Evaluating the Effectiveness of a Multidisciplinary Approach to Treat Eating Disorders

by

Ashley A. Lloyd

A thesis submitted to the School of Community Services

in partial fulfillment of the requirements for

the degree of

Bachelor of Applied Arts in Behavioural Psychology

St. Lawrence College

Kingston, Ontario

Canada

April 2013
Dedication

For my mom

forever missed, love you always
Abstract

The purpose of the current study was to evaluate the effectiveness of the multidisciplinary treatment approach used by Hotel Dieu Hospital’s eating disorder clinic. The treatment team provided the participants with medical monitoring, individual counselling, family therapy, and nutritional counselling. It was hypothesized that the multidisciplinary approach would decrease the participants’ eating disorder and psychological symptoms. Additionally, it was hypothesized that the treatment approach used at this eating disorder clinic would effectively restore the participants’ BMI percentile to a healthy weight classification. The current study consisted of 16 female participants between the ages of 13 to 17 years old diagnosed with either anorexia nervosa, bulimia nervosa, or eating disorder not otherwise specified. Statistical analyses were completed on the participants’ responses at admission and at discharge on the Eating Disorder Inventory-3 (EDI-3; Garner, 2004) and the Beck Youth Inventories – Second Edition (BYI-II; Beck, Beck, Jolly, & Steer, 2005). These analyses demonstrated that the multidisciplinary approach significantly decreased the participants’ eating disorder and general psychopathology symptoms, which confirms the first hypothesis. The second hypothesis was rejected due to only three participants improving to a healthy weight classification at discharge. Additionally, four different variables were tested using Pearson r correlations to determine if there was a relationship between any of the variables and they included the change in scores on the Eating Disorder Risk Composite (EDRC; Garner, 2004), the change in scores on the General Psychological Maladjustment Composite (GPMC; Beck et al., 2004), the length of treatment, and change in the participants’ BMI percentiles. However, all of the correlations evaluated resulted in weak relationships. In conclusion, it is suggested that there is a need for more research on the multidisciplinary approach to treat individuals diagnosed with eating disorders.
Acknowledgements

There have been many individuals that have collaborated with me and have helped me with the writing of my thesis.

Marie-Line Jobin, I cannot express the volume of gratitude I have for you for the amount of time you have spent editing my thesis and providing me with feedback both written and verbally. Throughout my time at placement and the formulation of my thesis, I always knew you were there to support and encourage me. Without your support and encouragement I would not be in the position I am today. I will be forever grateful to you.

I would also like to thank Shawna Simpson my agency supervisor. I have learned so much from you in such a short time. You recognized my ability to employ both my CBT and ABA skills even when I did not have that confidence in myself. You continuously encouraged me to push myself and providing me with guidance when I needed it. Learning from you has given me the ability to develop myself both personally and professionally and I cannot thank you enough.

Additionally, I would like to thank Marina, Patricia, Ashleigh, and Dr. Khalid-Khan for welcoming me to the treatment team. All of you have supported the writing of my thesis by providing me with information and readings that were applicable to my thesis. Furthermore, all of you gave me the opportunity to learn what each of your roles are in the multidisciplinary approach and have allowed me to sit-in with various appointments. You all have given me the opportunity to understand what the multidisciplinary approach entails and I am so thankful for this wonderful learning opportunity you all have given me.

I would also like to thank Andrew McNamara for your role as my second reader. The feedback you supplied me with was invaluable and strengthened my thesis. I am very grateful for your feedback and the help you provided me with regarding my statistical analyses for my results section.

I would also like to extend a special thank you to my family and friends that have provided me with encouragement and support throughout the development of my thesis. I would not be where I am today without any of you and cannot express my gratitude enough for you.
Table of Contents

Dedication .......................................................... i
Abstract ...................................................................... ii
Acknowledgements .................................................. iii
Table of Contents ......................................................... iv
List of Tables ................................................................ vi
List of Figures ............................................................ vii

CHAPTER I: INTRODUCTION ............................................. 1
Hypothesis ................................................................... 2
Overview ...................................................................... 2

CHAPTER II: LITERATURE REVIEW ..................................... 3
Overview of the Literature ............................................. 3
Eating Disorder Diagnoses ............................................ 3
  Anorexia Nervosa (AN) .............................................. 3
  Bulimia Nervosa (BN) ................................................ 4
Differences in Eating Disorder Diagnoses in the DSM-V vs. DSM-IV ........................................ 4
Comorbidities with an Eating Disorder Diagnosis ................... 5
Impact of an Eating Disorder Diagnosis on Relationships and Self-Concept .............................. 6
Assessment of Eating Disorders ..................................... 7
Multidisciplinary Approach .......................................... 8
Cognitive-Behaviour Therapy (CBT) .............................. 9
Family Therapy ........................................................ 10
Nutritional Counseling ................................................. 12
Healthy Weight Class ................................................. 13
Relationship between Literature Review and the Current Study ............................................. 14

CHAPTER III: METHOD .................................................. 15
Participants ................................................................... 15
Design ......................................................................... 15
Setting and Apparatus .................................................. 15
Measures ...................................................................... 16
  Eating Disorder Inventory-3 (EDI-3) .......................... 16
  Beck Youth Inventories Second Edition (BYI-II) .......... 16
  Body Mass Index (BMI) Percentiles ............................ 17
Procedures .................................................................... 18

CHAPTER IV: RESULTS .................................................. 19
Eating Disorder and Psychological Symptomatology .................. 19
Healthy Weight Classification ..................................... 21
Length of Treatment .................................................. 22
Correlations ............................................................... 23

CHAPTER V: DISCUSSION ............................................... 24
Summary of Results .................................................... 24
Meaning of the Results in Context to the Current Literature Review .................................. 24
Strengths ...................................................................... 25
Limitations ................................................................. 26
Multilevel Challenges to Service Implementation ............... 26
Implications for the Behaviour Psychology Field .................. 27
List of Tables

Table 1. Pre and Post Scores on the Beck Youth Inventory Subscales..............................20
Table 2. Pre and Post Scores on the Eating Disorder Inventory-3 Composites......................21
Table 3. The Participants Pre and Post Weights Using BMI Percentiles...........................21
Table 4. Correlation Chart.................................................................23
List of Figures

Figure 1. The Participants’ Admission and Discharge Weight Classification……………………22
Figure 2. The Range of Days Spent in Treatment by the Participants………………………22
Chapter I: Introduction

Everyday all over the world people will refuel their bodies by the simple task of eating a meal. This leads to the question of, would everyone consider eating a meal a simple task? According to the *Diagnostic and Statistical Standard Manual* (2013), 0.4% to 1.5% of the population would answer no to this question due to issues with food consumption. These individuals typically would receive an eating disorder diagnosis. The *Diagnostic and Statistical Standard Manual* (2013) suggests that an individual could be diagnosed with one of the following eating disorders: anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED), other specified feeding or eating disorder, unspecified feeding or eating disorder, pica, rumination disorder, and avoidant restrictive food intake disorder (American Psychiatric Association, 2013).

Fursland et al. (2012) noted that individuals diagnosed with eating disorders can also have accompanying medical problem(s) and/or disease which may include but are not limited to: a decrease in blood pressure and heart rate, anemia, fluctuating hormone levels, and cardiac arrhythmias. If the eating disorder symptoms worsen, then it is likely that the medical problems will also worsen. Davidson, Blankenstein, Flett, and Neale (2010) have suggested that these medical problems can become so severe that there is the potential for an individual to suddenly die if they do not receive treatment. Furthermore, they suggest that many individuals diagnosed with an eating disorder also have an increased chance of being diagnosed with one or multiple psychiatric diagnoses. There are a significant number of psychiatric comorbidities that can likely occur with an eating disorder diagnosis and they include: depression, anxiety disorders, personality disorders, and substance abuse (Pearlstein, 2002). It has also been found that individuals diagnosed with an eating disorder may deliberately self-harm; if they do self-harm, it is often more out of habit rather than to commit suicide (Favaro & Santonastaso, 2002). With the added complexities of medical problems and psychiatric comorbidities, the literature suggests that individuals with eating disorders are a difficult population to treat. For this reason, it is important to use interventions that effectively reduce the symptoms experienced and improve the individual’s quality of life.

The research involving the topic of interventions effectively used for individuals with eating disorders has presented mixed results, especially with adolescents (Gowers, 2006). The literature suggests that, not one single therapeutic approach has been proven to effectively work with all eating disorder diagnoses. Currently, there are many different treatment approaches being studied to use for individuals diagnosed with eating disorders. Research has shown that cognitive-behaviour therapy (CBT) is the most common approach used to treat bulimia nervosa and binge eating disorder (Bieling, McCabe, & Antony, 2006). On the other hand, it has been shown that there has been limited success using a CBT approach with individuals diagnosed with AN that have been ill for an extended period of time and feeling no motivation to change (Bamford & Mountford, 2012). Therefore, the National Institute for Clinical Excellence (NICE) recommends using a family-based therapy approach as the most effective treatment for individuals diagnosed with anorexia nervosa (Wilson & Shafran, 2005). In addition, the involvement of a multidisciplinary team, as a new approach to treat individuals with an eating disorder, is currently being researched. There is still limited research that has been completed on the use of a multidisciplinary approach; despite this, some research has shown a preference of
using a multidisciplinary approach with this population. For example, it has been suggested by Bamford and Mountford (2012) that using a multidisciplinary treatment team would be beneficial for both the client and clinician. Also, Nagai et al. (2002) recommend that involving a multidisciplinary team and the client’s family is advantageous to the treatment process.

As part of the treatment process, one of the most important parts of treatment is developing goals for the client. The goals should be individualized depending on the population involved in the treatment. Specifically, one of the main goals for individuals diagnosed with an eating disorder is to have them be in a healthy weight classification (Davidson et al., 2001). According to the Centers for Disease Control and Prevention (2011; Table 1), in order to assess what a healthy weight is in children and adolescents a body mass index percentile is used. To be considered a healthy weight, an individual needs to be in the “5th percentile to less than the 85th percentile”. The reasoning behind this concept is because of the many health implications that could occur to these individuals if they remain drastically under or overweight (Gowers, 2006).

Hypothesis

The purpose of this current study is to assess the effectiveness of the involvement of a multidisciplinary team in the treatment of adolescents diagnosed with an eating disorder. Several studies have examined the best approach to use for treating individuals diagnosed with an eating disorder. Since these studies have produced mixed results, it is important to assess the treatment being delivered by Hotel Dieu Hospital's eating disorder clinic. It is hypothesized that the treatment approach used at this eating disorder clinic will effectively restore their clients’ BMI to a healthy weight classification. The second hypothesis is that the participants after being discharged from the eating disorder clinic will also demonstrate a decrease in eating disorder and general psychopathology symptoms as measured on two standardized scales.

Overview

The current study will consist of a literature review evaluating effective treatment approaches used with individuals diagnosed with an eating disorder, a review of the eating disorder criteria changes caused by a new DSM being produced, and the importance of getting these individuals into a healthy weight class. Following this, a detailed description of the method utilized in this study will be provided. Analysis of the results obtained from this study will be presented using tables, figures, and data analysis. Concluding the research paper will be a discussion of the results attained, the strengths and limitations of the study, and future research recommendations.
Chapter II: Literature Review

Currently, 0.4 to 1.5% of the population has been diagnosed with an eating disorder (American Psychiatric Association, 2013). An eating disorder will have a huge impact on an individual’s life. Since this impact can affect various areas of an individual’s life, a thorough assessment needs to be completed (Anderson, Lundgren, Shapiro, & Paulosky, 2004). The assessment should address the topics of disordered eating patterns, potential comorbidities, nutrition, and peer relationships (Anderson et al., 2004). An eating disorder usually involves the occurrence of both psychiatric and medical comorbidities (Pearlstein, 2002). Both psychiatric and medical comorbidities should never be overlooked when they co-occur with an eating disorder diagnosis. It has been acknowledged that co-occurring medical problems can become so severe that there is the potential for an individual to suddenly die if they do not receive the proper treatment. Not only does an eating disorder affect the individual’s physical and mental health but also impacts their social relationships. The social relationships impacted by an eating disorder mostly occur throughout the family but also has an impact on peer relationships (Gilbert, Shaw, & Notar, 2000). Hillege, Beale, and McMaster (2006) have found that an eating disorder can have a negative impact on the individual’s social relationships or it can bring the affected individuals closer together. Due to an eating disorder having a vast impact on an individual’s life, the literature suggests that it is beneficial to involve a multidisciplinary team. Researchers suggest this because each team member has an area of speciality, which ensures that the client is getting the best possible treatment (Stewart & Williamson, 2004). Before a treatment plan can be designed, the multidisciplinary team needs to assess which eating disorder diagnosis is affecting the individual. An eating disorder diagnosis will be made using the criteria outlined by the Diagnostic and Statistical Standard Manual.

Eating Disorder Diagnoses

Anorexia Nervosa (AN).

When assessing if individuals meet a diagnosis of anorexia nervosa (AN), it is important to assess the three different features associated with the diagnosis (American Psychiatric Association, 2013). The first criterion, also known as Criterion A, suggests that the individuals must be significantly underweight for their age and sex. In order to meet Criterion B, the individuals must present with a fear towards gaining weight and/or becoming fat. Lastly, Criterion C recognizes that individuals diagnosed with AN will also have a poor perception with regards to their body shape and weight. When examining individuals with AN, it is critical to assess if they meet criteria for a subtype (American Psychiatric Association, 2013). The Diagnostic and Statistical Standard Manual (DSM-5, 2013) suggests that there are two possible subtypes a clinician could add to the diagnosis of AN, restricting type or binge eating/purging type. To be diagnosed with the restricting subtype, the individuals must not be binge eating and/or purging; rather the individuals achieve their weight loss through the restriction of food intake and/or excessively exercising. An additive diagnosis of binge eating/purging subtype requires that the individuals need to be engaging in binging and/or purging for at least three months. There are various methods individuals can engage in order to purge and these can include but are not limited to vomiting, laxatives, diuretics, etc.
Bulimia Nervosa (BN).

In order to meet the diagnosis of bulimia nervosa (BN) there are five features that need to be met (American Psychiatric Association, 2013). The first part of Criterion A is that the individuals must be engaging in binge eating episodes. The Diagnostic and Statistical Standard Manual (2013) defines a binge eating episode as, “eating, in a discrete period of time, an amount of food that is definitely larger than most individuals would eat in a similar period of time under similar circumstances” (American Psychiatric Association, 2013, p. 345). The second part of Criterion A is that when individuals are having a binge eating episode, they need to feel like they have no control over what they are eating and how much they are eating. After a binge eating episode is completed, the individuals will feel the need to purge to prevent from gaining weight; this act is what comprises Criterion B. Criterion C entails that this binge-purge cycle must be occurring minimally for the past three months, at least once a week. Criterion D suggests that individuals with BN will have self-esteem problems due to the extreme focus and pressure they would put on themself regarding their body shape and/or weight. Lastly, in order to meet Criterion E, individuals cannot receive this diagnosis if they have an AN binge eating/purging type. Additionally, the Diagnostic and Statistical Standard Manual (2013) suggests that there have been reports of a few cases where an individual diagnosed with BN may crossover to a diagnosis of AN. If this does occur with a patient, more than likely the individual will cross back to his/her original diagnosis or has the potential to crossover between the two diagnoses numerous times (American Psychiatric Association, 2013). The criteria for the diagnoses of AN and BN have both changed from the Diagnostic and Statistical Standard Manual (1994) due to the Diagnostic and Statistical Standard Manual (2013) just being recently published.

Differences in Eating Disorder Diagnoses in the DSM-V vs. DSM-IV

The new publication of the Diagnostic and Statistical Standard Manual established many new changes for the diagnosis of eating disorders (Toto-Moriarty & Mastria, 2013). Toto-Moriarty and Mastria remarked that one of the most significant changes made was declaring the diagnosis of binge eating disorder (BED) independently from eating disorder not otherwise specified (EDNOS). Pica, rumination disorder, avoidance/restrictive food intake disorder, other specified feeding or eating disorder, and unspecified feeding or eating disorder have also been added as potential diagnoses under the feeding and eating disorder category (American Psychiatric Association, 2013). It is believed that the other specified feeding or eating disorder diagnosis replaced the EDNOS diagnosis used in the Diagnostic and Statistical Standard Manual (DSM-IV; Morrison, 1994). The reasoning behind this belief is because if an individual does not fit the criteria for any of the other eating disorder diagnoses, then the individual would receive a diagnosis of EDNOS or the current diagnosis of other specified feeding or eating disorder (American Psychiatric Association, 2013). It should be noted that the criteria used for eating disorders have also changed between the two publications. For example, in the DSM-IV in order to obtain a diagnosis of AN, the individual had to “miss at least three consecutive menstrual periods” (Morrison, 1995, p. 389); whereas in the DSM-V, this is no longer a criterion (American Psychiatric Association, 2013). Lastly, for each eating disorder diagnosis, the DSM-5 asks for the clinician to specify the severity of the symptoms, as well as, whether the individual is in ‘partial remission’ or ‘full remission’ (American Psychiatric Association, 2013), and these
two specifications were not used in the DSM-IV (Morrison, 1995). Even though there have been changes made to the eating disorder diagnoses, the medical and psychiatric comorbidities these individuals may potentially have did not change.

**Comorbidities with an Eating Disorder Diagnosis**

An individual diagnosed with an eating disorder has an increased risk of co-occurring medical complications and other psychiatric disorders (Pearlstein, 2002). Typically, the medical complications are caused by the individual’s weight being in an unhealthy weight class and/or malnutrition (Davidson et al., 2010). As was mentioned in the Introduction, Fursland et al. (2012) found that individuals diagnosed with an eating disorder could have many medical complications and they include but are not limited to: a decrease in blood pressure and heart rate, anemia, fluctuating hormone levels, and cardiac arrhythmias. It was aforementioned by Pearlstein (2002) that there are various potential psychiatric comorbidities that could occur with an eating disorder diagnosis and they can include depression, anxiety disorders, personality disorders, and substance abuse. Since the likelihood of an individual diagnosed with an eating disorder may also be diagnosed with one or a combination of these other psychological disorders, it is important to assess how these comorbidities could affect a person.

Many researchers have devoted their time to complete research on anxiety and how it affects individuals diagnosed with an eating disorder. Espeset, Gulliksen, Norbø, Skårderud, and Holte (2012) found that individuals diagnosed with an eating disorder combined with anxiety would try to cope with the anxious and fearful feelings in a variety of ways. The interviews they completed found three different eating disorder behaviours were used to suppress anxiety and these included restricting eating, purging, and body checking. Some of the participants in this study found that, if they were feeling anxious, purging would help them to feel calm. Some of the participants engaged in body checking numerous times per day to reduce their anxiety about gaining weight. Therefore, it can be concluded from this study that anxiety can worsen eating disorder behaviours and rituals; therefore, helping individuals diagnosed with eating disorders cope with their anxiety is extremely important.

Espeset et al. (2012) also interviewed the participants on how feelings of sadness and/or depression and how anger affected them and their eating disorder behaviours. The researchers found that there was a strong relationship between body dissatisfaction and sadness and depression. As with coping with anxiety, the participants in this study engaged in various strategies to help with their feelings of sadness and/or depression. Some of the participants avoided sadness by focusing on food and how it affected their body shape and weight. The researchers also found there were differences in how the participants dealt with their sadness based on the eating disorder diagnosis they were experiencing. They found that the participants diagnosed with anorexia nervosa would restrict their eating to provide them with comfort and individuals diagnosed with bulimia nervosa would purge. Out of all of the emotions, the participants found anger to be the most incomprehensible emotion. Many of the participants felt disgusted towards themselves when they felt anger and were unsure how to express anger. For this reason many of the participants tended to avoid people or situations that had the potential to make them angry. Many of the participants would restrict their eating or purge to aid in the avoidance of becoming angry. The participants found that excessive exercise and/or self-harm
could help release their feelings of anger. Lastly, the researchers described that many of the participants would communicate their anger towards others by not eating or by having temper outbursts. Therefore, it could be concluded that many individuals diagnosed with an eating disorder need to be taught strategies on how to express their emotions in a healthier manner.

Even though these psychiatric comorbidities could co-occur with an eating disorder diagnosis, some of these psychiatric disorders could also predispose individuals to develop an eating disorder (Thomas, 2000). Thomas (2000) found that the following traits could be considered a risk factor for an individual to develop an eating disorder and they include: “depression, low self-esteem, perfectionism, obesity, child sexual abuse, first degree relatives with an eating disorder, or substance misuse in the family” (p. 55). In addition to potentially having medical complications or psychiatric comorbidities, individuals diagnosed with an eating disorder could have their social relationships impacted.

**Impact of an Eating Disorder Diagnosis on Relationships and Self-Concept**

The literature often discusses the impact of having an eating disorder on relationships with the focus on the family. Minimal research has been conducted on peer relationships; however, Gilbert, Shaw, and Notar (2000) found that adolescents with eating disorders have their peer relationships impacted as well. Hillege et al. (2006) found that a family with a child diagnosed with an eating disorder could have their familial relationships become stronger. On the other hand, they found the opposing could happen where the burden of the eating disorder could cause a rift between family members. They also found that some families have experienced negativity from health professionals during the treatment process. The health professionals did not want the parents involved in the treatment of their child even though literature has shown it is beneficial to have the family involved (Hillege, Beale, & McMaster, 2006). Gilbert et al. (2000) corroborated this finding because they suggested that parents being involved in the treatment process would be able to provide support to their child. It was reported that the family’s extended family members and their friends avoided them which usually resulted in the parents feeling isolated (Hillege et al., 2006). Additional to social isolation, Hillege et al. (2000) found that the parents also claimed an eating disorder usually carried financial burden because of having to take time off work for appointments and transportation costs. It should also be acknowledged that even though the parents feel much of the burden of the eating disorder, the siblings could also be affected (Gilbert et al., 2000). Gilbert et al. (2000) found that siblings of adolescents diagnosed with an eating disorder feel angry due to much of the parents’ time and attention being focused on the adolescent.

Researchers have found a relationship between an individual diagnosed with an eating disorder’s family environment and the individual’s self-concept. Demidenko, Tasca, Kennedy, and Bissada (2010) found that individuals diagnosed with an eating disorder find it difficult to have a differentiated identity which is typically caused by poor self-concept. The researchers looked at two different characteristics that affect an individual from having a differentiated identity and they are attachment avoidance and attachment anxiety. They found that individuals with attachment avoidance did not feel relationships were important and did not feel comfortable getting close to others. They also found individuals that meet the attachment avoidance characteristic typically are considered high achievers and perfectionists. Both of these traits lead
to a vicious cycle of insurmountable standards that result in a poor self-concept, which then leads to identity development issues. As for attachment anxiety, it had both a direct and an indirect effect on identity development and self-concept. The direct effect resulted in an individual fixating on relationships and needing approval and reassurance from others. This resulted in these individuals having a difficult time trying to differentiate themselves from others and developing an independent identity. The indirect effect advocates that these individuals will have a fear of losing relationships that also results in a vicious cycle. The fear of losing relationships could lead to negative thoughts about their self, which then has a negative impact on their self-concept. Therefore, an individual with poor self-concept and high attachment anxiety will need to excessively rely on their relationships to define their self-concept. One limitation of this study was that all of the participants were women and thus none of these results could be generalized to the male population. Since relationships and an individual’s self-concept could impact the treatment process, both of these areas need to be discussed during the assessment.

Assessment of Eating Disorders

Berg, Peterson, and Frazier (2012) suggest that assessments are extremely important to conduct because it allows the clinician or treatment team the opportunity to give a proper diagnosis, the best treatment approach to use, and to assess progress from the initial meeting. There are several steps completed by clinicians or a treatment team when assessing individuals diagnosed with an eating disorder. Anderson et al. (2004) recommended that the first step in the assessment procedure involve a screening. They suggest that the screening is completed to determine the severity of the eating disorder symptomatology the individual is experiencing. If the eating disorder symptomatology were severe enough to warrant further attention then the individuals would move onto the next step in the assessment (Anderson et al., 2004). Since comorbidities are common with an eating disorder diagnosis, it is important to screen for psychiatric risk (Berg, Peterson, & Frazier, 2012). Individuals that have an eating disorder usually do not think of the medical risks involved with an eating disorder and, therefore, this area of health should also be screened (Berg et al., 2012).

Berg et al. (2012) propose that the next step in assessment involves the use of questionnaires that could be completed as a self-report measure, unstructured clinical interviews, or structured clinical interviews. There has been a great deal of debate as to which questionnaire approach is best; however, structured clinical interviews have been deemed the gold standard (Türy, Gülec, & Kohls, 2010). An example of a structured clinical interview for eating disorders is the Children’s Eating Disorder Examination (ChEDE) (Micali & House, 2011). To have a structured clinical interview administered, the interviewer must have completed the training required in order for the validity of the tool to not be affected (Türy et al., 2010). Türy, Gülec, and Kohls (2010) identified that structured clinical interviews can be expensive and time consuming. In view of these limitations, some researchers may believe that self-report is an equally viable option to structured clinical interviews (Micali & House, 2011). However, when having an individual completes a self-report questionnaire, it is extremely important to clarify any questions the individual may have and provide clear instructions on how to complete the questionnaire (Micali & House, 2011). An example of a self-report questionnaire for eating disorders is Garner’s Eating Disorder Inventory 3 (EDI-3) (Tury et al., 2010). Similar to structured clinical interviews, self-report questionnaires have their share of limitations. Tury et
al. (2010) suggested that the individuals could deny they have an eating disorder and thus will not provide correct information regarding their eating disorder symptoms. When providing treatment to children and adolescents, Micali and House (2011) advised to have the parents provide information on the eating disorder symptoms they have observed in their child. After the results have been analyzed, the clinician or treatment team can decide on an effective treatment approach (Anderson et al., 2004). An approach that is currently being studied to use with the eating disorder population is the involvement of a multidisciplinary team.

**Multidisciplinary Approach**

Currently there is limited research regarding the topic of using a multidisciplinary approach to treat individuals diagnosed with an eating disorder. However, it has been suggested by Bamford and Mountford (2012) that there is a need to use a multidisciplinary approach. Researchers that have addressed this topic would agree that it is more efficient to have a multidisciplinary team involved in the treatment process of eating disorders (Nagai et al., 2002). Many different professions can be involved in the treatment process of eating disorders and they could include but are not limited to nursing staff, psychologist/psychiatrist, medical doctor, behaviour therapist, dietitian, and a social worker/family therapist (Stewart & Williamson, 2004). Each of these professions brings a different role to the treatment process and it is vital that everyone works together to ensure the treatment being provided is effective (Golan, 2013).

When treatment planning begins, each member of the team must be present to ensure everyone’s opinions are heard and to ensure everyone understands what their responsibility is in the treatment process (Stewart & Williamson, 2004). Stewart and Williamson (2004) advise that the team should meet on a weekly basis to confirm everyone is in agreement with the treatment process. Not only does the relationship each professional has with each other affect the outcome of treatment, the relationship the client has with everyone can also affect the outcome (Golan, 2013). Therefore, the clients need to feel like they have a good therapeutic alliance with everyone on the team (Stewart & Williamson, 2004). Stewart and Williamson (2004) suggest that if the therapeutic alliance is good then the patient will be more open to discussing sensitive topics with different professionals.

Nagai et al. (2002) completed a study on the effectiveness of a multidisciplinary team approach to treat eating disorders and observed some positive results. The treatment from this study was delivered in a hospital setting. The participants engaged in both individual counseling and group counseling. During the group counseling sessions, the family members of the participants were invited to also attend. The participants’ scores were categorized as ‘excellent outcome’, ‘much improved outcome’, ‘symptomatic outcome’, or ‘poor outcome’. At the six year follow-up, 51.5% of the participants were scored as an ‘excellent outcome’, 17.9% were categorized as ‘much improved’, 11.9% were categorized as ‘symptomatic outcome’, 11.9% were categorized as ‘poor outcome’, and 7.4% of the participants passed away. Additionally, they compared the outcomes between the diagnoses of anorexia nervosa restricting type (AN-R), anorexia nervosa binge-purge type (AN-BP), and BN. They found that the individuals with AN-R had a better outcome then the other two diagnoses. However, this approach was still considered effective for all three diagnoses.
Bean et al. (2008) completed a study to assess the effectiveness of a multidisciplinary approach to treat individuals diagnosed with anorexia nervosa. The participants included in this study were both male and female participants diagnosed with anorexia nervosa (AN) and some of the participants had a comorbid diagnosis of obsessive-compulsive disorder (OCD). Treatment was delivered to the participants in a residential treatment facility. The participants were expected to participate in all of the different types of treatment, which included group therapy, family therapy, nutrition therapy, art therapy, recreation therapy, and yoga and relaxation therapy. The researchers assessed the change from pre-post treatment evaluating the change based on the three different areas that included symptoms of depression, weight, and length of stay. The participants were placed in groups based on their diagnosis(es) and gender. Consequently, one group consisted of female individuals diagnosed with AN and OCD, the second group included female individuals diagnosed with AN, the third group consisted of males diagnosed with AN and OCD, and the final group was of male individuals diagnosed with AN. The researchers then compared the differences between as well as within the four different groups based on the three areas of interest. There were various results obtained from this study. One of the first results was that both groups that had the combined diagnoses of AN and OCD had more severe depressive symptoms compared to the two groups that had only an AN diagnosis. Additionally, they found that the group comprised of females diagnosed with AN and OCD at pre-treatment were considered to have severe depressive symptoms and by post-treatment improved to a moderate level. On the other hand, the other three groups made many more improvements because, by the end of treatment, their depressive symptoms were considered mild or minimal. Therefore, a comorbid diagnosis of OCD with the female gender has the potential to escalate the dangers of their situation. As for the weight characteristic, this study resulted in the two male groups gaining more weight compared to the two female groups. Overall, both the male groups had better outcomes compared to the two female groups. The researchers suggested that this could be because the males stayed in treatment for a longer period of time than the female participants. The authors identified one limitation was that the group comprised of males diagnosed with AN and OCD was smaller than the other groups. However, they did try to overcome this limitation by using t-distributions during their statistical analysis. A second limitation of the study was that they did not have a control group to which to compare the four groups. One of the many therapeutic approaches used in the multidisciplinary team is cognitive-behaviour therapy.

Cognitive-Behaviour Therapy (CBT)

As previously mentioned, the research surrounding the topic of interventions effectively used with the eating disorder population has presented mixed results, especially with adolescents (Gowers, 2006). Various types of treatment approaches have been studied to use with individuals diagnosed with an eating disorder; however cognitive-behaviour therapy (CBT) has been advised as a treatment of choice for both BN and BED (Bieling, McCabe, & Antony, 2006). Whereas with a diagnosis of AN, Wilson, Grilo, and Vtiousek (2007) have found CBT to be the most regularly tested treatment approach. The National Institute for Clinical Excellence (NICE) recommended that cognitive-behaviour therapy should typically run for 16 to 20 sessions in a four to five month treatment period for BN (Wilson & Shafran, 2005). Bamford and Mountford (2012) acknowledged this finding because they have found that CBT was more commonly used with individuals that have been ill for a shorter period of time and are ready to begin the recovery
process. However, there is the potential to have more or fewer sessions depending on each individual case and the clinician or treatment team.

As previously mentioned, CBT has not been as successful treating individuals diagnosed with AN (Bamford and Mountford, 2012), as it has been with individuals diagnosed with BN or BED (Bieling, McCabe, & Antony, 2006). Currently, there have been a few studies conducted to analyze the effectiveness of CBT in treating individuals diagnosed with AN. Most research with individuals diagnosed with AN has been concentrated on family therapy because this approach has been proven to be the most effective with this population (Wilson & Shafran, 2005). Schmidt et al. (2007) compared family therapy to CBT guided self-care for adolescents diagnosed with BN to evaluate which approach would be more effective. The authors suggested that for adolescents diagnosed with BN, the CBT guided self-care had a slight advantage over family therapy when looking at the variables of treatment outcome and cost, as well as suitability.

A study by Byrne et al. (2011) evaluated the effectiveness of a cognitive behaviour therapy approach used for individuals diagnosed with an eating disorder attending an outpatient clinic. In this study, the researchers assessed whether the individuals that fully completed treatment or partially completed treatment had improvements in both eating symptomatology and general psychopathology. They found that 56.1% of the individuals that fully completed treatment were in remission and 10.6% of the individuals were partially in remission. This meant that the individuals had significant improvements in both eating symptomatology and general psychopathology. However, this study did acknowledge that treatment outcomes were not as beneficial for individuals diagnosed with AN. They found individuals with AN were much more likely to dropout from treatment compared to individuals diagnosed with BN or EDNOS.

Dalle Grave et al. (2012) completed a study specifically for individuals diagnosed with AN to determine the effectiveness of CBT. This study concluded with three different findings which they suggested as promising. The first finding was that two-thirds of the participants completed the entire treatment process. The second finding showed that the patients had significant improvements in both eating disorder symptomatology and weight gain. The last finding was that, 60 weeks after treatment was completed, most of the individuals maintained their improvements without additional treatment. Conversely, the researchers found that these results were not usually obtained when using a family therapy approach. They suggest that these individuals usually require additional treatment after family therapy.

Family Therapy

The family therapy approach was recommended by NICE in 2004 as the best approach to use with adolescents diagnosed with AN (Wilson & Shafran, 2005). Wilson et al. (2007) believe that a majority of clinicians would agree that having the parents involved in the treatment process of adolescents is beneficial. On the other hand, depending on the age of the clients, the clients may not want their family involved in the process because of their increasingly developing autonomy; this is typically seen in older adolescents (Lock & Fitzpatrick, 2007). Typically, Wilson et al. (2007) suggest that family therapy sessions should run over a 6 to 12 month period and average 10 to 20 sessions. They advise that family therapy can be delivered in
two different formats; one being called conjoint where all of the family members must attend the sessions or the second option is to have only some of the family members need to be involved, such as one of the parents. By involving the whole family, the therapist can observe the family characteristics (Davidson et al., 2010). The family systems theory suggests that there are four characteristics a family with a child diagnosed with an eating disorder display and they include; “enmeshment, overprotectiveness, rigidity, or lack of conflict resolution” (Davidson et al., 2010, p. 388). Davidson et al. (2010) advocate that, if the family exhibit any one of these characteristics, this is an area the therapist could address because these characteristics usually promote the eating disorder pathology of the child.

According to Lock and Fitzpatrick (2007), there are three phases in family therapy. The first phase in this approach involves re-feeding the child or adolescent with the eating disorder (Lock & Fitzpatrick, 2007). They recommended that the first step in this process is having the therapist observe a family meal and the family’s patterns of eating. The re-feeding process will continue until the affected individual’s weight is restored to a healthy weight. During this process, it is the therapist’s job to provide the parents with positive feedback and reinforcement. For phase two of family therapy, the affected child or adolescent begins the process of gradually making decisions on what will be eaten and how much (Lock & Fitzpatrick, 2007). Once the child has successfully completed this task on its own, the parental monitoring will also gradually decrease. Once nearing completion of this phase, any other concerns the family have can be discussed, but these concerns must focus on the topics covered in this phase. Lock and Fitzpatrick (2007) propose that this phase can take an extensive period of time to complete and is considered the most challenging. Finally, phase three targets topics such as the child’s or adolescent’s autonomy, family rules, parental strategies to use with their child(ren) and strategies to help the parent’s relationship with each other (Lock & Fitzpatrick, 2007).

A study completed by Lock, Agras, Bryson, and Kraemer (2005) evaluated whether there would be a difference in effectiveness between short-term and long-term family therapy to treat adolescents diagnosed with AN. The study concluded that short-term family therapy can be just as effective as long-term family therapy. On the other hand, there were some exceptions to this finding (Lock et al., 2005). The exceptions they found were that if the adolescent diagnosed with AN came from a family home that experienced a divorce or a single-parent home or if the adolescent was experiencing obsessive-compulsive symptoms around eating, they would likely need to be in treatment for a longer period of time.

A study completed by Isserlin and Couturier (2012) studied the effects of therapeutic alliance on treatment effectiveness with family therapy. The two variables they assessed were ‘sense of purpose’ and ‘engagement in therapeutic process’ (Isserlin & Couturier, 2010, p. 48). They found that the two characteristics they were measuring by the end of treatment resulted in small to medium effect sizes with minimal significance. However, they noted that the small sample size could have affected the significance of the study. Lastly, a study completed by Ellison et al. (2012) evaluated the components of family therapy to see which component would have a significant effect on weight gain. They found that the component that had the most significant effect on weight gain was parental control. Parental control meant the parents were to not allow their child to engage in eating disorder behaviours such as food restriction. Parental control also significantly increased the chances of the family remaining in therapy. Another
component that significantly affected weight gain was the mother of the child having a strong therapeutic alliance with the therapist, whereas this was the opposite case for the father. The stronger the therapeutic alliance the father had the less chance of the child gaining weight. The author’s hypothesized that this was the fathers showing resistance towards the re-feeding process. However, they also stated due to missing data the interpretation of these results should be taken with caution. The one component that did not affect weight gain was support from the siblings. However, if the siblings were supportive of the treatment process, the parents had an easier time taking control of their child with an eating disorder. They suggested that the reasoning behind this notion is because the parents felt that their child (the sibling) was giving them permission to focus on the child diagnosed with an eating disorder. Parental control is given because individuals with AN usually are malnourished and significantly underweight. Usually a dietitian is involved in the treatment process and helps the parents with the job of re-feeding their child.

**Nutritional Counseling**

Nutritional counseling can be provided by various professionals such as a doctor or nurse, however it is preferable to have a registered dietitian to deliver the nutritional counseling (Scribner Reiter & Graves, 2010). A registered dietitian has the background knowledge surrounding the proper nutrition and dietary requirements for children and adolescents (Hillege et al., 2006). Dietitians will be able to assess if the adolescents diagnosed with an eating disorder are malnourished and under weight (Scribner Reiter & Graves, 2010). Individuals diagnosed with an eating disorder can be significantly underweight or overweight. Scribner Reiter and Grave (2010) acknowledge both of these extreme weight ranges have the potential to implicate the individual’s health. Usually to improve the issue of weight and malnutrition, the dietitian will have the individuals diagnosed with an eating disorder engage in regularized eating (Bamford & Mountford, 2012). Regularized eating is defined as eating three meals per day with two - three snacks in-between meals (Bamford & Mountford, 2012). Even though it is important to address nutrition with this population, the literature advises that nutritional counseling should not be used on its own to treat individuals diagnosed with an eating disorder; rather this approach should be involved in the multidisciplinary approach (Thomas, 2000).

Since much of the literature views nutritional counseling as an aspect of the multidisciplinary team, there is limited research completed on this approach being solely used for treatment. In 2003, Pike, Walsh, Vitousek, Wilson, and Bauer completed a study comparing nutritional counseling and CBT. By the end of the experiment, 44% of the individuals in the CBT group met the “good outcome” according to the Morgan-Russell criteria compared to the 7% in the nutritional counseling group. At the one-year follow-up, they found that 53% of the individuals in the nutritional counseling group met the criteria for relapse compared to only 22% of the individuals in the CBT group. Therefore, nutritional counseling should not be the only form of treatment an individual diagnosed with an eating disorder receives because nutritional counseling treatment effectiveness rates show minimal success. As was previously mentioned, one of the treatment aspects conducted by the dietitian is having the individuals diagnosed with eating disorder be in a healthy weight class.
Healthy Weight Class

To assess if an adolescent is in a healthy weight class, one would need their age, height, and weight (American Psychiatric Association, 2013). With these three variables, the professionals have the ability to calculate their body mass index (BMI). According to the Centers for Disease Control and Prevention (CDC, 2011, Table 1), in order to have a healthy body mass index (BMI) an individual needs to be “at least in the fifth percentile to less than the 85th percentile”. If an adolescent scores “less than the fifth percentile”, the adolescent would be considered underweight (CDC, 2011, Table 1). For the adolescent to be considered overweight, their weight percentile must be in the “85th to less than the 95th percentile” (CDC, 2011, Table 1). Lastly, the CDC (2011) would consider an adolescent obese if their weight percentile is “equal to or greater than the 95th percentile” (Table 1). A BMI percentile is used with children and adolescents instead of BMI index numbers because children and adolescents have not finished growing. Therefore, a clinician can use the adolescent’s age and height variables and compare them to other adolescents of the same age and obtain a BMI percentile relevant to a similar population. Even though BMI percentiles are a beneficial way to assess weight, the CDC (2011) recognizes that “BMI is not a diagnostic tool” (para. 3). Therefore, if a BMI number obtained from a patient is concerning, further assessments will need to be completed (CDC, 2011).

Specifically with eating disorders, an unhealthy weight can be a major concern, especially with individuals that are diagnosed with AN or BED. For this reason, the medical doctor, the nurse, or the dietitian on the treatment team should assess the individual’s current weight, their maximum weight, and their ideal weight (Fursland et al., 2012). If the current weight is significantly high or low, this could impact the individual’s health (Fursland et al., 2012). Thus, one of the main goals of a multidisciplinary approach is to restore the individuals’ weight to a healthy class and one of the main ways to achieve this is by having the individuals participate in regularized eating (Bamford & Mountford, 2012).

Since encouraging a client to get into a healthy weight class is one of the main goals of therapy (Bamford & Mountford, 2012), one could say that weight could be assessed as a treatment outcome. There have been many research studies completed to assess how the weight of individuals diagnosed with an eating disorder can affect treatment. These research studies have provided clinicians with various weight-related characteristics and their affect on the treatment outcome. One characteristic that is currently being studied is weight suppression. Weight suppression is defined as the difference between the individual’s maximum weight and his/her current weight (Berner et al., 2013). Berner et al. (2013) completed a study on weight suppression and found that if an individual had been suppressing their weight for a long period of time before being admitted this would correlate with quick weight gain during treatment. Research has shown that this weight suppression will affect individuals diagnosed with AN and BN. Interestingly, they also found that if the individuals have a high BMI before being admitted, they were more likely to experience higher levels of symptomatology after the treatment process had ended. These findings were also corroborated by a study completed by Butryn et al. (2006) when they found a correlation between weight suppression and treatment outcome for individuals diagnosed with BN. The researchers found that the participants had an increased chance of dropping out of treatment if the difference between the individual’s maximum weight and current weight was large. Similarly, a study done by Baran, Weltzin, and Kaye in 1995...
assessed the outcome of patients with AN who were discharged from treatment with a low weight. They found that if an individual with AN was discharged while still being in a low weight class, they had a higher chance of being re-hospitalized in the future. The reasoning behind this is because many of these individuals will still display mood disturbances and disordered eating (Baran et al., 1995). Therefore, Baran et al. (1995) suggest that if an individual is still underweight and presenting with eating disorder symptoms, the individual may not be ready to be discharged from treatment.

Relationship between Literature Review and the Current Study

In summary, the literature mentioned above demonstrates some successes with treating individuals diagnosed with eating disorder. It has been shown that these successes could be affected by many variables such as high dropout rates, comorbid medical concerns and other psychiatric diagnoses, and not having everyone in agreement with the treatment process. Cognitive-behaviour therapy (CBT) and family therapy have both shown some effectiveness with treating individuals diagnosed with an eating disorder. However, CBT proves to be more effective with individuals diagnosed with bulimia nervosa or binge eating disorder and family therapy is more effective with individuals diagnosed with anorexia nervosa (Wilson & Shafran, 2005). Consequently, some researchers are employing a multidisciplinary approach which would then combine both of these treatment approaches, as well as, other additional approaches such as nutritional counselling. With a whole team working collaboratively together, all areas of concerns can be addressed. Therefore, the current study will evaluate whether the multidisciplinary approach used at Hotel Dieu Hospital’s eating disorder clinic will have effectively treated individuals diagnosed with an eating disorder.
Chapter III: Method

Participants

This study was conducted with 16 female participants between the ages of 13 to 17, with a mean age of 15.56. To be included in this study, the participant must have been diagnosed with any of the following at the time of admission: anorexia nervosa (AN), bulimia nervosa (BN), or eating disorder not otherwise specified (EDNOS). While these participants were receiving treatment, the clinic was using the diagnoses from the *Diagnostic and Statistical Standard Manual* fourth edition. Of the 16 participants, nine (56%) individuals were diagnosed with anorexia nervosa, three (19%) individuals were diagnosed with bulimia nervosa, and four (25%) individuals were diagnosed with eating disorder not otherwise specified. Participants diagnosed with other psychiatric disorders were still included within the study due to high comorbidity rates associated with an eating disorder diagnosis. Archival data were used for this study using a coded Excel© file created by the clinic behaviour therapist. Consent for therapy services (Appendix A) was obtained by the behaviour therapist working at Hotel Dieu Hospital using the guidelines created by the hospital staff (Appendix B). The 16 individuals were assigned an ID number by the behaviour therapist to ensure confidentiality. The researcher did not have access to any identifiable information about the participants.

Design

For this study, analysis of retrospective data was completed. The current study used a one group pretest-posttest nonexperimental design to assess the effectiveness of treatment delivered by the eating disorder clinic. The design consisted of analysing three different dependent variables: pre-post treatment scores on the Eating Disorder Inventory-3 (EDI-3) (Appendix C; Garner, 2004) and the Beck Youth Inventories (BYI-II) (Appendix D; Beck, Beck, Jolly, & Steer, 2005), and the participant’s body mass index (BMI) percentiles before treatment and at the time of discharge from treatment. A description of the measures is included in the appendices due to copyright laws. In addition, the length of treatment was also considered. The independent variable in this study was the multidisciplinary treatment. The intervention data based on the two standardized measures were analyzed using a t-test for related samples. Additionally, three different Pearson correlations were completed. The first one was completed to see if there were any correlations between the changes in scores on the standardized scales and in the BMI percentiles. The second correlation was completed to see if there were relationships between the duration of treatment and the change in the BMI percentiles. The last correlation was completed to see if there was a relationship between the duration of treatment and change in the participant’s scores on the standardized scales. Tables and figures were used to enhance visual analysis.

Setting and Apparatus

Treatment was delivered to the participants at the eating disorder clinic at Hotel Dieu Hospital. The participants saw each member of the multidisciplinary team separately unless there was a special circumstance where the participant would see all or some of the members together. The participants would go to each team member’s office for their session. The participants would
have typically met with the behaviour therapist on their own. The parents of the participants were welcome to sit in with the nurse practitioner and dietitian. Lastly, the parents were given the option to participate in family therapy.

The materials needed to complete this study were minimal because the study used retrospective data. Accordingly, the materials needed for this study were a computer to access the Microsoft Excel® data sheet which had the coded information regarding the participants. Microsoft Excel® was used to analyze the data for this study.

**Measures**

There were three measures used to assess treatment effectiveness. The participants’ pre- and post-scores on both the Eating Disorder Inventory-3 (Garner, 2004) and the Beck Youth Inventories (Beck et al., 2005) were analyzed. Both the EDI-3 and the Beck Youth Inventories are standardized self-report scales. Also, the participants’ BMI before entering treatment and at the time of discharge from treatment were analyzed. All three of these measures assess different concerns that would be addressed during the treatment process.

**Eating Disorder Inventory-3.**

The Eating Disorder Inventory-3 (EDI-3) is used to assess the severity of eating disorder symptomatology, as well as, general psychological traits (Garner, 2004). The EDI-3 is comprised of six composites, which contains 12 different scales under two different subscales. The composites involved in this scale are Eating Disorder Risk Composite (EDRC), Ineffectiveness Composite (IC), Interpersonal Problems Composite (IPC), Affective Problems Composite (APC), Overcontrol Composite (OC), and General Psychological Maladjustment (GPMC) (Garner, 2004). The Eating Disorder Risk Scale contains the drive for thinness scale, the bulimia scale, and the body dissatisfaction scale. There are nine scales that comprise the overall Psychological Scale and they include low self-esteem, personal alienation, interpersonal insecurity, interpersonal alienation, interoceptive deficits, emotional dysregulation, perfectionism, asceticism, and maturity fears. However, at this clinic, they specifically assess the scores for the three scales contained in the Eating Disorder Risk Composite. For the completion of this scale, the individuals are able to circle “Always (A), Usually (U), Often (O), Sometimes (S), Rarely (R), or Never (N),” depending on the answer that best applies to their current situation (Garner, 2004). These responses are scored as 0, 1, 2, 3, or 4. The responses for each of the items are summed to determine a total score for each scale; this total score then is computed into a $T$ score for each scale. The EDI-3 has exhibited high internal consistency on both the EDRC and Psychological scales with scores of .90 to .97 and .93 to .97, respectively. The test-retest reliability revealed excellent scores for both scales. The EDRC scales received a score of .98 and the Psychological scales received a score of .97 (Garner, 2004).

**Beck Youth Inventories – Second Edition.**

The Beck Youth Inventories – Second Edition (BYI-II) assessment is a self-report measure that contains five separate scales (Beck et al., 2005). The five scales included are the Beck Depression Inventory for Youth (BDI-Y), the Beck Anxiety Inventory for Youth (BAI-Y),
the Beck Anger Inventory for Youth (BANI-Y), the Beck Disruptive Behavior Inventory for Youth (BDBI-Y), and the Beck Self-Concept Inventory for Youth (BSCI-Y). The eating disorder clinic used this scale to assess the areas of psychological concern for their clients. Each of the scales contains 20 responses and each response can be given a score of 0, 1, 2, or 3 (Beck et al., 2005). Each score is a representation of a statement response. Therefore, a score of 0 corresponds with the word response never, 1 corresponds with sometimes, a score of 2 corresponds with often, and 3 corresponds with the statement always (Beck et al., 2005). The scores are then totalled for each scale resulting in a raw score; the raw score is then converted to a T score. For this scale, the internal consistency was calculated within age groups. Thus, the internal consistency for the age group 11 to 14 was .86 to .92 and for adolescents aged 15 to 18 the internal consistency ranged from .91 to .96 (Beck et al., 2005). Similar to internal consistency, test-retest reliability was also reported in age groups. For the age group 11 to 14, the score ranged from .84 to .93 and for the age group of 15 to 18 the test-retest reliability was .83 to .93 (Beck et al., 2005).

**Body Mass Index Percentiles.**

One of the main goals in the treatment process for individuals diagnosed with an eating disorder is to have them obtain a healthy weight; which is why BMI percentiles could be used as a treatment outcome variable. BMI percentiles are used with children and adolescents rather than a BMI index number because the BMI percentiles incorporate the child’s or adolescent’s height, weight, and age (CDC, 2011). Once the height, weight, and age have been assessed, these variables can then be plotted on a growth chart (Appendix E). Since height is continuously changing for individuals under the age of 20, all three of these variables need to be taken into account to get an accurate representation of the child’s or adolescent’s weight class. The Centers of Disease Control and Prevention does provide criteria to classify healthy weight in children and adolescents. However, Hotel Dieu Hospital’s eating disorder clinic weight classifications are slightly different. Specifically, for the clinic, a weight below the 50th percentile is considered underweight. To be in a healthy weight classification, the individual must be between the 50th percentile to the 75th percentile. Lastly, an individual is considered overweight if their BMI percentile score is at the 76th percentile or above. It should be noted that these weight classifications are intended for individuals diagnosed with an eating disorder.

**Procedures**

This study analyzed the data on the effectiveness of a multidisciplinary approach used with the participants attending Hotel Dieu Hospital’s eating disorder clinic. The participants had the option to work with the nurse practitioner, the behaviour therapist, the dietitian, and the family therapist/social worker. Both a psychiatrist and a paediatrician were available for consultation if required. If the participant wanted to work with the treatment team, the behaviour therapist on the team would have the participant sign the consent form during the first appointment. The nurse practitioner on the team is responsible for completing health assessments for each participant which entails prescribing medication if it is needed by the client, completing blood work and checking their vitals, consulting with other health professionals, referring clients to other services/programs, implementing strategies to promote health and prevent illness, participate in research, and mentoring students in the medical health field. The behaviour therapist on the team initially assesses the client’s current eating behaviours, compensatory weight control methods, and other problem behaviours, administers the Beck Youth Inventories,
the Eating Disorder Inventory-3, and other standardized measures, if applicable. The behaviour therapist also provides the client with individual cognitive behaviour therapy, motivational enhancement therapy, stress management training, supportive psychotherapy, or a combination of these treatments under the supervision of a psychologist. Other responsibilities include organizing and implementing group therapy, if appropriate, communicating the client’s goals with their parents in the individual sessions, designing and implementing behavioural interventions if appropriate, continuing to advance education within the field to ensure competence, and supervising Behaviour Science Technology (BST) and B.A.A. Behaviour Psychology students, when appropriate. The family therapist on the team provides the client and the client’s family with family therapy adapted from the Maudsley approach, emotion-focused family therapy, and solution-focused therapy, meets with the client’s family with the client being involved, as well as meets with the client’s parents on their own to provide the parents with support, supports the client and the client’s parents to keep open communication during the treatment process, and completes the role as the program lead which entails that the family therapist is responsible for the treatment team’s program growth. The registered dietitian addresses the client’s food-related issues as demonstrated in the patient’s thought processes, behaviours, and physical status through nutrition therapy, completes a nutrition assessment, provides nutrition recommendations, implements a nutrition treatment plan, assesses the client’s nutritional requirements to ensure the requirements will be met, assesses the physiologic effects associated with malnutrition, assists in medical monitoring, and supervises students completing nutrition programs for their schooling. If the participant chose to be a part of the program, s/he would meet with the four members on a weekly basis. The weekly meetings would then gradually decrease, as the participant would show success in treatment. Also, if the participants no longer need help in one aspect of their treatment process, they may not be required to receive those specific services. The sessions could vary in length, although typically the participant would have met with the behaviour therapist and family therapist/social worker for 45 minutes to an hour, with the dietitian for 20 to 30 minutes, and with the nurse practitioner for 15 to 20 minutes at any given time.
Chapter IV: Results

The researcher was seeking to determine whether the multidisciplinary treatment approach used at Hotel Dieu Hospital was effective in decreasing eating disorder and psychological symptomatology. Additionally, it was of interest to the researcher to assess whether the multidisciplinary treatment approach was effective in having clients reach a healthy weight classification. In order to evaluate these areas of concern, the researcher used Microsoft Excel© to complete the statistical analyses. To assess if the multidisciplinary approach was effective in decreasing both eating disorder and psychological symptomatology one-tailed $t$-tests for sample means were completed. Additionally, four different variables were tested using Pearson $r$ correlations to determine if there was a relationship between any of the variables and they included the change in scores on the Eating Disorder Risk Composite (EDRC; Garner, 2004), the change in scores on the General Psychological Maladjustment Composite (GPMC; Beck et al., 2004), the length of treatment, and change in the participants’ BMI percentiles.

Eating Disorder and Psychological Symptomatology

The researcher hypothesized that, after being discharged from the eating disorder clinic, the participants would demonstrate a decrease in eating disorder and general psychopathology symptoms as measured on the two standardized scales. Therefore, to assess whether the multidisciplinary treatment approach delivered by Hotel Dieu Hospital’s eating disorder clinic was effective, $t$-tests for related sample means were completed for all five subscales in the Beck Youth Inventories - Second Edition (BYI-II), as well as, on the Eating Disorders Risk Composite (EDRC) and the General Psychological Maladjustment Composite (GPMC) from the Eating Disorders Inventory-3 (EDI-3).

Of the five subscales of the Beck Youth Inventory – Second Edition, only the Beck Self-Concept Inventory for Youths subscale scores should have increased from admission to discharge. As for the rest of the subscales, if the treatment was effective, there should have been a decrease in scores from admission to discharge. Specifically, for the Beck Self-Concept Inventory subscale for Youths at admission the participants received an average score of $M = 26.63$ with a $SD = 7.03$ and at discharge received an average score of $M = 34$ with a $SD = 7.64$. The multidisciplinary approach used by Hotel Dieu Hospital’s eating disorder clinic had a significant effect on the participants’ self-concept scores, $t(15) = 3.62$, $p \leq .05$, one-tailed. The Beck Anxiety Inventory subscale for Youths revealed an average score of $M = 29.13$ with a $SD = 10.58$ at admission and at discharge revealed an average score of $M = 23.75$ with a $SD = 10.23$. The multidisciplinary approach had a significant effect on the participants’ anxiety scores, $t(15) = 2.49$, $p \leq .05$, one-tailed. The Beck Depression Inventory subscale for Youths obtained an average score of $M = 26.63$ with a $SD = 9.90$ at admission and at discharge obtained an average score of $M = 19.13$ with a $SD = 11.28$. The multidisciplinary approach had a significant effect on the participants’ depression scores, $t(15) = 2.34$, $p \leq .05$, one-tailed. The Beck Anger Inventory subscale for Youths at admission attained an average score of $M = 20.13$ with a $SD = 8.13$ and at discharge attained an average score of $12.88$ with a $SD = 8.68$. The multidisciplinary approach had a significant effect on the participants’ anger scores, $t(15) = 3.63$, $p \leq .05$, one-tailed. The Beck Disruptive Behaviour Inventory subscale for Youths average score at admission was $M = 7.13$ with a $SD = 4.79$ and at discharge the average score was $M = 3.63$ with a $SD = 3.14$. The
The multidisciplinary approach had a significant effect on the participants’ disruptive behaviour scores, $t(15) = 2.96$, $p \leq .05$, one-tailed. Therefore, the multidisciplinary approach had a significant effect on all five subscales from the *Beck Youth Inventory*.

The *Eating Disorder Inventory-3* (EDI-3) showed similar treatment significance as the *Beck Youth Inventory* subscales, however, these results revealed a greater significance than the *Beck Youth Inventory* subscales. For the Eating Disorder Risk Composite (EDRC), the participants received an average score at admission of $M = 164.94$ with a $SD = 17.62$ and, at discharge, received an average score of $M = 125.50$ with a $SD = 24.26$. The multidisciplinary approach had a significant effect on the participants’ eating disorder symptomatology, $t(15) = 5.53$, $p \leq .05$, one-tailed. The participants at admission on average attained a score of $M = 481.50$ with a $SD = 53.47$ on the GPMC, while at discharge they attained an average score of $M = 408.75$ with a $SD = 60.24$. The multidisciplinary approach had a significant effect on the participants’ psychological symptomatology, $t(15) = 5.56$, $p \leq .05$, one-tailed. Thus, the multidisciplinary approach proved to be efficacious on both eating disorder and psychological symptomatology.

Table 1
*Pre and Post Scores on the Beck Youth Inventory Subscales*

<table>
<thead>
<tr>
<th>Beck Youth Inventory Subscales – Second Edition</th>
<th>Pre</th>
<th>Post</th>
<th>M Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Self-Concept Inventory for Youths (BSCI-Y)</td>
<td>16</td>
<td>26.63 (7.03)</td>
<td>34 (7.64)</td>
</tr>
<tr>
<td>Beck Anxiety Inventory for Youths (BAI-Y)</td>
<td>16</td>
<td>29.13 (10.58)</td>
<td>23.75 (10.23)</td>
</tr>
<tr>
<td>Beck Depression Inventory for Youths (BDI-Y)</td>
<td>16</td>
<td>26.63 (9.90)</td>
<td>19.13 (11.28)</td>
</tr>
<tr>
<td>Beck Anger Inventory for Youths (BANI-Y)</td>
<td>16</td>
<td>20.13 (8.31)</td>
<td>12.88 (8.63)</td>
</tr>
<tr>
<td>Beck Disruptive Behaviour Inventory for Youths (BDBI-Y)</td>
<td>16</td>
<td>7.13 (4.79)</td>
<td>3.63 (3.14)</td>
</tr>
</tbody>
</table>
Table 2
*Pre and Post Scores on the Eating Disorder Inventory-3 Composites*

<table>
<thead>
<tr>
<th>Eating Disorder Inventory-3 Composites</th>
<th>n</th>
<th>Pre M (SD)</th>
<th>Post M (SD)</th>
<th>M Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating Disorder Risk Composite (EDRC)</td>
<td>16</td>
<td>164.94 (17.62)</td>
<td>125.50 (24.26)</td>
<td>- 39.44</td>
</tr>
<tr>
<td>General Psychological Maladjustment Composite (GPMC)</td>
<td>16</td>
<td>481.50 (53.47)</td>
<td>408.75 (60.24)</td>
<td>- 72.75</td>
</tr>
</tbody>
</table>

**Healthy Weight Classification**

The researcher hypothesized that the treatment approach used at this eating disorder clinic would effectively restore their clients’ BMI percentile to a healthy weight classification. As was mentioned in the Method, Hotel Dieu Hospital’s eating disorder clinic considers a healthy BMI percentile range as 50% to 75%. To be considered underweight in the eating disorder clinic, the participants would have a BMI percentile from 1% to 49% and an overweight BMI percentile of 76% and above. For this section of the paper, only 15 participants were included due to one participant refusing to be weighed during the treatment process. Before admission, 11 of the participants were considered to be underweight, one participant was considered to have a healthy weight, and three participants were considered overweight. At discharge, eight participants were considered underweight, four participants were considered to have a healthy weight, and three participants were considered overweight. Since only three of the participants improved to a healthy weight classification, it can be said that the hypothesis of the multidisciplinary approach effectively restoring the participants’ BMI percentiles to a healthy weight classification was rejected. A chart was included in Appendix F to exemplify how the participants’ weight changed based on their diagnosis.

Table 3
*The Participants Pre and Post Weight Categories Using BMI Percentiles*

<table>
<thead>
<tr>
<th>Weight Classification (BMI Percentiles)</th>
<th>Pre N</th>
<th>Post n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight (1% - 49%)</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Healthy Weight (50% - 75%)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Overweight (76% and above)</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

The figure seen below demonstrates the participants’ change in weight from admission to discharge. The figure displays that the individuals that had a healthy weight at discharge were considered underweight at admission and the individuals that were considered overweight at admission remained that way at discharge.
Figure 1. The participants’ weight classification at admission and at discharge.

Length of Treatment

Length of treatment was considered to be the number of days the participants were in treatment. The treatment clinic was outpatient and the number of sessions the participants received was dependent on each participant’s case. The number of days in treatment ranged from a minimum of 100 days to a maximum of 372 days. The average number of days the participants spent in treatment was 227.7 days and the median number of days spent in treatment was 236 days. Please refer to the graph below to observe the range of days the participants spent receiving treatment.

Figure 2. The range of days the participants spent receiving treatment.
Correlations

Pearson $r$ correlations were completed to examine the five different relationships. The five relationships tested included, the change in scores on the Eating Disorder Risk Composite (EDRC) and the length of treatment, the change in scores on the General Psychological Maladjustment Composite (GPMC) and the length of treatment, change in the participants’ BMI percentiles and the change in the scores on the EDRC, the change in the participants’ BMI percentiles and the change in scores on the GPMC, and change in the participants’ BMI percentiles and the length of treatment. According to Salkind (2011), there are three levels used to determine the strength of a correlation coefficient relationship. He suggests that for the relationship to be considered strong, the $r$-value needs to range from 0.75 to 1.00 either positively or negatively. For the relationship to be deemed as moderate, the $r$-value must range from 0.5 to 0.74. Lastly, a weak relationship would have an $r$-value that ranges from 0.1 to 0.49. Based upon Salkind’s (2011) relationship strengths, all of the correlations evaluated resulted in weak relationships.

Table 4

<table>
<thead>
<tr>
<th>Variables Tested</th>
<th>Pearson $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Eating Disorder Risk Composite (EDRC) Scores and Length of Treatment</td>
<td>-0.20</td>
</tr>
<tr>
<td>Change in General Psychological Maladjustment Composite (GPMC) and Length of Treatment</td>
<td>0.21</td>
</tr>
<tr>
<td>Change in BMI Percentiles and Change in EDRC Scores</td>
<td>-0.26</td>
</tr>
<tr>
<td>Change in BMI Percentiles and Change in GPMC Scores</td>
<td>-0.33</td>
</tr>
<tr>
<td>Change in BMI Percentiles and Length of Treatment</td>
<td>0.08</td>
</tr>
</tbody>
</table>
Chapter V: Discussion

Summary of Results

The purpose of this study was to evaluate if the multidisciplinary approach used by Hotel Dieu Hospital’s eating disorder clinic was effective in treating individuals diagnosed with an eating disorder. In order to assess if the treatment approach was effective in decreasing eating disorder and psychological symptomatology, statistical analyses were completed on the participants’ pre and post scores on the Beck Youth Inventory subscales and the Eating Disorder Inventory-3 composites. The analyses completed for all of the Beck Youth Inventory subscales revealed that the multidisciplinary approach significantly increased the participants’ self-concept scores and significantly decreased the participants’ anxiety, anger, depression, and disruptive behaviour scores from admission to discharge. The Eating Disorder Inventory-3 composites also revealed that the participants’ eating disorder and psychological symptomatology significantly decreased following the multidisciplinary treatment.

Unfortunately, the participants’ weight classification change from admission to discharge was not clinically significant which advises that the multidisciplinary treatment approach was not effective for the participants’ reaching a healthy weight classification. Statistical analyses were performed to determine if any of the variables shared a relationship with one another. There were four variables examined to assess if any one of them shared a relationship with another variable and they include, the change in scores on the Eating Disorder Risk Composite (EDRC), the change in scores on the General Psychological Maladjustment Composite (GPMC), the length of treatment, and change in the participants’ BMI percentiles. The analyses revealed that all of the variables tested had either a weak or close to no relationship with one another.

Meaning of the Results in Context to the Current Literature Review

There has been no single therapy proven effective for all eating disorder diagnoses. However, since the multidisciplinary approach incorporates the various treatment approaches proven effective for the different eating disorder diagnoses, this approach should therefore be effective for treating all of the eating disorder diagnoses. Stewart and Williamson (2004) have advised that many different professionals need to be involved in the multidisciplinary treatment approach. The various professionals involved can result in various treatment approaches being employed. Specifically, for Hotel Dieu Hospital’s eating disorder clinic, the professional team employ a combination of cognitive behaviour therapy, family therapy, nutritional counselling, and medical monitoring. The current study’s results demonstrated the effectiveness of a multidisciplinary approach to treat eating disorder and psychological symptomatology of individuals diagnosed with eating disorders. Nagai et al. (2002) found similar results in the study they conducted. Specifically, they found that the multidisciplinary approach was effective for treating individuals diagnosed with all different eating disorder diagnoses but was even more effective for individuals diagnosed with anorexia nervosa restricting type. Due to a small number of participants for this study, the author was not able to make comparisons based on the participants’ diagnoses.
A study completed by Brewerton and Costin (2011) also used a multidisciplinary approach to treat individuals diagnosed with anorexia nervosa (AN) and bulimia nervosa (BN), however, the treatment was delivered in a residential treatment center. The participants were seen by a clinical director, a dietitian, a psychiatrist, a doctor, and an exercise trainer and completed various forms of therapy. If the individuals completed at least 30 days of treatment then they were considered ‘graduates’ and, if the individuals completed less than 30 days of treatment or did not fill out the discharge forms, they were considered as ‘non-graduates’. This study also used the Morgan and Russell (1975) outcome criteria; which as previously mentioned meant that the individuals could be scored as ‘good’, ‘intermediate’, or ‘poor’ (as cited in Brewerton & Costin, 2011). The researchers found that 74% of the individuals diagnosed with AN and 95% of the individuals diagnosed with BN scored as ‘good’ or ‘intermediate’ by the end of treatment. Thus, this article demonstrates that the multidisciplinary treatment approach can effectively treat individuals diagnosed with various eating disorder diagnoses. The current study found similar results since the multidisciplinary approach was effective in decreasing the participants’ eating disorder and psychological symptomatology as measured by standardized clinical scales.

Williams, Dobney, and Geller (2010) also used a multidisciplinary approach to treat individuals diagnosed with an eating disorder; however these authors delivered their treatment as an out-patient service, which they called “The Community Outreach Partnership Program (COPP) (p.91)”. The program involved the use of both an eating disorder clinic based out of a hospital and rehabilitation team that serves individuals diagnosed with a mental illness in the community. The multidisciplinary team involved “a psychiatrist, medical internist, outreach counsellor, case manager, dietitian, programme coordinator, family therapist and eating disorder programme nurse” (Williams, Dobney, & Geller, 2010). The outcome variables measured at both admission and discharge included the levels of the clients’ distress, feelings of hopelessness, and eating disorder symptomatology. The researchers found that the multidisciplinary approach helped the clients have significant improvements on all of these variables. Additionally, they found at discharge that the clients placed more importance on their relationships with others and less importance on their body shape and weight. Thus, this is another article that demonstrates that the multidisciplinary approach is effective in treating individuals diagnosed with eating disorders. However, this article used a harm reduction approach that is different from how the treatment is delivered at Hotel Dieu Hospital. They suggest that a harm reduction approach focuses on minimizing the individual’s harmful behaviour and create small goals that would increase the individual’s quality of life. An example of a goal that the researchers’ provided was to “slow down weight loss or stabilizing a low weight” (p. 92). On the other hand, since a multidisciplinary harm reduction format and a multidisciplinary non-harm reduction format have demonstrated success with individuals diagnosed with eating disorders, future research could assess if either one of these two approaches is more successful.

**Strengths**

A major strength of this study was the use of standardized measures to assess the participants’ eating disorder symptomatology and general psychopathology. The results obtained can be considered reliable and valid. Another strength of this study was the participants’ having access to a variety of services. Each professional that delivered treatment to the participants had
an area of speciality, which also ensures the participant was receiving effective treatment. A final strength of this study is that this is the first study completed at this outpatient treatment clinic and the results obtained show promise for this clinic.

Limitations

As with any research study completed, there are several limitations that need to be mentioned. One limitation with this study was the small sample size and, therefore, the current study lacks power to make generalizations. An additional limitation is that the standardized measures used were self-report and, therefore, the reliability of the participants’ answers could be put into question. Self-report measures run the risk of the questions being misinterpreted and/or the individuals not providing information that is representative of their situation. Another limitation of this study was the lack of follow-up data collected after the participants had completed treatment and therefore it is unknown if the participants were able to maintain the decreased symptomatology. An additional limitation may have been using weight as a treatment effectiveness outcome measure because deciding what a healthy weight can be subjective. A final limitation to this study is that there were only female participants included and because of this no results were obtained on the effectiveness of a multidisciplinary approach to treat males diagnosed with an eating disorder.

Multilevel Challenges to Service Implementation

Client Level. Working with adolescents diagnosed with an eating disorder can be challenging for various reasons. One possible challenge that could be faced is that the adolescent diagnosed with an eating disorder does not want to get help and will therefore not engage in treatment. Additionally, if the participants are under the age of 16, their parents can direct the treatment process, which can cause their children to further rebel against treatment. Individuals diagnosed with an eating disorder may also experience medical complications caused by their poor eating habits. Sometimes these medical complications can be so severe that the individuals need to be hospitalized. They could also experience comorbid psychiatric disorders that can make the treatment process longer. An eating disorder can become a life-long battle, therefore, the sooner these individuals receive effective treatment the better.

Program Level. At this eating disorder clinic, the treatment is delivered by a multidisciplinary team which means there are various people involved in the treatment process. Therefore, a portion of the effectiveness of the treatment is dependent on the team’s organization and their communication. In order to ensure the team communicates well, it is important to have weekly meetings so that each team member is kept up-to-date. Since a multidisciplinary approach is being used, it is necessary for the client to have a therapeutic alliance with each individual involved in the treatment process. This will ensure that the client is able to be open with all of the team members.

Organizational Level. The eating disorder clinic is one of the various clinics individuals can attend at Hotel Dieu Hospital. In order for individuals to attend the clinic, they first need to receive a referral from the family physician and the clinic will complete an assessment to determine if they fit the admission criteria. The client is then given the option to attend the clinic.
The clinic at Hotel Dieu Hospital relies on funding from the government; without the financial support, Hotel Dieu Hospital would not be able to continue to offer the clinic as part of their services. Additionally, Hotel Dieu Hospital places regulations on the number of clients the clinic is able to see to ensure effective treatment for their clients.

**Societal Level.** Trying to implement treatment with children and adolescents diagnosed with an eating disorder can be difficult due to the standards set by society. Currently, society views beauty for females as being “stick thin” and for males to have a muscular physique. What many of these adolescents do not realize is that having these body proportions are unrealistic. Once an individual attains these body proportions, he/she will possibly experience difficulties such as medical complications, family conflicts, mood irregularities, etc. Therefore, society should spend more time publicizing natural beauty and the consequences of eating disorders rather than unnatural beauty standards. If more time were spent on these two areas, maybe we would see fewer individuals spending time in treatment for eating disorder.

**Implications for the Behavioural Psychology Field**

Since the field of behaviour psychology is continuously growing in the populations that it is able to treat, it is also crucial to ensure that the treatment being provided to these individuals has been proven empirically effective. The current study provided evidence that the multidisciplinary treatment approach significantly decreased the participants’ eating disorder and psychological symptomatology. In the past, research has suggested that the best approach to use with individuals diagnosed with an eating disorder will actually depend on which diagnosis the individual has. For example, if a clinician was to work with an individual diagnosed with anorexia nervosa, past research has suggested using a family therapy approach. The research that has been completed on using a multidisciplinary approach to treat individuals diagnosed with eating disorders has shown promising results. Research completed on eating disorder treatment has found that the multidisciplinary approach significantly improves individuals’ eating disorder and psychological symptomatology, distress levels, and feelings of hopelessness. Additionally, some of the research has found that the multidisciplinary approach has improved the affected individual’s BMI. Even though this study did not find the same results, it can be said that the multidisciplinary approach can help individuals diagnosed with eating disorder increase their weight to a healthy classification. However, the current study does contribute to the field of behaviour psychology and to research because it demonstrates the effectiveness of a multidisciplinary approach to treat individuals diagnosed with a variety of different eating disorder diagnoses.

**Recommendations for Future Research**

In view of the current study using a small sample size, future research should include a larger sample. A larger sample will give the results greater power and may allow for generalizations to be made. Additionally, if the sample was large enough, statistical analyses could be completed based on the participants’ diagnoses. Lastly, adding male participants to the sample could help determine if the multidisciplinary approach is more or equally effective for both genders could strengthen the study. Moreover, it would be beneficial to complete more research on the use of a multidisciplinary approach to treat individuals diagnosed with eating disorders.
disorders due to there being limited research on this approach treating this population. Another recommendation for future research would be to include a six or 12 month follow-up after the participants completed treatment to evaluate whether the participants’ eating disorder and psychological symptomatology improvement was maintained. Likewise, if future research with a control group or wait-list group would strengthen the research design because it would allow for the researchers to make comparisons between the two groups. Also, since the multidisciplinary approach has been studied in different settings such as in-patient versus out-patient, it may be interesting for future researchers to offer this approach in the two different settings and observe if there are any differences in outcomes. Furthermore, future research may find it of interest to assess if there is a difference in effectiveness between the different treatment modalities involved in the multidisciplinary approach. Lastly, it would also be important to evaluate if the length of treatment, such as the number of sessions attended, affect the treatment outcome.
References


Appendix A
Consent Form

Division of Child and Adolescent Psychiatry
Hotel Dieu Hospital

Consent to Psychological Intervention

I ________________________________ agree to let
(Name of Client or Parent/Guardian if Client is under age 16)

Shawna Robinson, Behaviour Therapist, provide psychological
intervention for ________________________________ (Name of client / myself)

I understand:
✓ The reason for the recommended treatment
✓ Goals for the treatment
✓ How the treatment will be done
✓ With whom information regarding this treatment may be
  shared
✓ What things might happen because of this treatment
✓ What things might happen if my child is not treated
✓ What the other choices are
✓ Implications for guardians/custodians
✓ That this consent may be withdrawn at any point in the
  process

Signature: ___________________________ Date: ____________
Appendix B
Guidelines for Obtaining Informed Consent for Behaviour Therapy

GUIDELINES FOR OBTAINING INFORMED CONSENT FOR BEHAVIOUR THERAPY

Client’s Name: ____________________________
D.O.B. ___________________ C.R. #______________________

Child’s Name: ______________________________
Relationship to Client: ________________________

Date of Contact: ____________________________

The following items were explained and discussed:

☐ Reason for referral.
☐ Intended procedures (i.e., therapy procedure).
☐ Supervision arrangements (if applicable).
☐ Likely impact on the person (i.e., interesting, challenging, anxiety-provoking).
☐ Likely consequences on not proceeding with the service (i.e., inappropriate intervention or no intervention).
☐ Available alternatives (i.e., private practice options).
☐ Anticipated duration of involvement (i.e., estimated time lines for therapy).
☐ Issues of confidentiality (i.e., management and storage of data, access, release of file).
☐ Limits of confidentiality, specifically:
  ☐ Risk of harm to self or others
  ☐ Mandatory reporting to C.A.S. (CFSA s72(1): child has suffered, or is at risk of suffering, physical harm or sexual abuse, or is under age 12 and has more than once injured another person or caused property damage).
  ☐ Mandatory reporting regarding sexual abuse or harassment by another regulated health professional.
  ☐ Custody arrangements as necessary (i.e., need for consent from one or both parents, legal guardians as per Divorce Act).

Name and contact of other parent: __________________________________________________________________________
Legal status of other parent: ________________________________________________________________________________

☐ Right to withdraw consent at any time.

The adult contact person was:

☐ Given the opportunity to ask questions.
☐ Asked if he/she understood the information provided.
☐ Asked if he/she agreed to the provision of the service(s).

Name of psychological services provider: ____________________________

Signature: ____________________________

The completed form is to be placed in the Psychological Services client file.
Appendix C
Eating Disorder Inventory-3 (EDI-3)

Eating Disorder Inventory-3.

Acronym: EDI-3; EDI-3 RF; EDI-3 SC

Author: Garner, David M

Publication Date: 1984-2004

Publisher: Psychological Assessment Resources, Inc., 15204 N. Florida Avenue, Lutz, FL 33549-8119

Information:

Purpose: Designed to 'provide a standardized clinical evaluation of symptomology associated with eating disorders.'

Administration: Group

Population: Females ages 13 to 53 years; Adolescents and adults ages 13 and older; Adolescents and adults.


Time: (10-20) minutes

Number of Reviews: 2

Reviewer: Atlas, Jeffrey A. (SCO Family of Services, NY); Kagee, Ashraf (Stellenbosch University).

Comments: Full battery, abbreviated referral form used to identify individuals who are at risk for eating disorders; and symptom checklist used as an aid in the diagnosis of eating disorders.

References: See T15893 (54 references); for reviews by Philip Ash and Steven Schinke of an earlier edition, see 12:130 (38 references); see also T14847 (38 references); for a review by Calvin S. Swassing of an earlier edition, see 10:160 (16 references).

# Appendix D

## Beck Youth Inventories Second Edition (BYI-II)

**Acronym:** BYI-II, BDY, BSCI-Y, BAI-Y, BAN-Y, BDYII

**Author:** Beck, Judith S.; Beck, Aaron T.; Jolly, John B.; Steer, Robert A

**Publication Date:** 2001-2003

**Publisher:** Pearson, 19500 Bulverde Road, San Antonio, TX 78259

**Information:**
- **Purpose:** Designed to 'assess a child's experience of depression, anxiety, disruptive behavior, and self-concept.'
- **Administration:** Individual or group
- **Population:** Ages 7-18
- **Scores:** 5: Depression, Anxiety, Anger, Disruptive Behavior, Self-Concept.
- **Manuals:** Manual, 2005, 85 pages
- **Time:** (30-60) minutes for combination form

**Number of Reviews:** 2

**Reviewer:** Hanagan, Rosemary (Touro College); Hennington, Carlen (Mississippi State University).

**Comments:** 5 subtests: Beck Depression Inventory for Youth; Beck Anxiety Inventory for Youth; Beck Anger Inventory for Youth; Beck Disruptive Inventory for Youth; Beck Self-Concept Inventory for Youth; subtests may be administered separately or via combination form; previous edition was entitled Beck Youth Inventories of Emotional & Social Impairment.

**References:** For reviews by Mike Beiner and Hugh Stephenson of the earlier edition, see 15:31.

**Price:** 2007 price data: $165 per complete kit including manual and 25 combination inventory booklets; $95 per 25 combination inventory booklets; $46 per 25 depression inventory booklets; $46 per 25 anxiety inventory booklets; $40 per 25 anger inventory booklets; $40
Appendix E
BMI Percentile Chart for Girls

SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).
http://www.cdc.gov/growthcharts

CDC
SAFER · HEALTHIER · PEOPLE
Appendix F

Pre and Post Weight Classification Chart Based on Diagnoses

<table>
<thead>
<tr>
<th>Weight Classification (BMI Percentiles)</th>
<th>Pre</th>
<th></th>
<th></th>
<th>Post</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>Anorexia Nervosa (AN)</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Bulimia Nervosa (BN)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Eating Disorder Not Otherwise Specified (EDNOS)</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Underweight (1% - 49%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Weight (50% - 75%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight (76% and above)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>