will come to others (maybe because of something child did or did not do)
☐	☐	Violent or horrific images
☐	☐	Fear of blurting out obscenities or insults
☐	☐	Fear of doing something embarrassing *
☐	☐	Fear will act on unwanted impulses (e.g. to stab a family member)
☐	☐	Fear will steal things
☐	☐	Fear will be responsible for something else terrible happening (e.g. ,fire, burglary, flood)
☐	☐	Other (describe) _____

Current	Past	Sexual Obsessions
☐	☐	Forbidden or perverse sexual thoughts, images, impulses
☐	☐	Content involves homosexuality *
☐	☐	Sexual behavior towards others (aggressive)
☐	☐	Other (describe) _____
		Hoarding / Saving Obsessions
☐	☐	Fear of losing things
☐	☐	Other (describe) _____
		Magical Thoughts / Superstitious Obsessions
☐	☐	Lucky / unlucky numbers, colors, words
☐	☐	Other (describe) _____
		Somatic Obsessions
☐	☐	Excessive concern with illness or disease *
☐	☐	Excessive concern with body part or aspect of appearance (e.g. dysmorphophobia) *
☐	☐	Other (describe) _____
		Religious Obsessions
☐	☐	Excessive concern or fear of offending religious objects
☐	☐	Excessive concern with right/wrong, morality
☐	☐	Other (describe) _____
		Miscellaneous Obsessions
☐	☐	The need to know or remember
☐	☐	Fear of saying certain things
☐	☐	Fear of not saying just the right thing
☐	☐	Intrusive (non-violent) images
☐	☐	Intrusive sounds, words, music or numbers
☐	☐	Other (describe) _____

Target Symptom List for Obsessions

OBSESSIONS (describe, listing by order of severity, with #1 being the most severe, #2 second most severe, etc):

1._____

2._____

3._____

4._____

CY-BOCS Symptom Checklist

Children's Yale-Brown Obsessive Compulsive Scale

CY-BOCS Compulsions Checklist

Check all symptoms that apply (Items marked "*" may or may not be OCD Phenomena)

Current	Past	Washing / Cleaning Compulsions
☐	☐	Excessive or ritualized hand washing
☐	☐	Excessive or ritualized showering, bathing, tooth brushing, grooming, toilet routine
☐	☐	Excessive cleaning of items, such as personal clothes or important objects
☐	☐	Other measures to prevent or remove contact with contaminants
☐	☐	Other (describe) _____
		Checking Compulsions
☐	☐	Checking locks, toys, school books / items, etc.
☐	☐	Checking associated with getting washed, dressed, or undressed
☐	☐	Checking that did not / will not harm others
☐	☐	Checking that did not / will not harm self
☐	☐	Checking that nothing terrible did / will happen
☐	☐	Checking that did not make mistake
☐	☐	Checking tied to somatic obsessions
☐	☐	Other (describe) _____
		Repeating Rituals
☐	☐	Rereading, erasing, or rewriting
☐	☐	Need to repeat activities (e.g. in / out of doorway, up / down from chair)
☐	☐	Other (describe) _____
		Counting Compulsions
☐	☐	Objects, certain numbers, words, etc.
☐	☐	Other (describe) _____
		Ordering / Arranging
☐	☐	Need for symmetry / evening up (e.g. lining items up a certain way or arranging personal items in specific patterns)
☐	☐	Other (describe) _____

Current	Past	Hoarding / Saving Compulsions
		Distinguish from hobbies and concern with objects of monetary or sentimental value.
☐	☐	Difficulty throwing things away, saving bits of paper, string, etc.
☐	☐	Other (describe) _____
		Excessive Games / Superstitious Behaviors
☐	☐	Distinguish from age appropriate magical games (e.g. array of behavior, such as sleeping over certain spots on a floor, touching an object / self certain number of times as a routine game to avoid something bad from happening
☐	☐	Other (describe) _____
		Rituals Involving Other Persons
☐	☐	The need to involve another person (usually a parent) in ritual (e.g. asking a parent to repeatedly answer the same question, making mother perform certain mealtime rituals involving specific utensils) *
☐	☐	Other (describe) _____
		Miscellaneous Compulsions
☐	☐	Mental rituals other than checking / counting
☐	☐	Need to tell, ask or confess
☐	☐	Measures (not checking) to prevent :
☐	☐	harm to self
☐	☐	harm to others
☐	☐	terrible consequences
☐	☐	Ritualized eating behaviors *
☐	☐	Excessive list making *
☐	☐	Need to touch, tap, rub *
☐	☐	Need to do things (e.g. touch or arrange until it feels just right) *
☐	☐	Rituals involving blinking or staring *
☐	☐	Trichotillomania (hair-pulling)
☐	☐	Other self-damaging or self-mutilating behaviors *
☐	☐	Other (describe) _____

CY-BOCS Symptom Checklist

Children's Yale-Brown Obsessive Compulsive Scale

Target Symptom List for Compulsions

COMPULSIONS (describe, listing by order of severity, with #1 being the most sever, #2 second most severe, etc):

1. _____

2. _____

3. _____

4. _____

LEVEL 2—Depression—Child Age 11–17*

*PROMIS Emotional Distress—Depression—Pediatric Item Bank

Name: _____ **Age:** ____ **Sex:** ❑ **Male** ❑ **Female** **Date:**_____

Instructions to the child: On the DSM-5 Level 1 cross-cutting questionnaire that you just completed, you indicated that *during the past 2 weeks* you have been bothered by "having little interest or pleasure in doing things" and/or "feeling down, depressed, or hopeless" at a mild or greater level of severity. The questions below ask about these feelings in more detail and especially how often you have been bothered by a list of symptoms **during the past 7 days. Please respond to each item by marking (✓ or x) one box per row.**

							Clinician Use
In the past SEVEN (7) DAYS…							Item Score
		Never	**Almost Never**	**Sometimes**	**Often**	**Almost Always**	
1.	I could not stop feeling sad.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
2.	I felt alone.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
3.	I felt everything in my life went wrong.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
4.	I felt like I couldn't do anything right.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
5.	I felt lonely.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
6.	I felt sad.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
7.	I felt unhappy.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
8.	I thought that my life was bad.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
9.	Being sad made it hard for me to do things with my friends.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
10.	I didn't care about anything.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
11.	I felt stressed.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
12.	I felt too sad to eat.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
13.	I wanted to be by myself.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
14.	It was hard for me to have fun.	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	
						Total/Partial Raw Score:	
						Prorated Total Raw Score:	
						T-Score:	

*The PROMIS measure was developed for and can be used with children ages 8-17 but was tested in children ages 11–17 in the DSM-5 Field Trials.

Health Related Quality of Life (HRQOL-14)

Please read and answer the following questions.

Healthy Days Core Module (CDC HRQOL– 4)

1. Would you say that in general your health is
___ Excellent
___ Very good
___ Good
___ Fair
___ Poor

2. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

Number of days: _____ days

3. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

Number of days: _____ days

4. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

Number of days: _____ days

Activity Limitations Module

5. Are you LIMITED in any way in any activities because of any impairment or health problem?
___ Yes
___ No

6. What is the MAJOR impairment or health problem that limits your activities?
___ a. Arthritis/rheumatism
___ b. Back or neck problem
___ c. Fractures, bone/joint injury
___ d. Walking problem
___ e. Lung/breathing problem
___ f. Hearing problem
___ g. Eye/vision problem
___ h. Heart problem
___ i. Stroke problem
___ j. Hypertension/high blood pressure
___ k. Diabetes
___ l. Cancer
___ m. Depression/anxiety/emotional problem
___ n. Other impairment/problem

7. For HOW LONG have your activities been limited because of your major impairment or health problem?

____ Years ____ Months _____ Weeks _____Days

8. Because of any impairment or health problem, do you need the help of other persons with your PERSONAL CARE needs, such as eating, bathing, dressing, or getting around the house?
____ Yes
____ No

9. Because of any impairment or health problem, do you need the help of other persons in handling your ROUTINE needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?
____ Yes
____ No

Healthy Days Symptoms Module

10. During the past 30 days, for about how many days did PAIN make it hard for you to do your usual activities, such as self-care, work, or recreation?

Number of days: _____ days

11. During the past 30 days, for about how many days have you felt SAD, BLUE, or DEPRESSED?

Number of days: _____ days

12. During the past 30 days, for about how many days have you felt WORRIED, TENSE, or ANXIOUS?

Number of days: _____ days

13. During the past 30 days, for about how many days have you felt you did NOT get ENOUGH REST or SLEEP?

Number of days: _____ days

14. During the past 30 days, for about how many days have you felt VERY HEALTHY AND FULL OF ENERGY?

Number of days: _____ days