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Symptom Changes in Children and Adolescents With Internalizing Conditions During Treatment

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Walden University
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Abstract

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MS, Walden University, 2010

BS, Midwestern State University, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

Mental health conditions, such as internalizing disorders, in children and adolescents have been attributed to higher than expected levels of high school dropouts, juvenile crimes, and suicide. Previous research studies provide limited information on factors influencing treatment success for children and adolescents diagnosed with internalizing disorders. This study utilized a nonequivalent comparison group design gathered from an archived data set from a sample of children and adolescents ($N = 215$) who participated in an intensive outpatient managed mental health care treatment program. Self-report data were retrieved from previous responses to the Children's Depression Inventory and Revised Children's Manifest Anxiety Scale – Second Edition to explore factors related to treatment effectiveness for children and adolescents with internalizing symptoms. Data were analyzed using a mixed model repeated measures ANOVA to analyze main effects and interactions. This analysis identified if gender, ethnicity, age group, and treatment duration were risk factors related to symptom amelioration or deterioration for children and adolescents diagnosed with internalizing disorders across time. Females with internalizing disorders reported significantly higher levels of depression symptom change than males with internalizing disorders. All other results did not show any statistically significant relationships. Results suggest that therapists should consider gender-related factors when providing treatment to children and adolescents with internalizing disorders. Active clinical research epitomizes the belief of social change by putting research to practice and utilizing available tools to predict predictive risk in the treatment of children and adolescents.

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Dedication

I would like to dedicate this to my loving, supportive family and friends for whom I am forever grateful:

First, I would like to thank God and my faith in Jesus Christ. I have had a lot to pray for over these past few years. I am thankful that God has given me the perseverance and endurance to allow me to continue to pursue and accomplish the things I have so that I might help others.

To my wonderful husband, Craig, you are my rock and my strength. We have battled through the years of seizures and many trials they brought to this journey. You allowed me to shed many tears along the way and share the financial burden this journey brings. Thank you for allowing me to pursue my dreams and thank you for allowing me to help those who cannot help themselves. Thank you for volunteering for every Autism walk and event; you have been a huge supporter of everything that I have loved wholeheartedly without question.

Thank you to my children, Morgan, Bella, and Ethan, you three have been there having brought me such joy through this journey. I love you all. Bella, your passion and ambition in life to pursue your dreams in education are a great joy, and I cannot wait to watch you take on the world. Ethan, your heart is filled with kindness, and each time you volunteer your time to help those who are less fortunate, you bring joy to my life and are a blessing to others. I am so proud of each of you!

Thank you to my parents, Maria and Larry, you have held this family together as we all ran in different directions from work, sports, music, and home; we could not have

accomplished any of this without you! You had love and encouraged us throughout all of this. I love you both. Thank you for your support and believing in me.

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Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Introduction

There are several predicted risks for children and adolescents who live with a mental health condition (Liu, Chen, & Lewis, 2011). Researchers have predicted that these youth are more likely to drop out of school, rely on government healthcare programs, enter the criminal justice system, and may be at increased risk for suicide (Liu et al., 2011). Efforts in mental health care have sought to address these problems mentioned above through the study of prevention, early intervention, and treatment. However, more recent interests have led to the study of treatment effectiveness (Bishop, Bybee, Lambert et al., 2005; Liu et al., 2011; Warren, Nelson, Burlingame, & Mondgragon, 2010). Untreated or ineffective treatment can lead to more pervasive and co-occurring mental illness along with unnecessary suffering and years of critical development lost for children and adolescents (Liu et al., 2011).

In 2013, the CDC released its most recent surveillance report for mental health conditions among children and adolescents within the United States. In the survillance report provided by the CDC, a variety of mental health conditions were divided into two broad categories: internalizing and externalizing disorders (Liu et al., 2011). Externalizing disorders, considered overtly disruptive, were clustered into two broad categories that included but were not limited to attention/impulse and conduct-related problems (Liu et al., 2011). In contrast, internalizing disorders were nondisruptive and were characterized by behaviors that were clustered into two broad categories that included but were not limited to anxiety-related and depression related problems (Liu et al., 2011). These specific mental health conditions were reported to profoundly impact both immediate and global environments for both children and adolescent populations.

The impact on an individual's immediate environment includes reports on prevalence, early onset, and the immediate effect on the individual and their family. The effect on a global scale emphasized by the costs associated with these disorders is estimated at $247 billion dollars annually (CDC, 2013).

Despite the $247 billion dollars spent annually on mental health care for children and adolescents in the United States, and despite higher healthcare utilization, a significant portion of these children will endure lifelong struggles related to their mental illness (CDC, 2013). The National Institute of Mental Health (NIMH) estimated that the onset of mental illness typically begins before the age of 14, while an estimated four million children who have a mental illness remain unidentified. Researchers have indicated that approximately 13 to 20% of U.S. children and adolescents, ranging from the ages of 3 to 17 years, were diagnosed with a mental health condition; which means roughly 1 out of 5 children are living with a mental health condition (CDC, 2013, Merikangas, He, Burstein, et al.,2010).

Nonetheless, without effective treatment, mental health related concerns for children and adolescents come at a greater expense (CDC, 2013). Reportedly, the CDC found that no other physical illness was found to have as many pervasive effects on children and adolescents as mental health. Ultimately, measuring symptom changes during treatment could detect risk factors that threaten treatment effectiveness, which could aid the practitioner in better refining current therapeutic treatments (Bishop et al., 2005; Liu et al., 2011; Warren et al., 2010).

Background

Rising rates of suicide, school failure, and delinquency have plagued the children and adolescents here in the U.S. (Liu, Chen, & Lewis, 2011). Raised awareness about this public

concern has increased researchers' investigation efforts in the search for better diagnostic, prevention, and treatment programs (CDC, 2013; Liu et al., 2011). Access to effective treatments for children and adolescents with mental health conditions rely upon the individual's various support systems to intervene such as parents, teachers, and community service providers. Past research, from the National Center for Health Statistics in 2007, suggested that programs should focus on providing children with mental health problems access to prevention programs through the education system. Although prevention programs might be preferred, active treatment of mental health conditions could reduce pervasive pathology, develop flexibility, and assist practitioners in understanding these disorders when prevention programs are either unavailable or ineffective (Bishop et al., 2005; Liu et al., 2011; Warren et al., 2010). Effective treatments could provide children and adolescents suffering from mental health conditions with opportunities to gain the necessary social, educational, and other developmental skills necessary for healthy development (Liu et al., 2011). An understanding of which risk factors might threaten the effectiveness of available treatments provides assistance to practitioners in the clinical setting.

The complexity of mental health conditions for children and adolescents is best divided between internalizing and externalizing conditions (Liu et al., 2011). While there is an abundant amount of research that addresses a variety of societal concerns involving externalizing conditions, research addressing concerns involving internalizing conditions is insufficient. Additionally, Liu et al. indicated that clear distinctions between internalizing and externalizing conditions and their comorbid effects are both diagnostically and therapeutically important.

Internalizing conditions include anxiety and depressive related disorders. These disorders are best described as inner-directed that cause emotional distress (Cosgrove, Rhee, Gelhorn, et al., 2011; Howell & Watson, 2009; Liu et al., 2011; Weisz, Chorpita, Frye, et al., 2011). In contrast, externalizing conditions, which include Attendtion Deficit Hyperactivity Disorder and conduct related conditions, are best described as problems that cause conflict with others in their immediate environment (Cosgrove et al., 2011; Howell & Watson, 2009; Liu et al., 2011; Weisz et al., 2011).

As reported by the CDC (2013), the following internalizing conditions affect children and adolescents today: anxiety and depression.The presence of internalizing conditions have been associated with increased risks of suicide, poor educational performance as well as maladaptive and unlawful behaviors (Liu et al., 2011). In 2011, Liu et al. suggested that clear distinctions between internalizing and externalizing conditions have been crucial to delivering effective treatment and recommended that these conditions receive treatment differently.

Researchers have suggested that mental health treatments are not standardized, asserting that there are differences in the quality of care (Warren et al., 2010). Differences highlighted by Warren et al. suggested that the quality of care between public community health care versus private managed health care include setting specific effects, duration of treatment, and interruptions in treatment due to unreliable provider assignments. These variations in care were determined to have impacted outcome trajectories by measuring the change in symptomology through the course of treatment. Individuals were reported to be at a disadvantage if one could not afford them or insurance did not give them access to private managed health care, but socioeconomic status could not be identified as a risk factor (Warren et al., 2010). These results

could imply that children and adolescents who receive public community health care in comparison to children receiving services from private managed health care are at a greater risk for treatment failure.

Problem Statement

Previous research primarily focused on children and adolescent who receive positive outcomes after having received treatment in an intensive outpatient care setting for internalizing conditions (Bishop et al., 2005). Subsequently, Bishop et al. sought to improve behavioral health care services for children and adolescents through the identification of early warning systems that allow for practitioners to detect which individual cases were likely to experience treatment failure. However, there are several limits imposed by these studies that make up the small amount of existing research in this specific area. An example of one limitation, mentioned by previous researchers, involved the measurement tool used to measure the effectiveness of treatment (Jacobs, Roberts, Vernberg, et al., 2008, Warren, Nelson, & Burlingame, 2009; Warren et al., 2010). Existing research addressed a single basis of outcome measurement that was isolated to caregiver reports of how effective treatment was based on their observation of the individual's behavior (Jacobs et al., 2008, Warren et al., 2009; Warren et al., 2010). Other limits within this research area include the undocumented or inconsistent collection of data on ethnicity and duration of treatment (Jacobs et al., 2008, Warren et al., 2009, 2010). Warren et al. (2010) suggested that these limits on archival data that has prevented researchers from examining specific individual characteristics and that needs further examination. In this study, I focused on collecting data that were controlled for demographic and therapeutic limitations posed in previous research. This study adds to the limited number of studies within this research area that

addressed risk factors contributing to the risks for predictive treatment failure by examining symptom changes before and after treatment (Bishop et al., 2005; Bybee, Lambert, & Eggett, 2007; Jacobs et al., 2008; Warren et al., 2009, 2010). Risk factors such as the duration of treatment, gender, ethnicity, and children and adolescent age groups were examined. Symptom level changes at intake and discharge were measured for meaningful differences to see if any of the aforementioned risk factors contributed to symptom changes.

Purpose of the Study

The purpose of this study was to determine whether ethnicity and gender composition of children and adolescent treatment groups who had received intensive private managed health care for internalizing symptomology were associated with symptom level changes. In this study, I looked at the effectiveness of treatment by evaluating symptom changes in internalizing symptoms. Symptoms of depression and anxiety were of particular focus in this study. Previous researchers concluded that these affective symptoms contribute to more predictive comorbidity in late adolescents (Perle, Levine, Odland, et al., 2013; Verhulp, Stevens, Schoot, & Vollebergh, 2013). Particularly, I explored treatment outcomes to reveal differences and relationships among gender, ethnicity, age group, and treatment duration.

The clinical implications of this study could assist clinicians in two ways: (a) early detection of risk factors that contribute to treatment failure that will aid in the development of more individualized therapeutic decisions, and (b) potential reduction of behaviors associated with internalizing disorders such as suicide, poor educational performance as well as maladaptive and unlawful behaviors (Bishop et al., 2005; Liu et al., 2011; Warren et al., 2010).

Internalizing behaviors are associated with greater risks of developing pervasive psychopathology and increased risks to suicide in children and adolescents (Liu et al., 2011). Increased awareness about risks associated with ineffective treatment would assist practitioners during treatment. In this study, I examined the effectiveness of therapy for internalizing conditions in an intensive outpatient managed mental health care treatment program while controlling for previous research limitations.

In this study, I controlled for previous demographic limitations through the collection of personal information for each. I controlled for previous research limitations including setting specific constraints and limited outcome measures. Multiple outcome measures, taken upon admission and discharge, assisted with the examination of symptom amelioration or deterioration.

Nature of the Study

I collected archived data from an intensive outpatient mental health treatment program located in Wichita County, North Texas. Although private in structure, this program is the only accessible mental health facility for the entire Wichita County and surrounding areas. Therefore, a diverse set of clients was accepted (to include age, race, and socioeconomic status). The collection of intake and discharge data (using two forms of self-report measures) from this setting were assumed to control and expand on previous research.

The archived data used dated back 10 years and ranged over 5 years, from 2006 to 2011. The data derived from the intensive outpatient managed mental health care treatment program where children and adolescents had received treatment. Previous researchers had evaluated the prevalence and treatment effectiveness for children and youth between the ages of 3 and 17 years

(Bishop et al., 2005; CDC, 2013; Warren et al., 2010, Warren, Nelson, Burlingame, & Mondragon et al., 2011). However, data for this study were only eligible for participants between the ages of 7 and 17 years. The duration of stay for each client varied, but the minimum stay was 2 weeks, and maximum stay did not exceed 52 weeks. The population consisted of a group of males and females with a diverse set of ethnicities and mental health symptoms.

In this study, I used a nonequivalent comparison group design that used archival longitudinal outcome data gathered from self-report questionnaires and archived demographic data to examine treatment effectiveness for children and adolescents with internalizing symptoms. Data analyses were conducted using a mixed model repeated measures analysis of variance (RM-ANOVA) to analyze the main effects and interactions and test for statistically significant mean differences. This type of analysis made it possible to identify what factors are related to symptom amelioration or deterioration.

Research Questions and Hypotheses

Research Question 1

RQ1: Was there a statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the Children's Depression Inventory (CDI)?

$H1_0$*:* There was no statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents.

$H1_A$ *:* There was a statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents

*H*1$_B$*:* Only gender had a statistically significant effect on symptom level change for depression between children and adolescents.

*H*1$_C$*:* Only ethnicity had a statistically significant effect on symptom level change for depression between children and adolescents.

Research Question 2

RQ2: Was there a statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the Revised Children's Manifest Anxiety Scale – Second Edition (RCMAS-2)?

*H*2$_0$*:* There was no statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents.

*H*2$_A$*:* There was a statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents.

*H*2$_B$*:* Only gender had a statistically significant effect on symptom level change for anxiety for children and adolescents.

*H*2$_C$*:* Only ethnicity had a statistically significant effect on symptom level change for anxiety for children and adolescents.

To examine Research Questions 1 and 2, an RM-ANOVA was conducted to assess whether there was a relationship between gender and ethnicity on levels of depressive and anxiety related symptom changes for children and adolescents who participated in the intensive private managed health care treatment program. If the extent of a research question is to measure the relationship between two or more independent variables on the outcome of pretest and

posttest measures between two or more groups, a mixed model of repeated measures provides an appropriate analysis. Pretest and posttest data from self-report measures for anxiety and depression related symptoms were gathered from archived data, and the variables were treated as continuous variables. The demographic information was measured to determine if there was a relationship between symptom changes between two groups. Each participant was given two self-reports, one at the onset of treatment participation and one at the end of treatment participation. Archived data, reported according to gender (male or female), ethnicity (Caucasian, Hispanic, African-American, or Other), and treatment group (children and adolescents) were treated as categorical variables.

Research Question 3

RQ3: Were their differences in treatment effectiveness for depressive symptoms for specific treatment durations, as measured by the CDI?

$H3_0$: Specific treatment durations had no statistically significant effect on levels of depressive symptoms.

$H3_A$: There were statistically significant effects on levels of depressive symptoms between specific treatment durations.

$H3_B$: Only treatment durations of 2 to 6 weeks had a statistically significant effect on levels of depressive symptoms.

$H3_C$: Only treatment durations of 6 to 12 weeks had a statistically significant effect on levels of depressive symptoms.

$H3_D$: Only treatment durations greater than 12 weeks had a statistically significant effect on levels of depressive symptoms.

Research Question 4

RQ4: Were there differences in treatment effectiveness for anxiety symptoms for specific treatment durations, as measured by the RCMAS-2?

*H*4$_0$*:* Specific treatment durations had no statistically significant effect on levels of anxiety symptoms.

*H*4$_A$*:* There were statistically significant effects on levels of anxiety symptoms between specific treatment durations.

*H*4$_B$*:* Only treatment durations of 2 to 6 weeks had a statistically significant effect on levels of anxiety symptoms.

*H*4$_C$*:* Only treatment durations of 6 to 12 weeks had a statistically significant effect on levels of anxiety symptoms.

*H*4$_D$*:* Only treatment durations greater than 12 weeks had a statistically significant effect on levels of anxiety symptoms.

To examine Research Questions 3 and 4, an RM- ANOVA was conducted to assess whether there were differences between treatment duration for levels of depression and anxiety symptoms. If the extent of a research question is to measure the differences in two or more independent variables on the outcome of pretest and posttest measures, a mixed model of repeated measures is an appropriate analysis. Pretest and posttest data from self-report measures for anxiety and depression were gathered from archived data; the variables were treated as continuous variables. In the analysis, I used depressive and anxiety related symptoms to determine if there were differences between symptom changes and treatment duration. Each participant was given two self-reports, one at the onset of treatment participation and one at the

end of treatment participation. From the archived data, data grouped as either short-term or long-term (according to the number of weeks before discharge) were treated as categorical variables.

An RM- ANOVA was an appropriate statistical analysis when there was a single continuous dependent variable and when there was one or more categorical independent variables. The overall analytical significance was measured by symptom outcomes for depression and anxiety related symptoms at the end of treatment when compared to intake depression and anxiety related symptom measures. Using an RM- ANOVA would not assume sphericity (as seen in other repeated measure designs).

Theoretical Base

To better understand which factors influenced treatment response, the bio-ecological theory of development approach presented by Bronfenbrenner (1994) was applied to the research findings. This approach addressed the complex interactions between multiple systems that either supported or interfered with a child's optimal development (Bronfenbrenner, 2005). By using this approach, a researcher can evaluate which interactions impact treatment effectiveness and how relationships between factors might pose a greater risk to treatment effectiveness for children and adolescents admitted into a private managed health care treatment program. This approach best reflected the purpose of this research by helping therapists identify specific demographic factors for children and adolescents that would threaten treatment outcome for the therapist to make the necessary adjustments during care.

Definition of Terms

Further explanation of the following terms and variables used throughout the study are defined in the following section.

For the purpose of this research, children and adolescents refers to children between 7 and 17 years of age who received at minimum 2 weeks and at maximum 52 weeks of intensive outpatient treatment and were suspected to have an internalizing condition. These populations were the focus of this study. Internalizing conditions are expressed through depressive and anxiety related symptoms. Symptom change is measured using intake and discharge data using the total depression score on the CDI and the total anxiety score on the RCMAS-2.

Average depression total score: Total Scores (T-scores) of 40 to 60 on the total depression score on the CDI are considered average and fall within the typical level of depressive symptoms experienced by children and adolescents (Saylor, Finch, Spirito, & Bennett, 1984).

Average total anxiety score: T-scores of 40 to 60 on the total anxiety score on the RCMAS-2 are considered average and fall within the typical level of anxiety related symptoms experienced by children and adolescents (Reynolds & Richmond, 1985).

Below average depression total score: T-scores of less than or equal to 39 on the total depression score on the CDI are considered below average and fall below the typical level of depressive symptoms experienced by children and adolescents (Saylor, Finch, Spirito, & Bennett, 1984).

Below average total anxiety score: T-scores of less than or equal to 39 on the total anxiety score on the RCMAS-2 are considered below average and fall below the typical level of anxiety related symptoms experienced by children and adolescents (Reynolds & Richmond, 1985).

Elevated depression total score: T-scores of 61 and greater on the total depression score on the CDI are considered elevated and rise above the typical level of depressive symptoms experienced by children and adolescents (Saylor, Finch, Spirito, & Bennett, 1984).

Elevated total anxiety score: T-scores of 61 and greater on the total anxiety score on the RCMAS-2 are considered elevated and rise above the typical level of anxiety related symptoms experienced by children and adolescents (Reynolds & Richmond, 1985).

Externalizing disorders: These disorders are considered to be overtly disruptive and are clustered into two broad categories highlighted by Weiz (2004) that include attention problems and impulse problems (i.e., attention-deficit/hyperactivity disorders [including inattentive type]) and conduct-related problems (i.e. oppositional defiant disorder, conduct disorder). Symptomology includes but is not be limited to decreased attention, impulsivity, defiant behavior, and other disruptive behaviors. Each of these symptoms generates emotional distress that interferes with daily living and the healthy development of social, emotional, developmental, and adaptive abilities (Cosgrove et al., 2011; Howell & Watson, 2009; Liu et al., 2011; Weisz et al., 2011).

Internalizing disorders: These disorders are considered to be nondisruptive and are characterized by behaviors that include but are not limited to the two clusters highlighted by Weiz et al. (2011). These disorders include anxiety-related problems and depression related problems (i.e., dysthymic disorder, major depressive disorder, social phobia, and generalized anxiety disorder). Symptomology includes but is not limited to the following symptoms: depressed mood, decreased interests, fatigue, excessive worry, and complaints of physical symptoms. Each of these symptoms generates emotional distress, which interferes with daily

living and the healthy development of social, emotional, developmental, and adaptive abilities (Cosgrove et al., 2011; Howell & Watson, 2009; Liu et al., 2011; Weisz et al., 2011).

Outcome trajectories: Trajectories are used to understand where, how, and when to intervene while understanding the factors that may have a signifcant impact on youth outcome during the therapeutic process (Burt, 2009). Outcome trajectories could include both positive and negative responses to the therapeutic process.

Assumptions

Warren et al. (2011) reported that limits to their research included bias in-group comparisons. Multiple sites, practitioners, and treatment styles were used in previous research to collect data in which implications were made about the significance of socioeconomic status as a risk factor due to access to private care and managed care facilities. In this study, I made the assumption that by choosing this specific set of archived data, it would naturally control for bias and assumptions made by previous researchers due to this site's use of only two practitioners during the data collection period.

Limitations

In this study, I aimed to control for many of the limitations that were experienced by previous studies. In this study, the methods used to collect data on depression and anxiety related symptoms were previously selected by the site before the research was proposed. Both data selection methods were proved to be suitable for self-reports for the population in measuring internalization symptomology. Using multiple outcome measures addressed the limits reported by previous researchers who had used a single outcome measure (Bishop et al., 2005; Warren et al., 2011). In this set of data, measurements were collected at the outset of treatment and before

discharge (either voluntary or involuntary) to assess changes in symptomology within the clinical setting. The measures collaboratively provided a significant amount of information about alleged internalized symptoms; however, externalized symptoms cannot be assessed in the data collected.

Delimitations

Current delimitations posed by this study are composed of archived data restrictions. The external threat to the validity of this study is best described by the concept of generalization of population. The archived data were restricted to data collected from a single intensive private managed health care treatment program with the assumption that the geographical location would not be representative of all children and adolescents. This population does not accurately represent children and adolescents from urban or inner city areas or those who hold international or immigrant status. Although there remains a significant societal implication, limited research data threaten the reliability provided about risk factors associated with poor treatment response.

Significance of the Study

The results of this study identified risks to treatment effectiveness by measuring depressive and symptom outcomes. In this study, I provided information that could further enhance and support existing literature because I sought to support previous research limitations. It also specifically impacted current community efforts in establishing applicable practices that may enable practitioners to identify risks to treatment. In addition, this study assisted in furthering research in general to support the field of child and adolescent mental health care. This assistance provided useful information for healthcare and community professionals who need to detect risk factors that impede on treatment effectiveness. Lastly, this research gives further

insight in which direction to take future research to have greater societal impact within this population and field of interest.

Chapter Summary

Growing numbers of children and adolescents who struggle with mental health concerns are frequently failing to respond to supportive mental health treatments made available to them within their communities. The complexity of mental health conditions for children and adolescents is best divided between internalizing and externalizing conditions (Liu et al., 2011). In the past, researchers have examined the effects of both externalizing and internalizing conditions, but clear distinctions need to be examined to differentiate between their comorbid effects, which were both diagnositically and therapuetically important (Liu et al., 2011).

The lack of research for children and adolescents in this area has made it difficult to consistently identify risk factors associated with ineffective treatment. Therefore, practitioners are unable to identify which child or adolescent will be reliabily considered a nonresponder for care. After reviewing the research, the general consensus is that identification of risk factors would improve treatment effectiveness for children and adolescents.

My intention was to examine which factors are associated with ineffective treatment. This study addressed these questions by analyzing the information obtained from a treatment facility that provided intensive outpatient care for children and adolescents for mental health conditions. Although there is literature that addresses the factors that contribute to positive outcomes of treatment, only a limited amount of research is available that addresses the ineffectiveness of treatment for children and adolescents with a focus on internalizing symptoms. According to Bronfenbrenner's (2005) ecological systems theory, now referred to as the bio-

ecological systems theory, an individual's own biology and the relationship between this and an individual's complex environment could explain how the individual's development was directed. Theoretically, conflicts or changes within any of these systems could result in how these environments relate or interact; these changes ultimately have a direct impact on the child's development.

This research study was structured using the following chapters to outline the literature, review the research process, and provide an overview of the research outcomes. In Chapter 2, I identify what research was completed in the topic area of treatment ineffectiveness for children and adolescents, address gaps in literature in the subject matter of treatment ineffectiveness (more specifically the focus of internalizing symptom reduction), and explore all other current information that is relevant to child and adolescent treatment effectiveness. In Chapter 3, I explain what methods were used in this quantitative research study, which was designed to gather archived data and analyze treatment ineffectiveness with a focus on internalizing symptoms for children and adolescents. A detailed description of the population, environment, and how the data were collected and analyzed is provided in Chapter 3. In Chapter 4, I describe the outcome of data based on the statistical analyses of the data. In Chapter 5, I provide a summary of the research process, findings, and conclusions. In Chapter 5, I also review social change implications and outline recommendations for future research.

Chapter 2: Literature Review

Introduction

This study contributes to the growing amount of research that addresses predictive risk factors associated with ineffective treatment for outpatient treatment programs designed for children and adolescents (Liu et al., 2011; Warren et al., 2010, 2011; Weisz et al., 2011). Specifically, I aimed to build awareness of which predictive factors contributed to ineffective treatment for children and adolescents with internalizing behaviors. This study provided a comprehensive, thematic review of past and current literature for children and adolescents, internalizing behaviors, gender, ethnicity, and treatment durations as well as describing theoretical propositions.

This chapter contains four main sections. The first section details the literature search strategies used to collect information. In the second section, I review the theoretical foundation and how the selected theory relates to the present study. In the third section, I review literature related to the key variables and justify the rationale for the selection of the variables used in this study. In the last part, I summarize major themes in the literature and describe how this study plans to fill gaps in the literature and increase knowledge to the discipline.

Literary Search Strategy

A thematic literary search was conducted to include both past and current research. A comprehensive review was performed to review mental health disorders, intervention, and outcomes for children and adolescents. Next, a small thematic review of literature focused on internalizing behaviors was performed to review ineffective treatment outcomes. More specifically, I focused on treatment duration and gender, age, and ethnic influences on treatment

outcomes. The majority of literature was found searching for peer-reviewed articles with publication dates between 1994 through 2014 using the following research databases: Academic Search Complete, PsychINFO, SocINDEX, MEDLINE, PsychARTICLES, and PsycTESTS. Combinations of the following keywords searched for literary criteria: *children, adolescents, youth, mental health, internalizing disorders/symptoms, treatment outpatient/day programs, managed care, risk factors, treatment failure, treatment efficacy, nonresponders, ethnicity, gender, age*, and *treatment duration*.

Theoretical Orientation

The ecological theory of human development evolved over time into a theory better known as the bioecological approach to human development (Bronfenbrenner, 1994; Bronfenbrenner & Morris, 2006). The ecological theory determined that human development is affected by an individual's interactions within a set of five large systemic influences. While the evolving bioecological approach places greater emphasis on complex interactions between an individual and systemic influence, an even greater emphasis is placed on the four defining properties (process, person, context, and time) with a focus on three person characteristics that leads to the patterns in a person's developmental structure. Bronfenbrenner indicated that differentiation of these three person characteristics account for the variances in the direction and power of the proximal processes and how it affects development.

The four defining properties focus on the development of children and adolescents and the specific factors that influence human development across time that effect policies and programs that enhance youth and family development (Bronfenbrenner, 2005). The first defining property of this theoretical approach is made up of two developmental processes that define and

assess both continuity and change in the characteristics of human beings (Bronfenbrenner, 2005). The second defining property of this theoretical approach is made up of person characteristics that are the most influential in shaping future development through the effect on direction and power of proximal processes through the life course: individual variables (age and gender), dispositions, resources, and demand. In combination, these three person characteristics set proximal processes in motion, promote efficient functioning, and either foster or disrupt the activities of proximal processes (Bronfenbrenner, 2005). The third defining property in this theoretical model is the context in which proximal processes involve interactions with objects and symbols. The concept of this property is to differentiate between features within the environment that either foster or disrupt development (Bronfenbrenner, 2005). The last defining property in this theoretical model is time, which has three successive levels: microtime, mesotime, and macrotime (Bronfenbrenner, 2005).. Levels of time view time intervals as ongoing, days and weeks, or across the lifetime, focusing on how human development is affected across a lifetime (Bronfenbrenner, 2005).

After a thorough review of the literature, there have been several researchers who have studied the etiology, intervention, and treatment outcomes for children and adolescents who presented with internalizing symptoms or disorders (Kovacs & Devlin, 1998; Ollendick & King, 1994). The developmental perspective is used to predict developmental courses and outcomes for children and adolescents (Kovacs & Devlin, 1998; Ollendick & King, 1994). For example, Ollendick and King focused their research on the assessment and treatment of internalizing disorders for children and adolescents. The family-genetic theory is used to support the idea that genes, environmental factors, and family relationships can either promote healthy development

or generate dysfunction (Allen-Meares & Lane, 1987). Likewise, gene-environment research has revealed the interplay between these factors has a role in the development of internalizing disorders (Burt, 2009; Crawford, Schrock, & Woodrff-Borden, 2011; Hicks, DiRago, Iacono, & McGue, 2009; Lui et al., 2011). Therefore, it is fair to say that a combination of these factors might reveal what role these factors play in the etiology, intervention, and treatment outcomes for children and adolescents who have presented with internalizing symptoms or disorders that predict ineffective treatment.

Despite the contributions that previous research played in understanding the etiology, intervention, and treatment outcomes for children and adolescents who presented with internalizing symptoms or disorders, no identified research used the bioecological approach. While other theoretical approaches were used, the bioecological approach is the only one that evolved from the ecological theory, which is considered the most important in organizing the framework in the field of developmental psychology (Howe, Batchelor, & Bochynska, 2011).

Human development can be described as mutual interactions between a "human organism and the persons, objects, and symbols in its immediate external environment" (Bronfenbrenner, 2005, p. 797). This theoretical approach suggests the developmental outcome of human beings across a lifetime is dependent on the person's ability to demonstrate stability amidst change. More specifically, dysfunction and competence are determined by one's ability to develop skills, including emotional competence, using available resources that reveal the effects of proximal processes in the context of the current situations across time (Bronfenbrenner, 2005). This approach best reflects the purpose of this research, in which I sought to predict which risk factors contributed to poor treatment response to impact efforts in establishing effective practices.

In this study, I attempted to determine if ineffective treatment for internalizing problems was due to differences in treatment durations, gender, or ethnicity between children and adolescents. This system's theory assisted in the examination of what, if any, biological predispositions (in context to the interaction with a child's environment across time) promote dysfunction or competence concerning anxiety or depression symptom level change for children and adolescents receiving treatment.

Literature Review

History of Internalizing Problems

Researchers have revealed that anxiety and depression are a more prevalent diagnosis among children and adolescents (Beaver, 2009; Crawford et al., 2011). Typically, anxiety and depression are viewed as discrete disorders, but Bayer, Rapee, Hiscock et al. (2011) reported that studies showed a high overlap between them. This supports the use of the term *internalizing problems*; internalizing problems are comprised of anxiety related and depressive related symptoms that include emotional distress, withdrawal, excessive sadness, fear, anxiety, social withdrawal, and depressed affect (Achenbach & Rescorla, 2001; Bayer et al., 2011; Eisenberg, Cumberland, Spinrad, & Fabes, 2001; Izard, Libero, Putnam, & Haynes, 1993; Perle et al., 2013). Internalizing problems are associated with impairment in the areas of academic performance and social and family functioning (Bayer et al., 2011; Beaver, 2009; Garber & Weersing, 2010). Moreover, other researchers have suggested that the presence of internalizing problems during childhood and adolescence can lead to a stable expression of this disorder that may extend into adulthood with a reported increased risk for the development of anxiety and mood disorders. Potentially, this may lead to negative effects on adult relationships,

employment, and even mortality (Bayer et al., 2011; Beaver, 2009; Crawford et al., 2011; Ollendick & King, 1994). Predictive risk factors associated with the development of internalizing problems include stressful life events, negative family relationships, and poor social support (Hicks et al., 2009).

The majority of research within this area of study has focused on the need for early and effective treatments for internalizing problems through the identification of which factors contributed to positive outcomes of care (Bishop et al., 2005; Liu et al., 2011). Effective treatments identified to produce both short-term and long-term change include behavioral, cognitive-behavioral, psychopharmacological, and adjunctive treatments (Compton et al., 2002; Ollendick & King, 1994). Past researchers have recommended that future researchers examine factors associated with patients who had no response, no reliable change, or those who deteriorated while in treatment (Bishop et al., 2005; Crawford et al., 2011). Current researchers have found factors that contribute to positive outcomes of care, but research is limited in supporting which factors contribute to ineffective treatment. The few studies available reveal inconsistent findings.

A similar study conducted by Jacobs et al. (2008), evaluated factors that contributed to treatment failure for children and adolescents who received treatment in an intensive private managed health care treatment program using an intake and discharge evaluation that examined the presentation of internalizing and externalizing symptoms. This study consisted of 51 participants (40 boys, 11 girls) and was comprised of children between the ages of 5 and 13 years. Jacobs et al. found that children who were more likely to demonstrate nonresponse were diagnosed with at least one internalizing disorder. Limitations posed by their research included

insignificant differences in age, gender, ethnicity, or length of treatment. Jacobs et al., recommended that future research should examine response to treatment at the developmental level for children, to determine what conditions were associated with failure. The literature search revealed that there is a lack of research that specifically addresses the relationships among gender, ethnicity, and treatment duration for children and adolescents with internalizing symptomology who received intensive outpatient treatment. Therefore, the specific risk factors evaluated in the current study were used to addressed these limitations to enhance current knowledge about the effects treatment duration might have on final treatment outcome for internalizing symptomology.

Gender and Internalizing Problems

Researchers who reported on the differences between gender and internalizing symptomology predominantly focused on the prevalence of anxiety and depression discretely. A more focused literature review, which revealed differences between treatment outcome and gender would have been preferred, but due to a general deficiency in that specific area of research, a broad review was conducted looking into the prevalence of depression and anxiety among children and adolescents.

Prevalence of depression among children is reported to be near equal for both males and females, but it is reported that depression is more common among females during adolescence (Liu et al., 2011). Similarly, the prevalence of anxiety-related disorders is more common among females (Ollendick & King, 1994). Most researchers revealed that females had reported higher levels of internalizing symptoms than males, with the highest levels reported among adolescent females (Cummings, Caporino, & Kendall, 2014; Jose & Ratcliffe, 2004; Zaff & Calkins, 2001).

Compas, Davies, Forsythe, & Wagner (1997) conducted a large study that measured depressive symptoms for 3,190 adolescents in the age range of 11 to 18 years. In this study, both nonreferred and clinically referred adolescents were given rating scales to measure both depressive and anxiety related symptoms Compas et al. revealed that only adolescents from the clinically referred group showed gender differences for depressive related symptoms, suggesting that females are at higher risk for depression than males.

Ge, Conger, and Elder (2001) conducted a 6-year longitudinal study of 451 Caucasian American adolescents who were in seventh through 12th grades. They examined levels of depression and revealed that females had a significantly higher level of depression than males. Additionally, they revealed that pubertal status was a risk factor that led to depression (Ge et al., 2001). This result suggested that girls who had reached puberty had a higher risk for depression than those who had not.

In a within-scale meta-analysis, Twenge and Nolen-Hoeksema (2002) studied depression scores in a sample of 310 children between the ages of 8 and16 years. Depression symptoms were measured using the CDI. The researchers revealed that by the age of 14, CDI scores for adolescent females were higher than males (Twenge & Nolen-Hoeksema, 2002). These measures revealed that gender differences during adolescence were statistically significant.

In another large study, Jose and Ratcliff (2004) also used the CDI to measure depressive symptoms. In addition to depressive symptoms, they measured levels of anxiety with the Reynolds Manifest Anxiety Scale. They surveyed 2,505 adolescents between the ages of 10 and 20 years (Jose & Ratcliff, 2004). Jose & Ratcliff revealed that females reported higher levels of depression and anxiety than males, which was consistent with results from other studies

(Compas, Davies, Forsythe, & Wagner, 1997; Cummings, Caporino, & Kendall, 2014; Ge et al., 2001; Liu et al., 2011; Ollendick & King, 1994; Twenge & Nolen-Hoeksema, 2002; Zaff & Calkins, 2001).

Although several limitations were noted, researchers supported that gender differences existed for both depressive and anxiety related symptoms. Most researchers concluded that gender differences depended on the age of the participants. According to Merikangas, He, Burstein, et al. (2010), the prevalence of any disorder failed to show significant differences for gender, but that as the individual ages, those affected increased. Additionally, the person's response to treatment was also linked to age; this suggested that the older the person became, the poorer the prognosis (Merikangas, He, Burstein et al.,2010).

In this study, I focused on gender differences between two groups: children (7-13) and adolescents (14-17) and examined symptom change at the completion of treatment within the context of the following factors: gender, ethnicity, and treatment duration. Including these specific factors in the study contributed to the current knowledge of the effects of gender, age, and treatment duration and what effects it has on the final treatment outcome for internalizing symptomology.

Ethnicity and Internalizing Problems

Studies that have addressed gender and age differences in the prevalence of internalizing disorders show some consistency across studies; however, the examination of ethnicity has been historically less consistent (Liu et al., 2011; McLaughlin, Hilt, & Nolen-Hoeksema et al., 2007). Researchers who have examined the ethnic differences in the prevalence of depressive symptomology for children and adolescents are relatively well developed; the ethnic differences

in the prevalence of anxiety related symptoms for adolescents were less examined when compared with the research available for children (McLaughlin et al., 2007). Some studies were inconsistently reported with no significant differences while other studies had reported higher rates of depressive symptoms for Hispanics when compared with Caucasian youth (Brooks, Harris, Thrall, & Woods, 2002; Costello, Angold, & Burns, 1996; McLaughlin et al., 2007; Saluja, Iachan, & Scheidt, 2004; Wickrama, Noh, & Bryant, 2005; Wright, Aneshensel, Botticello, & Sepulveda, 2005).

A systematic review conducted by Nilsen, Eisemann, and Kvernmo (2013) included 21 treatment studies for anxiety related disorders and eight treatment studies for depressive related disorders that examined outcomes for treatment in children and adolescents. This systematic review concluded that only 18.8 percent of these studies examined ethnicity as a predictor of treatment outcomes for anxiety related disorders while 23 percent of the studies examined ethnicity as a predictor of treatment outcomes for depressive related disorders. The studies reviewed suggested that ethnicity was an inconsistent predictor of treatment outcomes. Equal effects were revealed for anxiety related symptoms for anxiety related symptoms for Caucasian and Hispanic youths except when the Revised Children's Manifest Anxiety Scale (RCMAS) was utilized which showed a larger change for Caucasians when compared to Hispanic youths (Nilsen et al., 2013).

Comparing the three major ethnic groups in the United States: Caucasian, African-American, and Hispanic are important to increase generalization; although the vast majority of research has few other minority groups taken into consideration (Lewinsohn, Clarke, Seeley, & Rhode, 1994; McLaughlin et al., 2007). Nielsen et al. (2013) provided a systematic review,

ethnicity was identified as a predictor for children and adolescents with depressive related symptoms ranging from non-significant results to slower recovery rates for Hispanic youths. McLaughlin et al. examined treatment outcomes using longitudinal archived data measuring for treatment duration, gender, age group, and ethnicity; reporting that Hispanic females reported experiencing higher levels of depression and anxiety symptoms. Overall, ethnic minorities showed more vulnerable responses to the effects of treatment duration when compared to Caucasian youths in multiple studies (Lewinsohn et al., 1994; Lui et al., 2011; McLaughlin et al., 2007; Nilsen et al., 2013). While there are still researchers that claim that there is still a significant lack of studies, more recent research grows to suggest that there is more consistency in outcomes for ethnic minorities when related to depression and anxiety related symptoms (Liu et al., 2011; McLaughlin et al., 2007).

Duration of Treatment and Internalizing Problems

An archived longitudinal outcome study was conducted that collected parent-reported data for children and adolescents from 4 to 17 years of age who were served in either a community mental health system or a managed care organization (Warren et al., 2010). Warren et al. (2010) collected data on 4,011 participants and revealed that the rate of change was steeper in the managed care setting and there were significant increases in symptoms in the community care setting. The researchers in this study focused on negative outcomes; because there was not enough research to support their claims. Although this area of research was less explored for children and adolescents, adult psychotherapy research would suggest that approximately 5 to 10% of adults experience deterioration while in treatment (Warren et al., 2010). Warren et al. revealed that greater than 20 percent of those children and youth who received care in the

community care setting deteriorated. While in treatment differing rates of change identified in this study was suggested to be related to treatment duration. Warren et al. (2010) noted that the community care setting duration was three times longer when compared to the managed care setting.

Other treatment outcome studies for children and youth have also suggested that failure rates for children and adolescents in treatment range from 6 to 12%; however, those results could not produce generalized results due to limitations among their sample selections (Bishop et al., 2005; Eggett, 2007). More recent research sought to identify what could be done to reduce the high rates of deterioration for children and adolescents in treatment when compared to deterioration rates for adults (Warren et al., 2009, 2010, 2011).

Rationale for Methodology, Design, and Measures

The purpose of this part of the literature review was to provide a rationale for the chosen methodology, design, and measures. The methodology, design, and measures were chosen to support the purpose of this study. This study's purpose was to identify risks factors associated with negative outcomes by evaluating the effectiveness of treatment by evaluating changes in internalizing symptoms. Specifically, this study explores treatment outcomes to reveal differences and relationships between treatment duration, gender, ethnicity, and age group.

This study intended to build upon the existing literature within the area of research on treatment outcomes for internalizing disorders in children and adolescents. The relationships between gender, ethnicity, and treatment duration for children and adolescents were examined so that predictive relationships among these variables could be determined. The variables selected

were chosen to examine poor treatment response (for anxiety and depressive related symptoms) in response to intensive outpatient intervention for children and adolescents .

Methodology and Design

The methodological approach best suited for this study was the deductive quantitative research approach. This approach assumes that variables are identified and that relationships are measured (Rovai, Baker, & Ponton, 2013). The results of this study can be used to enhance the existing literature and better understand what variables have an effect on treatment effectiveness for children and adolescents with internalizing disorders. The identification of variables and the impact these variables might have on treatment outcome for children and adolescents at risk of treatment failure is why a quantitative methodology was chosen for this study.

This study used a non-equivalent comparison group design using archival longitudinal outcome data gathered from self-report questionnaires and archived demographic data to examine treatment effectiveness for children and adolescents with internalizing conditions. Analysis of data was be conducted using an RM-ANOVA to analyze main effects and interactions and test for statistically significant mean differences and relationships among groups for a combination of dependent variables. This analysis revealed which relationships exist among factors and what possible differences are present that pose a threat to treatment effectiveness for internalizing conditions. This type of analysis will make it possible to identify the factors related to negative treatment outcomes.

The archived data utilized in this study dated back 10 years and expanded across a minimum of 5 years (due to a measure edition update that would fail to maintain consistency within outcome measures). The population was composed of children and adolescents who were

admitted into the intensive outpatient managed mental health care treatment program. The data was collected on children between the ages of 7 to17 years. The duration of stay for each client varied, but the minimum stay was 2 weeks. The population consisted of a group of males and females with a diverse set of ethnicities, mental health symptoms, and socio-economic backgrounds.

Measures

The Children's Depression Inventory was one of two measurement tools used for this study. The CDI, developed by Kovacs in 1985 and updated in 2003, was designed as a self-report measure to assess depressive symptoms in children and adolescents ages 7 to 17 years (Kovacs, 2003; Saylor, Finch, Spirito, & Bennett, 1984). Holmbeck, Thill, Bachanas et al. (2008) conducted an evidenced-based review of measures for pediatric psychology. This review examined psychometric characteristics and classified the CDI as a well-established assessment. Classification of a well-established assessment in this review suggests this measure was presented in at least two different peer-review articles (Holmbeck et al., 2008). These reviews provide enough detail about the measurement to allow for critical evaluation and replication. At least one peer-reviewed article indicated that the validity and reliability for the CDI was good (Holmbeck et al., 2008). Internal consistency of the CDI ranged from .68 to .88 for the nonclinical sample and .76 to .89 for the clinical sample (Holmbeck, Thill, Bachanas et al., 2008). Further review of its test-retest reliability in children ages 6 to 15 years (hospitalized in an inpatient psychiatric facility) was shown in 10 and 30 day intervals; the stability coefficients for the overall group ranged from .62 at 10 days down to .47 when measured at 30 days (Saylor, Finch, Spirito, & Bennett, 1984; Nelson III & Politano, 1990). Additional coefficients in normal

7 to12 year olds were measured at 2 weeks, and 4 or 6 week intervals; those test-retest reliability coefficients ranged from .82 down to .66 (Saylor et al., 1984; Nelson III & Politano, 1990). Validity for the CDI was successful in discriminating between clinical and nonclinical groups; however, results suggested only a marginal degree of criterion validity (Saylor et al., 1984; Nelson III & Politano, 1990).

The Revised Children's Manifest Anxiety Scale: Second Edition was the second measurement tool used for this study. The RCMAS-2 was developed as an update to the RCMAS, which was developed by Reynolds and Richmond (1985). The RCMAS was classified as a well-established assessment by Holmbeck, Thill, Bachanas et al. (2008); while the new edition had already entered into developmental research examining anxiety related symptoms for children and adolescents (Silverman, Pina, & Viswesvaran, 2008; Valera & Biggs, 2006). A review of internal consistency for the total anxiety score was equal in both full reference sample and clinical sample (.92). Test-retest scores were reviewed in a one-week interval range at .76 (Holmbeck et al., 2008). Holmbeck et al. reported the convergent validity when compared to other anxiety scales to range from r = .63-.88; this was reported as similar to the original measure (RCMAS) before the update (Holmbeck et al., 2008).

Summary

The focus of this Chapter was to review existing literature that examined the factors associated with treatment failure for children and adolescents with internalizing problems. After reviewing the existing literature, significant gaps were identified that suggested there was a lack of research that specifically examined the relationships between gender, ethnicity, and treatment duration for children and adolescents with internalizing problems receiving intensive outpatient

treatment. Therefore, the specific factors that this current study proposes will enhance the current knowledge of the effects treatment duration has on final treatment outcome for internalizing problems. In Chapter 3, I explain what methods were used in this quantitative research study which was designed to gather archived data and analyze treatment ineffectiveness with a focus on internalizing symptoms for children and adolescents. A detailed description of the population, environment, and how the data was collected and analyzed will be provided in Chapter 3. In Chapter 4, I describe the outcome of data based on the statistical analysis of the data. In Chapter 5, I provide a summary of the research process, findings, and conclusions. In Chapter 5, I also review social change implications and recommendations for future research.

Chapter 3: Research Method

Purpose of the Study

The objective of this study was to determine whether ethnicity and gender composition of children and adolescents treatment groups who had received intensive private managed health care for internalizing symptomology were associated with symptom level changes. In this study, I looked at the effectiveness of treatment by evaluating symptom changes in internalizing symptoms. Symptoms of depression and anxiety were of particular focus in this study. The clinical implications of this study can assist therapists in two ways: (a) early detection of risk factors that contribute to treatment failure and aid in the development of more individualized therapeutic decisions, and (b) potential reduction of behaviors associated with internalizing disorders such as suicide, poor educational performance as well as maladaptive and unlawful behaviors (Bishop et al., 2005; Liu et al., 2011; Warren et al., 2010).

Research Design

In this study, I used a repeated measure experiment measuring a response variable at two discrete time points for two groups. The groups' pretest and posttest measurements were collected at intake and discharge. This design allowed me to address the complex interactions among gender, ethnicity, and treatment duration with the degree of anxiety and depression related symptomology reported by the participants. Archived data were extracted from an Excel document provided by the intensive private managed health care treatment program. Analyses were completed to examine the predictive role gender, ethnicity, and treatment duration had in response to treatment for children and adolescents who were in the intensive private managed health care treatment program.

Target Population

The focus of this study was to examine mental health outcomes for children and adolescents between the ages of 7 and 17 years of age who attended an intensive private managed health care treatment program located in North Texas. Although private in structure, admission to the program was eligible to all individuals regardless of socioeconomic status. Additionally, this program represented the only available intensive mental health care program for the surrounding rural areas.

Selection of Documents

In this study, I used archived RCMAS-2 and CDI data records stored at the intensive private managed health care treatment program in North Texas. According to the statistical program IBM Statistical Package for the Social Sciences (SPSS) version 22.0 for MAC, a total of 215 records was identified as the minimum sample requirement; to complete an RM-ANOVA with two groups for the current study (SPSS, 2013). This sample size was calculated based on alpha .05, power .95 and a small effect size of .25. Guo et al. (2013) reported that computing a sample size and power analysis for an RM-ANOVA can be complicated and that conducting a computer simulation study might be preferred.

Definition of Variables

In this study, there were three independent variables and two dependent variables. The independent variables include gender, ethnicity, and treatment duration. The dependent variables used in this study included both anxiety symptom level and depressive symptom level scores taken at intake and discharge. To analyze the research questions, a mixed model RM-ANOVA

with two groups was used, which required the independent variables to be continuous and the dependent variables to be categorical. The definitions for these variables are defined below:

IV1 – Gender was recorded as male or female. Demographic information was registered into an Excel worksheet, where male participants were logged as the number 1, and female participants were logged as the number 2.

IV2 – Ethnicity was recorded as Caucasian, Hispanic, African-American, or Other. Demographic information was registered into an Excel worksheet, where ethnicity groups in this study were assigned the following categorical codes: Caucasian (1), Hispanic (2), African American (3), and Other (4).

IV3 – Treatment duration was recorded as two to six weeks, 6 to 12 weeks, and greater than 12 weeks. Demographic information was registered into an Excel worksheet, where treatment duration groups were assigned as follows: 2 to 6 weeks (1), 6 to 12 weeks (2), and greater than 12 weeks (3).

IV4 – Age group, was recorded as child or adolescent. Demographic information was registered into an Excel worksheet, where these two groups were assigned as follows: Children were between the ages of 7 and 13 years, and adolescents were between the ages of 14 to 17 years.

DV1 – The level of depressive symptoms was measured by obtaining a T-Score on the CDI total score on the CDI.

DV2 – The level of anxiety-related symptoms was measured by obtaining a T-Score on the RCMAS-2 total score on the RCMAS-2.

Instruments

All variables were collected from archived records in electronic form were provided by the intensive private managed health care treatment program in North Texas. The RCMAS-2 was a self-report measure designed to assess the level of anxiety related symptoms in children and adolescents. The scales included in the RCMAS-2 were five subscales and a total anxiety score; in this study, I only used the total anxiety score. The CDI was a self-report measure designed to assess the level of depressive related symptoms in children and adolescents. The scales included in the CDI were five subscales and a total CDI score; in this study, I used the total CDI score.

Data Collection and Ethical Considerations

A collection of data for this project did not commence until permission was granted by both the Walden University Institutional Review Board and the medical director of the intensive private managed health care treatment program. The Institutional Review Board Approval number for this study is 09-02-16-0159921. Data included raw test scores, *t* scores, and demographic information in the redacted format for both pretest and posttest components that were relevant to the study. The procedures for collecting archived data followed the outline within the Institutional Review Board application. The archived data were kept and stored using no identifiable information. All data collected were stored in a Microsoft Excel spreadsheet using a password protected sheet within a password protected company computer. All paper documentation matching these records remains filed in a medical storage warehouse for safe keeping. Once the Institutional Review Board approval was received, I acquired the necessary data for this study on the password protected external hard drive that provided access to the data. The number of files required for data collection was initially incomplete, but the site reissued a

complete spreadsheet after a 60-day waiting period in redacted and password protected form. Back-ups for the electronic data remain stored on an external hard drive in a locked cabinet at my place of employment. I am the only one with access to the data.

Planning for the safety of the documentation upon completion of the study has been made. All data from my password protected computer will be deleted, and the data on the password protected external hard drive will remain stored in the locked cabinet of my place of employment for the required 5 years postpublication. Access to the locked cabinet will be limited to me during these 5 years, and at the end of these 5 years, I will delete the data from the password protected external hard drive.

Research Questions and Hypotheses

The purpose of this study was to answer four research questions. Listed below are the research questions and corresponding hypotheses.

Research Question 1

RQ1: Was there a statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the CDI?

$H1_0$*:* There was no statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents.

$H1_A$*:* There was a statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents

$H1_B$*:* Only gender had a statistically significant effect on symptom level change for depression between children and adolescents.

*H*1$_C$*:* Only ethnicity had a statistically significant effect on symptom level change for depression between children and adolescents.

Research Question 2

RQ2: Was there a statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the RCMAS-2?

*H*2$_0$*:* There was no statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents.

*H*2$_A$*:* There was a statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents.

*H*2$_B$*:* Only gender had a statistically significant effect on symptom level change for anxiety for children and adolescents.

*H*2$_C$*:* Only ethnicity had a statistically significant effect on symptom level change for anxiety for children and adolescents.

Research Question 3

RQ3: Were their differences in treatment effectiveness for depressive symptoms for specific treatment durations, as measured by the CDI?

*H*3$_0$*:* Specific treatment durations had no statistically significant effect on levels of depressive symptoms.

*H*3$_A$*:* There were statistically significant effects on levels of depressive symptoms between specific treatment durations.

*H*3$_B$: Only treatment durations of 2 to 6 weeks had a statistically significant effect on levels of depressive symptoms.

*H*3$_C$: Only treatment durations of 6 to 12 weeks had a statistically significant effect on levels of depressive symptoms.

*H*3$_D$: Only treatment durations greater than 12 weeks had a statistically significant effect on levels of depressive symptoms.

Research Question 4

RQ4: Were there differences in treatment effectiveness for anxiety symptoms for specific treatment durations, as measured by the RCMAS-2?

*H*4$_0$: Specific treatment durations had no statistically significant effect on levels of anxiety symptoms.

*H*4$_A$: There were statistically significant effects on levels of anxiety symptoms between specific treatment durations.

*H*4$_B$: Only treatment durations of 2 to 6 weeks had a statistically significant effect on levels of anxiety symptoms.

*H*4$_C$: Only treatment durations of 6 to 12 weeks had a statistically significant effect on levels of anxiety symptoms.

*H*4$_D$: Only treatment durations greater than 12 weeks had a statistically significant effect on levels of anxiety symptoms.

Data Analysis

The archived data collected were presented in redacted form. The information was gathered from a set of archives and stored into an Excel worksheet. I entered the information into

the SPSS as described in the definitions outlined earlier in this chapter, to test the four null hypotheses. The RM-ANOVA was chosen as the most appropriate statistical analysis when there was a single continuous dependent variable and when there was one or more categorical independent variables.

Summary

In this chapter, I discussed methods used in this quantitative research. A detailed description of the population, environment, and how the data was collected and analyzed. In Chapter 4, I reviewed the outcome of the data based on the statistical analyses. In Chapter 5, I discussed the research process, findings, and conclusions; furthermore, I provided social change implications and recommendations for future research.

Chapter 4: Results

Introduction

The purpose of this study was to determine whether ethnicity and gender composition of children and adolescents treatment groups who had received intensive outpatient care for internalizing conditions were associated with symptom level changes. Archived records collected from 215 children and adolescents were used for this study. In this chapter, I provide a summary of the results of the analyses used to evaluate my research hypotheses.

Quantitative Research

In this quantitative study, I used a nonequivalent comparison group design using archived longitudinal data. The sample was derived from a population of children and adolescents who had received intensive outpatient care. The archived data used in this study dated back 10 years and ranged over 5 years, from 2006 to 2011. The population for this study was composed of children and adolescents who were admitted into the intensive outpatient managed mental health care treatment program. The data were collected on children and adolescents between the ages of 7 and 17 years at the time of admission. The duration of stay for each client varied, but the minimum stay was 2 weeks, and maximum stay did not exceed 52 weeks. The population consisted of a group of males and females with a diverse set of ethnicities and mental health symptoms.

Research Tools

Pretest scores collected at intake for both anxiety and depression level symptoms and posttest scores collected at discharge were used to test each null hypothesis by determining whether symptom levels decreased at the patient discharge of the treatment program. Records

used to test the hypotheses were gathered from the intensive outpatient care facility from 2006 through 2011. The measures aligned to the areas being assessed for this study. For this study, depression symptoms were measured using the CDI, and anxiety symptoms were measured using the RCMAS-2. Holmbeck et al. (2008) conducted an evidenced-based review of a group of measures used in pediatric psychology. They examined psychometric characteristics and classified the CDI and RCMAS-2 as well-established assessments. Classification of a well-established assessment in their study suggested that these measures were presented in at least two different peer-reviewed articles (Holmbeck et al., 2008). These studies provided enough detail about the measurements to allow for critical evaluation and replication. At least one peer-reviewed article indicated that the validity and reliability for the CDI were good (Holmbeck et al., 2008). Internal consistency of the CDI ranged from .68 to .88 for the nonclinical sample and .76 to .89 for the clinical sample (Holmbeck et al., 2008). Further review of the CDI test-retest reliability in children ages 6 to15 years (hospitalized in an inpatient psychiatric facility) was shown in 10 and 30 day intervals; the stability coefficients for the overall group ranged from .62 at 10 days down to .47 when measured at 30 days (Nelson III & Politano, 1990; Saylor et al., 1984). Additional coefficients in typical 7 to 12-year-olds were measured at 2 weeks and 4 or 6-week intervals; those test-retest reliability coefficients ranged from .82 down to .66 (Nelson III & Politano, 1990; Saylor et al., 1984). Validity for the CDI was successful in discriminating between clinical and nonclinical groups; however, results suggested only a limited degree of criterion validity (Nelson III & Politano, 1990; Saylor et al., 1984). A review of internal consistency for the RCMAS-2 total anxiety score was equal in both the full reference sample and the clinical sample (.92). Test-retest scores were evaluated in a one-week interval range at .76

(Holmbeck et al., 2008). Holmbeck et al. reported the convergent validity when compared to other anxiety scales to range from $r = .63$ to .88; this was reported as similar to the original measure (RCMAS) before the update.

Procedure

In this study, I used a nonequivalent comparison group design using archival longitudinal outcome data gathered from self-report questionnaires and archived demographic data to examine treatment effectiveness for children and adolescents with internalizing conditions. An analysis of data was conducted using an RM-ANOVA to analyze main effects and interactions and test for statistically significant mean differences and relationships between groups for a combination of dependent variables. These analyses revealed which relationships existed between factors and what possible differences were present that posed a threat to treatment effectiveness for internalizing conditions. This type of analysis made it possible to identify the factors related to adverse treatment outcomes.

Data Analysis

In this study, I used an RM-ANOVA to detect changes in depression and anxiety symptom level scores over time. The RM-ANOVA was conducted among children and adolescents to determine if ethnicity, gender composition, or treatment duration determine treatment significance. To test the four null hypotheses, the RM-ANOVA was an appropriate statistical analysis because there was a single continuous dependent variable and there was one or more categorical independent variables.

The participants ($n = 215$) in the study were organized into two therapy groups: a children only group ($n = 132$, 61.4%) and an adolescent only group ($n = 83$, 38.6%). The gender

and ethnicity composition of the groups were based on the availability of the records provided by the treatment program. Almost an equal number of females (*n* = 105, 48.8%) participated in the study as males (*n* = 110, 51.2%). Table 1 displays the frequency counts for ethnic composition. Slightly more than two-thirds of the participants were Caucasian (*n* = 145, 67.4%), while the remaining participants (*n* = 70, 32.5%) reported that their ethnicities were of Hispanic (*n* = 19, 8.8) or African American (*n* = 15, 7%). The Other category (*n* = 36, 16.7%) consisted of those participants who did not identify themselves with any of the other ethnicity.

Table 1

Frequency (F) and Percentage (%) for Children and Adolescent Groups Across Ethnicity

Ethnicity	*F*	%
Caucasian	145	67.4
Hispanic	19	8.8
African American	15	7.0
Other	36	16.7
Total	215	100.0

Table 2 displays the frequency counts for selected variables. More than half of the participants attended the program for 2 to 6 weeks (*n* = 121, 56.3%); fewer participants participated in the program for 6 to 12 weeks (*n* = 84, 39.1%), and only a small percentage attended 12 or more weeks (*n* = 10, 4.7%).

Table 2

Frequency (F) and Percentage (%) for Children and Adolescent Groups Across Treatment Duration

Treatment duration	*F*	*%*
2-6 weeks	121	56.3
6-12 weeks	84	39.1
12 or more weeks	10	4.7
Total	215	100.0

Research Question 1: Depression Symptom Level Changes for Gender and Ethnicity

To answer Research Question 1 (Is there a statistically significant relationship between gender or ethnicity on symptom level change for depression among children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the Children's Depression Inventory?), the following null hypothesis was evaluated: There is no statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents.

Table 3 provides the descriptive statistics for each of the two groups, based on the average participant scale scores on the measure. Table 4 presents the statistics from the RM-ANOVA of those scores.

Table 3

Means (M) and Standard Deviations (SD) for CDI Pretest and Posttest Scores in Children and Adolescent Groups

Test scores	Age group	*M*	*SD*	*N*
Total depression score pretest	Children	57.88	14.020	132
	Adolescents	56.73	13.757	83
	Total	57.44	13.898	215
Total depression score posttest	Children	50.99	11.321	132
	Adolescents	50.12	10.750	83
	Total	50.66	11.087	215

Table 4

RM-ANOVA of CDI Pretest and Posttest Scores for Children and Adolescents

Measure: CDI	*SS*	*Df*	*MS*	*F*	*P*	η_p^2
Pre_Post Test	364.420	1	364.420	4.617	.033	.021
Pre_Post Test x Gender	2041.410	1	2041.410	25.866	.000	.109
Pre_Post Test x Ethnicity	.415	1	.415	.005	.942	.000
Error (Pre_Post Test)	16652.913	211	78.924			

As shown in Table 4, for the depression scores, the results of the RM-ANOVA revealed that one of the effects was significant. Specifically, there was a difference noted between the two groups for the pretest and posttest depression scores ($F = 4.617$, $p = .033$, $\eta p2 = .021$). Additionally, for depression scores, there was a significant effect observed for the within-subjects effect, indicating a difference in the two groups for symptom change over time, given gender ($F = 25.866$, $p < .001$, $\eta p2 = .109$). Participants had higher total depression scores at pretest shown in Table 3 ($M = 57.44$, $sd = 13.898$) than in posttest ($M = 50.66$, $sd = 11.087$). An absence of a statistically significant effect of ethnicity was observed for within-subject effects, indicating that there were no statistically significant effects of symptom change over time given for ethnicity ($F = .005$, $p = .942$, $\eta p2 = .000$).

In other words, the significant effect was identified for gender, but not for ethnicity; therefore, the null hypothesis $H1_0$ was rejected, and the alternative hypothesis $H1_B$ was accepted. This result indicated that only gender would have a statistically significant impact on symptom level change for depression on children's and adolescents' outcome scores during their time in an intensive outpatient mental health treatment program.

Research Question 2: Anxiety Symptom Level Changes for Gender and Ethnicity

To answer Research Question 2 (Is there a statistically significant relationship between gender or ethnicity on symptom level change for anxiety among children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the RCMAS-2?), the following null hypothesis was evaluated: There is no statistically significant relationship between gender or ethnicity on symptom level change for anxiety among children and adolescents.

Table 5 provides the means and standard deviations for each of the two groups based on the average participant scale scores on the measure. Table 6 presents the statistics from the RM-ANOVA of those scores.

Table 5

Means (M) and Standard Deviations (SD) for RCMAS-2 Pretest and Posttest Scores in Children and Adolescent Groups

Measure: RCMAS-2	Age group	*M*	*SD*	*N*
Total anxiety score pretest	Children	51.52	10.806	132
	Adolescents	51.16	11.966	83
	Total	51.38	11.242	215
Total anxiety score posttest	Children	49.70	11.633	132
	Adolescents	49.27	8.758	83
	Total	49.53	10.596	215

Table 6

RM-ANOVA of RCMAS-2 Pretest and Posttest Scores for Children and Adolescents

Measure: RCMAS-2	*SS*	*Df*	*MS*	*F*	*p*	η_p^2
Pre_Post Test	30.858	1	30.858	.470	.494	.002
Pre_Post Test x Gender	102.126	1	102.126	1.556	.214	.007
Pre_Post Test x Ethnicity	31.753	1	31.753	.484	.488	.002
Error (Pre_Post Test)	13852.501	211	65.652			

As shown in Table 6, no significant difference was observed between the two groups for the pretest and posttest depression scores ($F = 30.858$, $p = .494$, $\eta p2 = .002$). Additionally, there was an overall absence of a statistically significant effect for ethnicity and gender observed. A within-group comparison indicated that there were no statistically significant symptom changes over time for the variable ethnicity ($F = .484$, $p = .488$, $\eta p2 = .002$) or gender ($F = .1.556$, $p = .214$, $\eta p2 = .007$). In other words, since no significant effects were discovered for gender and ethnicity, the null hypothesis was accepted, which hypothesized that there would be no

statistically significant relationships among gender or ethnicity on symptom level change for anxiety between children and adolescents.

Research Question 3: Depression Symptom Level Changes for Treatment Durations

To answer Research Question 3 (Are there differences in treatment effectiveness for depressive symptoms for specific treatment durations as measured by the Children's Depression Inventory?), the following null hypothesis was evaluated: Specific treatment durations will have no statistically significant effect on levels of depression symptoms.

Table 7 provides the means and standard deviations for each of the conditions, based on the average participant scale scores on the measure. Table 8 presents the statistics from the RM-ANOVA of those scores.

Table 7

Means (M) and Standard Deviations (SD) for CDI Pretest and Posttest Scores Across Treatment Duration

Measure: CDI	Treatment duration	*M*	*SD*	*N*
Total CDI depression score pretest	2-6 weeks	57.74	13.351	121
	6-12 weeks	57.63	13.661	84
	12 or more weeks	52.10	21.486	10
	Total	57.44	13.898	215
Total CDI depression score posttest	2-6 weeks	50.16	10.754	121
	6-12 weeks	51.62	11.657	84
	12 or more weeks	48.60	10.543	10
	Total	50.66	11.087	215

Table 8

RM-ANOVA for CDI Pretest and Posttest Scores Across Treatment Duration

Measure: CDI	*SS*	*df*	*MS*	*F*	*p*	η_p^2
Pre_Post Test	1216.472	1	1216.472	13.881	.000	.061
Pre_Post Test x Treatment	117.949	2	58.975	.673	.511	.006
Error (Pre_Post Test)	18578.413	212	87.634			

As shown in Table 8, no significant difference was observed for depressive symptoms for specific treatment durations as measured by the CDI ($F = .673, p = .511, \eta p2 = .006$). Therefore, the null hypothesis was accepted. This hypothesis stated that specific treatment durations would have no statistically significant effect on levels of depressive symptoms.

Research Question 4: Anxiety Symptom Level Changes for Treatment Durations

To answer Research Question Four ("Are the differences in treatment effectiveness for anxiety symptoms for specific treatment durations as measured by the RCMAS-2?"); the following null hypothesis was evaluated: Specific treatment durations will have no statistically significant effect on levels of depression symptoms.

Table 9 provides the means and standard deviations for each of the conditions, based on the average participant scale scores on the measure. Table 10 presents the statistics from the RM-ANOVA of those scores.

Table 9

Means (M) and Standard Deviations (SD) for RCMAS-2 Pretest and Posttest Scores Across Treatment Duration

Measure: RCMAS-2	Treatment duration	*M*	*SD*	*N*
Total RCMAS-2 Anxiety Score Pretest	2-6 Weeks	51.88	11.997	121
	6-12 Weeks	50.37	10.343	84
	12 or Greater Weeks	53.80	8.929	10
	Total	51.38	11.242	215
Total RCMAS-2 Anxiety Score Posttest	2-6 Weeks	49.88	10.834	121
	6-12 Weeks	48.80	10.210	84
	12 or Greater Weeks	51.60	11.491	10
	Total	49.53	10.596	215

Table 10

RM-ANOVA for RCMAS-2 Pretest and Posttest Scores Across Treatment Duration

Measure: RCMAS-2	*SS*	*Df*	*MS*	*F*	*P*	η_p^2
Pre_Post Test	138.991	1	138.991	2.108	.148	.010
Pre_Post Test x Treatment	5.386	2	2.693	.041	.960	.000
Error (Pre_Post Test)	13978.582	212	65.937			

As shown in Table 10, no significant difference was observed for anxiety symptoms for specific treatment durations as measured by the RCMAS-2 (F = .041, p = .960, ηp2 = .000). Therefore, the null hypothesis was accepted. This hypothesis stated that specific treatment durations had no statistically significant effect on levels of anxiety symptoms.

Conclusions

This study was conducted to determine if ethnicity, gender composition, and treatment duration of children and adolescents treatment groups, who had received intensive private managed health care for internalizing symptomology, were associated with symptom level

changes. Symptom change scores were collected at both intake and discharge. An analysis was completed to answer four research questions. Based on the analytical results, $H1_0$ was rejected. This hypothesis predicted that gender could have a statistically significant effect on symptom level change for depression symptom changes for children and adolescents; whereas, ethnicity was predicted to have no effect. Based on the analytical results, all other null hypotheses were accepted ($H2_0$, $H3_0$, $H4_0$). The remainder of the results predicted that there were no statistically significant relationships between gender, ethnicity, or treatment duration on levels of depressive or anxiety related symptoms as measured by the CDI or RCMAS-2. It was reasonably concluded that participation in this program, regardless of ones' ethnicity composition, would have little to do with one's symptom level change. However, one's gender could affect depression symptom level changes. In Chapter 5, I review the findings, limitations of this study, the potential impact of social change, and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this study was to determine which set of specified risk factors had an effect on symptom level changes by evaluating the archived data in an intensive private managed health treatment program.

I addressed the following questions in this study:

1. Was there a statistically significant relationship between gender or ethnicity on symptom level change for depression between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the CDI?

2. Was there a statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the RCMAS-2?

3. Were their differences in treatment effectiveness for depressive symptoms for specific treatment durations, as measured by the CDI?

4. Were there differences in treatment effectiveness for anxiety symptoms for specific treatment durations, as measured by the RCMAS-2?

Findings

The first research questions asked the following: Was there a statistically significant relationship among gender or ethnicity on symptom level change for depression between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the CDI? I accepted the alternative hypothesis $H1_B$: These findings are consistent with previous research. Gender will have a statistically significant effect on

symptom level change for depression among children and adolescents. The within-subjects effects for gender were statistically significant, indicating a difference in the two groups for symptom level change, with large effect size. There were no statistically significant differences observed for ethnicity across time; therefore the false null hypothesis was rejected, and no post hoc analysis was conducted. These findings are consistent with the results of Twenge and Nolen-Hoeksema (2002), whose research revealed that by the age of 14, adolescent females' CDI scores were higher than males, from a sample of 8 to 16-year-olds ($N = 310$), in a within-scale meta-analysis. Gender differences are also consistent with research conducted by Jose and Ratcliff (2004), who examined adolescents using the CDI ($N = 2,505$). Similarly, researchers as a whole concluded that females reported higher levels of internalizing symptoms than males, with the highest levels among adolescent females (Cummings et al.,2014; Jose & Ratcliffe, 2004; Zaff & Calkins, 2001). These findings are consistent with research that suggests that depression is more common among females during adolescence (Lui et al., 2011). Finally, previous these results were consistent with past research. Past research revealed that females had reported higher levels of internalizing symptoms than males; with the highest levels reported among adolescent females without specification of internalizing symptomology (Cummings et al., 2014; Jose & Ratcliffe, 2004; Zaff & Calkins, 2001).

This present study extends to current research and provides credibility that gender will have a statistically significant effect on symptom level change for depression among children and adolescents. Additionally, this present study added to available research and expanded on the limited research, providing further credibility that gender has statistically significant effects on symptom level change for depression between children and adolescents.

For the differences between the findings, I can only predict that the age of the sample and measurement tools that may have yielded different results. Explanations for ethnicity differences were harder to explain since there were more inconsistencies across current and relevant research in consideration for both children and adolescents. There were discrepancies between the findings of this study and past studies as to why I did not find ethnicity differences in depressive symptoms. The size of the sample for African American and Hispanic groups, the age of the participants, and measurement tools may have yielded different results.

The second research questions asked the following: Was there a statistically significant relationship between gender or ethnicity on symptom level change for anxiety between children and adolescents upon discharge from an intensive outpatient mental health treatment program, as measured using the (RCMAS-2)? The results of this study accepted the null hypothesis $H2_0$: There were no statistically significant relationship between gender and ethnicity on symptom level change for anxiety between children and adolescents. The within-subjects effects for gender and ethnicity were found to have no statistically significant effect, indicating no difference in the two groups for symptom level change. These results led to a Type II Error, which I assume was due to sample size. No post hoc analysis was conducted.

These results are inconsistent with the results from previous research for both gender and ethnicity research. Jose and Ratcliff (2004) surveyed 2,505 adolescents between the ages of 10 and 20 years; they revealed that females reported higher levels anxiety than males, which is inconsistent with the results from this study. Additionally, other previous research within a broader scope of internalizing symptomology suggests that females report higher symptoms than males (Cummings et al., 2014; Jose & Ratcliffe, 2004; Zaff & Calkins, 2001). There may be

several explanations for the differences between these findings for this study and past studies as to why I did not find gender or ethnicity differences in anxiety symptoms. However, the examination of ethnicity has been historically less consistent (Liu et al., 2011; McLaughlin et al., 2007). For ethnic origin, studies reviewed suggested ethnicity was an inconsistent predictor of treatment outcomes. All findings in a systematic review provided in previous research for anxiety related symptoms showed similar effects for Caucasian and Hispanic youths except when the RCMAS was used, which showed a larger change for Caucasians when compared to Hispanic youths (Nilsen et al., 2013).

The third research questions asked the following: Were their differences in treatment effectiveness for depressive symptoms for specific treatment durations, as measured by the CDI? In this study, I accepted the null hypothesis $H3_0$: Specific treatment durations had no statistically significant effect on levels of depressive symptoms. These results led to a Type II Error, which I assumed was due to sample size. No post hoc analysis was conducted. The analysis for pretest posttest scores was found to have clinical significance for positive outcomes of care; however, there were no distinct differences in treatment duration that could predict symptom change, which was inconsistent with previous studies.

These results are inconsistent with previous research findings that suggest that deterioration should be observed during treatment; however, due to the lack of research in this research area results from these studies cannot be reliably generalized and these results could be explained due discrepancies between the findings of this study and past studies as to why I did not find similar rates of deterioration. The size of the sample, similar proportions of ethnicity

groups, the range in age of the participants, and measurement tools may have yielded different results.

The fourth research questions asked the following: Were there differences in treatment effectiveness for anxiety symptoms for specific treatment durations, as measured by the RCMAS-2? In this study, I accepted the null hypothesis $H4_0$: Specific treatment durations will have no statistically significant effect on levels of anxiety symptoms. These results led to a Type II Error, which I assumed was due to sample size. No post hoc analysis was conducted. There were no distinct differences in treatment duration that could predict symptom change, which was inconsistent with previous studies.

These results are inconsistent with previous research findings that suggest that children and adolescents receiving treatment have experienced deterioration rates exceeding 20% (Warren, Nelson, & Burlingame, 2009; Warren et al., 2010). Warren et al. 2010 performed a study that analyzed deterioration rates for children and youth who received care in the community care setting which revealed deterioration across time; contributing to the differing rates of change to treatment duration. There were discrepancies between the findings of this study and past studies as to why I did not find similar rates of deterioration. The size of the sample, similar proportions of ethnicity groups, the range in age of the participants, and measurement tools may have yielded different results.

Limitations of the Study

Sample

There were several limitations to this study. Limitations to be considered were sampling, external validity, and measurement. I review each of these restrictions and their implications in detail.

The primary limitation of this study was sampling. The sampling error was most noticeable in the number of participants whose stay was greater than 12 weeks (n = 10) when compared to the other two groups combined (n = 205) when determining if treatment duration had an effect on symptomology change. If research suggested that deterioration occurs across time, then the sample size was disproportionate, due to its small size. With a greater number of participants in that 12-week group in the sample, treatment group differences would have been more valid.

Another limitation was the slightly disproportionate child only and adolescent only groups. There were fewer adolescents (n = 83) than there were children (n = 132). With a greater number of participants in the adolescent group sample, treatment group differences for anxiety symptom changes would have been more valid.

External Validity

When interpreting the results of this study, the external validity must be considered. The population used was retrieved from an archived data set from an intensive private managed health care treatment program and were suspected of having an emotional or internalizing disorder. As a result, these results fail to generalize to the general population with similar characteristics.

Measurement

The tools selected for this study were self-reports. They were preselected since the data set included them as a part of the archived data. There was no true experiment since the data were archived, and the records obtained were the records provided. The selections of tools met the need of the study, but they were self-report tools and provided a limited view of the information provided. The tools themselves were a limitation.

Potential Impact/Social Change

In this study, I revealed that there is a continued need for more clinical research on the predictive outcome evaluation and intervention. Clinical research provides a path to the active treatment of mental health conditions. An active approach to intervention of mental health conditions could reduce pervasive pathology and assist fellow practitioners in further understanding of these disorders when all else has failed. (Bishop et al., 2005; Liu et al., 2011; Warren et al., 2010). Social change can be used as a tool to improve the lives of others in a positive way. This active clinical research epitomizes that belief by putting it to work directly. If previous researchers revealed that treatment is the best routed to reduce future pervasive pathology in the lives of our youth, then it is necessary to consider that this the better option to explore. Therapists in the field should be more familiar with the tools made available to them, rather than reactive responders.

Understanding where to start and how to influence others along the way in this positive direction embodies the fundamental basics of social change in a therapist's career. It is important to identify how to use tools that are available and how to identify predictive risk factors effectively in treatment in order adapt the children or adolescents treatment accordingly to make

the best possible gains. Effective treatments could provide children and adolescents suffering from mental health conditions with opportunities to receive the necessary social, educational, and other developmental skills necessary for healthy development (Liu et al., 2011).

Recommendations for Further Study

Although informative, the results of this study suggest the need for further examination. My purpose was to add to available research and expand on the limited research available for evaluating predictive risk factors associated with treatment outcomes related to intensive private managed health care treatment programs. Several limitations and recommendations for future study will be offered so that replication and expansion of this study can be conducted in hopes to acquire more favorable results.

Based on the findings revealed during this study, I offer the following insights into limitations and future recommendations: (a) gain a more balanced sample so that each variable is equally distribute, (b) locate multiple sites that meet the requirements to be an intensive private managed health treatment program, (c) replicate the study to determine if findings are similar to those found in this study, (d) isolate the treatment durations to determine the effect on treatment outcome, and (e) compare gender and ethnicity to additional variables to determine if there are any other predictive risk factors that should be considered such as self-esteem, temperament, or negative affect.

Treatment for children and adolescents today is not equal for all This suggests that we cannot assess the progress of one's outcome by simply assessing two variables across time (Warren et al., 2010). A more comprehensive approach to research might include a study that also takes into account other variables, including self-concept, temperament, self-appraisal, or

self-esteem. The replication of this study would be successful by adding a self-report that would take into account a child or adolescent's self-concept in the Piers-Harris Children's Self-Concept Scale. I suggest that future studies use a tool like the Piers-Harris Children's Self-Concept Scale, to capture recommended variables. Additionally, Looking into a more complex examination of the gene-environment interaction model postulated by Bronfenbrenner (1994) and the negative cognitive appraisal theory may allow for a more extensive study of the shared and non-shared environmental factors that impact outcome trajectories (Burt, 2009; Zaff & Calkins, 2001).

As reported by the CDC (2013), the following internalizing conditions affect children and adolescents today: anxiety and depression.The presence of internalizing conditions have been associated with increased risks of suicide, poor educational performance as well as maladaptive and unlawful behaviors (Liu et al., 2011). In 2011, Liu et al. suggested that clear distinctions between internalizing and externalizing conditions are crucial to delivering effective treatment in that these conditions must be treated individually.

Concluding Statement

In this study, I sought to add to available research and expand on the limited research available in evaluating risk factors associated with adverse outcomes in an intensive private managed health care treatment program. The archived data used in this study were collected from questionnaires that the site used to document symptomology and make treatment decisions; researchers have predicted that these affective symptoms are important to track (Perle et al., 2013; Verhulp et al., 2013). Researchers have suggested that active treatment could reduce pervasive pathology for children and adolescence when either prevention programs have proven themselves unavailable or have failed (Bishop et al., 2005; Liu et al., 2011; Warren et al., 2010).

It is important that therapists use tools that would benefit them in identifying symptomology as it changes throughout the course of treatment and understand specific risk factors that may interfere or positively contribute to effective intervention, as I and previous researchers have shown. Doing so may contribute to the reduction of long-term problems associated with internalizing conditions that have become linked to these problems: suicide, school failure, and delinquency (Liu et al., 2011).

References

Achenbach, T. M., & Rescorla, L. A. (2001). Manual for the ASEBA school-age forms & profiles. *Social Casework, 68*(9), 515-521. Retrieved from http://aseba.com

Bayer, J. K., Rapee. R. M., Hiscock, H., Ukoumunne, O. C., Mihaloupoulos, C., & Wake, M. (2011). Translational research to prevent internalizing problems early in childhood. *Depression and Anxiety*, *28*(1), 50-57. doi:10.1002/da.20743

Beaver, B. (2009). A positive approach to children's internalizing problems. *Professional Psychology: Research and Practice, 39*(2), 129-136. doi: 10.1037/0735-7028/39.2.129

Bishop, M. J., Bybee, T. S., Lambert, M. J., Burlingame, G. M., Wells, M. G., & Poppleton, L. E. (2005). Accuracy of a rationally derived method for identifying treatment failure in children and adolescents. *Journal of Child and Family Studies, 14*(2), 207-222. doi: 10.1007/s10826-005-5049-1

Bronfenbrenner, U. (1994). Ecological models of human development. *Readings on the Development of Children*, *2*(1), 37-43. Retrieved from http://www.psy.cmu.edu/~siegler/35bronfebrenner94.pdf

Bronfenbrenner, U. (2005). *Making human beings human: Bioecological Perspectives on Human Development*. Thousand Oaks, CA: Sage. Retrieved from http://psycnet.apa.org/psycinfo/2004-22011-000#toc

Bronfenbrenner, U. & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner (Ed.) *Handbook of Child Psychology: Theoretical Models of Human Development* (6th ed., pp. 793-828). Hoboken, NJ: Wiley. doi:10.1002/9780470147658

Brooks T., Harris S., Thrall J. S., & Woods, E. R. (2002). Association of adolescent risk behaviors with mental health symptoms in high school students. *Journal of Adolescent Health, 31*(3), 240-246. doi: 10.1016/S1054-139X(02)00385-3

Burt, S. A. (2009). Rethinking environmental contributions to child and adolescent psychopathology: A meta-analysis of shared environmental influences. *Psychological Bulletin*, *135*(4), 608-637. doi:10-1037/a0015702

Bybee, T. S., Lambert, M. J., & Eggett, D. (2007). Curves of expected recovery and their predictive validity for identifying treatment failure. *Dutch Journal of Psychotherapy, 33,* 419-434. doi: 10.1007/BF03062308

Centers for Disease Control and Prevention. (2013). Mental health surveillance among children — United States 2005–2011. *MMWR Surveill Summ*; *62* (Suppl 2), 1-35. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/23677130

Compas, B. E., Davies, G. E., Forsythe, C. J., & Wagner, B. M. (1987). Assessment of major and daily stressful events during adolescence: The Adolescent Perceived Events Scale. *Journal of Consulting and Clinical Psychology*, *55*, 534-541. doi: 10.1037/022-006X.55.4.534

Cosgrove, V., Rhee, S., Gelhorn, H., Boeldt, D., Corley, R., Ehringer, M., Young, S., & Hewitt, J. (2011). Structure and etiology of co-occurring internalizing and externalizing disorders in adolescents. *Journal of Abnormal Child Psychology, 39*, 109-123. doi: 10.1007/s10802-010-9444-8

Costello E., Angold A., Burns B. J., Stangl, D. K., Tweed, D.L., Erkanli, A., & Worthman, C. M. (1996). The Great Smoky Mountains Study of Youth: Goals, design, methods, and the

prevalence of DSM- III-R disorders. *Archives of General Psychiatry, 53*(12), 1129-1136. doi: 10.1001/018301-200-6701-2

Crawford, N. A. , Schrock, M., & Woodruff-Borden, J. (2011). Child internalizing symptoms: Contributions of child temperament, maternal negative affect, and family functioning. *Child Psychiatry and Human Development, 42*, 53-64. doi: 10.1007/s10578-010-0202-5

Cummings, C. M., Caporino, N. E., & Kendall, P. C. (2014). Comorbidity of anxiety and depression in children and adolescence 20 years after. *Psychological Bulletin*, *140*(3), 816-845. doi: 10.1037/a0034733

Eisenberg, N., Cumberland, A., Spinrad, T. L., & Fabes, R. A. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behaviors. *Child Development*, *72*(4), 1112-1134. doi: 10.111/1467-8624.00337

Garber, J. & Weersing, V. R. (2010). Comorbidity of anxiety and depression in youth: Implications for treatment and prevention. *Clinical Psychology: Science and Practice, 17*(4), 293-306. doi: 10.1111/j.1468-2850.2010.01221.x

Ge, X., Conger, R. D., & Elder Jr, G. H. (2001). Pubertal transition, stressful life events, and the emergence of gender differences in adolescent depressive symptoms. *Developmental Psychology*, *37*(3), 404-417. doi: 10.1037/0012-1649.37.3.404

Guo, Y., Logan, H., Glueck, D., & Muller, K. (2013). Selecting a sample size for studies with repeated measures. *BMC Medical Research Methodology, 13*(100), 1-8. doi:10.1186/1471-2288-13-100

Hicks, B. M., DiRago, A. C., Iacono, W. G., & McGue, M. (2009). Gene–environment interplay in internalizing disorders: Consistent findings across six environmental risk factors.

Journal of Child Psychology and Psychiatry, *50*(10), 1309-1317. doi: 10.1111/j.1469-7610.2009.02100.x

Holmbeck, G. N., Thill, A. W., Bachanas, P., Garber, J., Miller, K. B., Abad, M., … & Mennuti-Washburn, J. E. (2008). Evidence-based assessment in pediatric psychology: Measures of psychosocial adjustment and psychopathology. *Journal of Pediatric Psychology,* 33(9), 958-980. doi: 10.1093/jpepsy/ssm059

Howell, A., & Watson, D. (2009). Impairment and distress judgments of symptoms composing childhood externalizing and internalizing syndromes. *Journal of Child and Family Studies*, *18*(2), 172-182. doi: 10.1007/s10826-008-9217-y

Izard, C. E., Libero, D. Z., Putnam, P., & Haynes, O. M. (1993). Stability of emotion experiences and their relations to traits of personality. *Journal of Personality and Social Psychology*, *64*, 847-860. doi: 10.1037/0022-3514.64.5.847

Jacobs, A. K., Roberts, M. C., Vernberg, E. M., Nyre, J. E., Randall, C. J., & Puddy, R. W. (2008). Factors related to outcome in a school-based intensive health program: An examination of nonresponders. *Journal of Child and Family Studies, 17*, 219-231. doi: 1.1107/s10826-007-9161-2

Jose, P., & Ratcliffe, V. (2004). Stressor frequency and perceived intensity as predictors of internalizing symptoms: Gender and age differences in adolescence. *New Zealand Journal of Psychology*, *33*(3), 145-154. Retrieved from http://www.psychology.org.nz/wp-content/uploads/NZJP-Vol333-2004-4-Jose.pdf

Kovacs, M. & Devlin, B. (1998). Internalizing disorders in childhood. *Journal of Child Psychology and Psychiatry*, *39*(1), 47-63. doi: 10.1111/1469-7610.00303

Lewinsohn, P. M., Roberts, R. E., Seeley, J. R., Rohde, P., Gotlib, I. H., & Hops, H. (1994). Adolescent psychopathology: II. Psychosocial risk factors for depression. *Journal of Abnormal Psychology*, *103*(2), 302-315. doi: 10.1037/0021-843X.103.2.302

Liu, J., Chen, X., & Lewis, G. (2011). Childhood internalizing behavior: Analysis and implications. *Journal of Psychiatric and Mental Health Nursing, 18,* 884-894. doi: 10.1111/j/1365-2850.2011.01743.x

McLaughlin, K. A., Hilt, L. A., & Nolen-Hoeksema, S. (2007). Racial/ethnic differences in internalizing and externalizing symptoms in adolescents. *Journal of Abnormal Child Psychology. 35*(5), 801-816. doi: 10.1007/s10802-007-9128-1

Merikangas K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., … Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Study- Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(10), 980-989. doi: 10.1016/j.jaac.2010.05.017

Mohr, D. C. (1995). Negative outcome in psychotherapy: A critical review. *Clinical Psychology: Science and Practice, 2,* 1-27. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1468-2850.1995.tb00022.x/full

Nelson III, W. M. & Politano, P. M. (1990). Children's Depression Inventory: Stability over repeated administration in psychiatric inpatient children. *Journal of Clinical Psychology, 19*(3), 254-256. doi: 10.1207/s15374424jccp1903_8

Nilsen, T. S., Elsemann, M., & Kvernmo, S. (2013). Predictors and moderators of outcome in child and adolescent anxiety and depression: A systematic review of psychological

treatment studies. *European Child & Adolescent Psychiatry*, *22*(2), 69-87. doi: 10.1007/s00787-0120316-3

Ollendick, T. H. & King, J. N. (1994). Diagnosis, assessment, and treatment of internalizing problems in children: The role of longitudinal data. *Journal of Consulting and Clinical Psychology, 62*(5), 918-927. doi:10.1037/0022-006X.62.5.918

Perle, J. G., Levine, A. B., Odland, A. P., Ketterer, J. L., Cannon, M. A., & Marker, C. D. (2013). The association between internalizing symptomology and risky behaviors. *Journal of Child & Adolescent Substance Abuse*, *22*(1), 1-24. doi: 10.1080/1067828X.2012.724289

Reynolds, C. R. & Richmond, B. O. (1985). Revised children's manifest anxiety scale (RCMAS) manual. Western Psychological Services: Los Angeles

Rovai, A. P., Baker, J. D., & Ponton, M. K. (2013). *Social Science Research Design and Statistics: A Practitioner's Guide to Research Methods and IBM SPSS.* Watertree Press LLC.

Saluja G., Iachan R., Scheidt P. C., Overpeck, M. D., Sun, W., & Diedd, J. N. (2004). Prevalence of and risk factors for depressive symptoms among young adolescents. *Archives of Pediatrics & Adolescent Medicine, 158*, 760– 765. doi: 10.1001/archpedi.158.8.760

Saylor, C. F., Finch, A. J., Spirito, A., & Bennett, B. (1984). The Children's Depression Inventory: A systematic evaluation of psychometric properties. *Journal of Consulting and Clinical Psychology*, *52*(6), 955-967. doi:10.1037/0022-006X.52.6.955

Silverman, W., Pina, A., & Viswesvaran, C. (2008). Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents. *Journal of Clinical Child & Adolescent Psychology, 37*(1), 105-130. doi:10.1080/15374410701817907

Twenge J. & Nolen-Hoeksema S. (2002). Age, sex, race, socioeconomic status, and birth cohort differences on the children's depression inventory: a meta-analysis. *Journal of Abnormal Psychology, 111*, 578–588. doi: 10.1037//0021-843X.111.578

Warren, J. S., Nelson, P. L., & Burlingame, G. M. (2009). Identifying youth at risk for treatment failure in outpatient community mental health services. *Journal of Child and Family Studies, 18,* 690–701. doi: 10.1007/s10826-009-9275-9

Warren, J. S., Nelson, P. L., Burlingame, G. M., & Mondragon, S. A. (2010). Predicting deterioration in youth psychotherapy: Community mental health vs. managed care settings. *Journal of Consulting and Clinical Psychology, 78*(2), 144-155. doi: 10.1037/a0018544

Warren, J. S., Nelson, P. L., Burlingame, G. M., & Mondragon, S. A. (2011). Predicting patient deterioration in youth mental health services: Community mental health vs. managed care settings. *Journal of Clinical Psychology*, *68*, 24-40. doi: 10.1002/jclp.20831

Weisz, J. R., Chorpita, B. F., Frye, A., Ng, M. Y., Lau, N., Bearman, S. K., ... & Hoagwood, K. E. (2011). Youth Top Problems: using idiographic, consumer-guided assessment to identify treatment needs and to track change during psychotherapy. *Journal of consulting and Clinical Psychology*, *79*(3), 369-380. doi: 10.1037/a0023307

Wickrama K., Noh S., & Bryant C. (2005). Racial differences in adolescent distress: differential effects of the family and community for Blacks and Whites. *Journal of Community Psychology, 33*, 261–282. doi: 10.1002/jcop.20053

Wright R., Aneshensel C., Botticello A., & Sepulveda, J. (2005). A multilevel analysis of ethnic variation in depressive symptoms among adolescents in the United States. *Social Science & Medicine, 60*, 2073–2084. doi:10.1016/j.socscimed.2004.08.065

Verhulp, E., Stevens G., Schoot, R., & Vollebergh, W. (2013). Understanding ethnic differences in mental health service use for adolescents' internalizing problems: the role of emotional problem identification. *European Child Adolescent Psychiatry*, *22,* 413-421. doi: 10.1007/s00787-013-0380-3

Zaff, J. F. & Calkins, J. (2001). *Background for community-level work on mental health and externalizing disorders in adolescence: Reviewing the literature on contributing factors.* Washington, DC: Child Trends. Retrieved from https://eric.ed.gov/?id=ED467804