ABSTRACT

SUPPORTING FAMILIES THROUGH A COMPREHENSIVE APPROACH TO SCHOOL-BASED ADHD INTERVENTION: A GRANT PROPOSAL

By

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The purpose of this project was to locate a potential funding source and write a grant to implement an Attention Deficit Hyperactivity Disorder (ADHD) intervention program at Westchester Secondary Charter School, a culturally diverse middle and high school located in Los Angeles, California. In addition to conducting an extensive literature review on childhood ADHD, the Eisner Foundation was identified as a possible funding source for this program.

Due to their impairments in sustaining attention and completing tasks, children with ADHD are more likely to repeat grades, receive special education services, and drop out of school than typically developing children. In order to support these students with increasing their overall academic and social functioning, a comprehensive program was developed combining empirically supported child and parent interventions. Following the formulation of a program budget, lessons learned were discussed. Actual submission of the grant was not required for successful completion of this project.

SUPPORTING FAMILIES THROUGH A COMPREHENSIVE APPROACH TO SCHOOL-BASED ADHD INTERVENTION: A GRANT PROPOSAL

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CHAPTER 1

INTRODUCTION

According to the National Institute of Mental Health (NIMH; 2013), approximately 20% of youth experience a severe mental disorder every year. For both the child and his or her family members, the social stigma and immense emotional stress related to the mental illness are often devastating. Attention Deficit Hyperactivity Disorder (ADHD) is one such mental disorder that significantly impacts the cognitive, academic, and social functioning of many children and adolescents today. The number of youth diagnosed with ADHD has steadily risen in recent years, with annual rates increasing 5% for the past 8 years (Centers for Disease Control and Prevention [CDC], 2013). It is estimated that as many as 11% of children ages 4 to 17 years old, or 6.4 million children, received an ADHD diagnosis in 2011 (Visser et al., 2014). Of these children, 69% were taking stimulant medication for the treatment of the disorder. The CDC (2013) reports that boys are far more likely to receive an ADHD diagnosis during childhood (13.2%) compared to girls (5.6%). The same CDC report also estimates that, within the state of California, 7.3% of children ages 4-17 have been diagnosed with ADHD at some point in their lives. Los Angeles County has slightly lower rates, with 6% of children ages 2-17 having ever been diagnosed (Los Angeles County Public Health [LACPH], 2013).

Background

ADHD is characterized by a continuous pattern of inattention and/or hyperactivity-impulsivity (American Psychiatric Association, [APA] 2013). Symptoms include the inability to focus on schoolwork or follow directions, misplacing items easily, excessive fidgeting while seated, excessive talking, and the inability to remain seated during school. In order for a child to qualify for a clinical ADHD diagnosis, these symptoms must clearly interfere with his or her social or academic functioning. Additionally, the child must display behaviors indicative of ADHD before the age of 12 and in more than one setting.

Research indicates that children diagnosed with ADHD are far more likely to drop out of high school (31.1%) compared to children with no diagnosis (4.4%; Klein et al., 2012). In addition, adults who were diagnosed with childhood ADHD experience increased rates of divorce, substance use disorders, psychiatric hospitalizations, poor social functioning, incarceration, and early death. According to the APA (2013), children with ADHD are also more likely to be diagnosed with conduct disorder as adolescents and antisocial personality disorder in adulthood.

Due to the potentially severe impact of ADHD on a child's current and later-life functioning, several interventions have been suggested for the treatment of ADHD. Stimulant medication has rapidly become the most popular form of treatment for ADHD symptoms in children (CDC, 2010). While improvements in focus and impulse control are often apparent in children taking stimulants, the side effects of these drugs can be extremely serious (Cohen, 2013). Stimulant medications used to treat ADHD are classified as Schedule II controlled substances and have an extremely high potential for

addiction. Other side effects in children include weight loss, decreased growth, insomnia, nausea, vomiting, cardiovascular issues, and anxiety.

Alternative treatments to medication include school-based interventions such as behavioral management, specialized teaching strategies, and social skills training. DuPaul, Weyandt, and Janusis (2011) suggest that the most common behavioral intervention used by teachers is positive reinforcement in the form of praise and tokens to be exchanged for a reward or prize. This strategy is most effective when used consistently and when rewards are connected to the student's specific interests. Hodgson, Hutchinson, and Denson (2012) also suggest that behavior modification techniques including positive and negative reinforcement are effective in minimizing behaviors associated with ADHD. Additionally, neurofeedback, a treatment in which children with ADHD are taught to control specific brainwave patterns, has shown to be effective in decreasing symptoms. Dietary modification is another nonpharmacological intervention used in the treatment of ADHD symptoms. Sonuga-Barke and colleagues (2013) found that adding fatty acid supplements to a child's diet, along with excluding artificial food coloring, has a small but significant impact on ADHD-related behaviors. Other common nonpharmacological interventions include parent training, child self-regulation, and multimodal psychosocial therapies (Rajwan, Chacko, & Moeller, 2012).

Statement of Purpose

In order to ensure the academic, social, and emotional well-being of children diagnosed with ADHD, the purpose of this grant is to implement a two-tiered nonpharmacological intervention at Westchester Secondary Charter School (WSCS) in Los Angeles, California. Parents of students diagnosed with ADHD will be provided

with training utilizing The Incredible Years (IY) program, an evidenced-based practice funded by the National Institutes of Health (National Registry of Evidence-based Programs and Practices [NREPP], 2014). The purpose of the IY parent program is to equip parents with the skills needed to more effectively manage their child's disruptive behaviors and support their academic growth. Additionally, WSCS students with ADHD will be provided with therapeutic treatment utilizing The Challenging Horizons Program (CHP). The purpose of CHP is to increase the functioning of children with ADHD both at school and home by enhancing skills such as organization, studying, socialization, and behavior self-regulation. Additionally, regular meetings are held with the students' parents and teachers.

Definition of Terms

Hyperactivity: Inappropriate and excessive motor activity (APA, 2013).

Impulsivity: Hasty and high-risk actions that are not given thoughtful consideration beforehand (APA, 2013).

Inattention: Difficulty maintaining focus and staying on task (APA, 2013).

Nonpharmacological: Without the use of medication.

Self-regulation: The ability to monitor and adjust one's own behavior (DuPaul et al., 2011).

Stimulant: Medication prescribed for the treatment of ADHD including methylphenidate and amphetamines (National Institute on Drug Abuse, 2014).

Multicultural Relevance

While the lifetime prevalence rate of ADHD is highest among Caucasian children (9.9%), Latino children are also highly affected (5.8%; CDC, 2012). These statistics are important to note due to the fact that Los Angeles, the city in which the proposed intervention will take place, is a highly diverse community made up of approximately 50% Latino residents (United States Census Bureau [USCB], 2010). In addition, it is estimated that 60% of residents speak a language other than English at home. In order to ensure that the proposed intervention achieves its purpose of enhancing the overall wellbeing and functioning of children with an ADHD diagnosis, it is vital that cultural components are taken into consideration.

Barker, Cook, and Borrego (2010) suggest that there are several important aspects of the Latino culture that must be integrated into parent training programs in order for them to be effective. The concept of *respeto* emphasizes the obedience and manners of children, especially towards elders and authority figures. When working with parents, the clinician must show his or her respect by clarifying the manner in which they would like to be addressed (last name vs. first name) and respect language differences by translating materials if needed. Another variable present within the Latino culture is *personalismo*, which focuses on the trust and warmth in relationships. In order to honor this cultural aspect, clinicians should concentrate on building rapport with parents by allowing for some self-disclosure and conversational time at the beginning of group. An additional cultural variable to be aware of when working with Latino parents is *machismo*, or the role of the male as head of the household. For parents who practice the gender roles associated with *machismo*, it may be a challenge to engage mothers in

disciplinary interventions. The clinician may have to provide these parents with extra support and psychoeducation, while relating intervention outcomes back to cultural values such as *respeto*.

Importance to Social Work

Children diagnosed with ADHD often face difficulties at school, home, and within peer groups. School social workers are able to play an important role in the treatment of children with ADHD, as they are able to intervene and increase functioning among all these areas (Berzin & O'Connor, 2010). Addressing the symptoms and behaviors associated with ADHD will not only benefit the students exhibiting them but will also decrease the stress and frustration experienced by their teachers and parents. As children learn to better manage their symptoms, and teachers and parents become equipped with the skills and knowledge to support them, the overall wellbeing of children with ADHD will increase.

CHAPTER 2

LITERATURE REVIEW

Introduction

The number of youth diagnosed with ADHD in the United States has increased at alarming rates in recent years. According to the CDC (2013), the number of new diagnoses has risen by an average of 5% every year for the past 8 years. In order to better understand how to effectively support students with ADHD and their families, the following literature review discusses the history of ADHD as a mental disorder, including reasons for its recent increase in prevalence and populations affected by this issue. In addition, this review describes the etiology and impact of ADHD, as well as school-based interventions for the treatment of ADHD in children and adolescents.

History of ADHD

The behaviors associated with today's definition of ADHD were first categorized as maladaptive by English pediatrician Sir George Frederick Still in 1902 (Mayes & Rafalovich, 2007). Still conducted research on a group of 20 children whom he labeled as "behaviorally disturbed." He observed that while these children were developmentally typical in their cognition, they were unable to concentrate for long periods of time and exhibited disruptive behaviors. Still theorized that the children suffered from immorality and that this character flaw caused them to behave in such a manner. Years after Still's initial theory, physicians continued to search for a more scientifically-based explanation for the inattentive and hyperactive behaviors exhibited by certain children. Alfred

Tredgold, the leading expert in mental disorders at the time, hypothesized in 1922 that "anti-school" behavior was caused by mild brain damage. Researchers Eugene Kahn and Louis Cohen expanded upon this theory in 1934, suggesting that children with behavioral issues are born with brainstem defects.

Theories of disruptive childhood behavior caused by brain damage continued to dominate the medical field for the next several decades. Beginning in 1957, children exhibiting symptoms of hyperactivity and inattentiveness were labeled with "hyperkinetic impulse disorder," thought to be caused by early damage to the part of the brain that controls impulsivity (Mayes & Rafalovich, 2007). Researchers in the 1960s, however, began to question the accuracy of this theory as it became readily apparent that many of the children diagnosed with "hyperkinetic impulse disorder" did not have brain damage. An increasingly humanistic approach began to dominate the field of psychiatry, and it was hypothesized that mental illness is brought about by personal struggles and childhood traumas. As a result, "hyperkinetic impulse disorder" was revised to "hyperkinetic reaction of childhood" in the *Diagnostic and Statistical Manual of Mental Disorders-II* (*DSM*) published in 1968.

According to Mayes and Erkulwater (2008), the publishing of the DSM-III in 1980 was a critical point in the classification of ADHD and mental disorders in general, as it transitioned to categorical diagnoses based on overt symptoms. "Hyperkinetic reaction of childhood" became "Attention Deficit Disorder" (ADD), and the APA assigned diagnostic criteria consisting of 14 symptoms, of which three inattentive, three impulsive, and two hyperactive symptoms were required. The *DSM-III* medicalized mental disorders and created an increasing interest in childhood disorders. In 1987, the

DSM-III was revised and ADD became what is now known as ADHD. All 14 symptoms were joined into a single category, with eight symptoms meeting criteria for a diagnosis. This change in criteria accounted for a 15% increase in ADHD diagnoses. The *DSM-IV* was published in 2000 and required only six symptoms of either inattention and/or hyperactivity-impulsivity for an ADHD diagnosis (APA, 2000). According to Mayes and Erkulwater, the evolution of the DSM has made it far easier for children to meet the criteria for an ADHD diagnosis and has led to rapidly increasing rates of prevalence.

In addition to the classification of ADHD as a mental disorder, changes in public healthcare policy played an important role in the steady rise of ADHD diagnoses (Mayes, Bagwell, & Erkulwater, 2008). The successful lobbying efforts of advocacy group Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD) in the 1990s led to the inclusion of ADHD as a disability under the Individuals with Disabilities Act. During the same time period, low-income children with ADHD became eligible for Social Security Income (SSI), although benefits among this population were repealed later that decade. Additionally, many more individuals became eligible for Medicaid during the 1990s, leading to a steady rise in the prescription of psychotropic medications.

The use of stimulant medication for the treatment of behavioral problems associated with ADHD began in 1937 when psychiatrist Charles Bradley studied the effects of the amphetamine Benzedrine on a group of 30 children (Mayes & Rafalovich, 2007). Dr. Bradley found that the drug not only had a calming effect on many of the children, but improved their concentration and academic performance. Mental health research dramatically increased in the 1950s, and with the development of many new tranquilizers and antipsychotics, interest in child psychiatry also rose. In 1955, Swiss

pharmaceutical firm J. R. Geigy developed methylphenidate, or Ritalin, for the treatment of "hyperkinetic behavior syndrome" in children. The drug was approved by the Food and Drug Administration in 1961. The number of American children prescribed Ritalin during this time period remained low (approximately 150,000-200,000 children) and concern regarding Ritalin's potential for abuse grew substantially in the 1970s. In 1971, amphetamines and methylphenidate were reclassified by Congress as Schedule II drugs, placing them in the same category as the opiates Demerol and morphine.

Increased spending on mental health services in the 1980s led to a shift towards more cost-effective managed care (Mayes et al., 2008). The managed care system of behavioral health aimed to decrease hospital stays by utilizing primary care physicians and psychotropic medications. As a result, an increasing number of children received ADHD diagnoses from their pediatricians as opposed to child psychiatrists (Mayes & Erkulwater, 2008). Managed care created incentives for pediatricians and family doctors to see as many patients as possible, leading to an increase in children being treated with stimulants alone, without psychotherapy or follow-up visits. Between 1980 and 1990, the number of children with an ADHD diagnosis prescribed stimulant drugs increased by 58%.

The expansion of Medicaid in the early 1990s also led to higher rates of stimulant medication use, as hundreds of thousands of low-income children received diagnostic screenings and medical treatment (Mayes & Erkulwater, 2008). Between 1991 and 2001, Medicaid spending on stimulants grew 9 times per child enrolled. In a national study of Medicaid enrolled children, Matone and colleagues (2012) found that children with ADHD accounted for 50% of all antipsychotic medication use, of whom 1 in 7 had

ADHD as their only diagnosis. Matone and colleagues also warned of the danger in prescribing antipsychotics to children, as their safety and effectiveness have not yet been established.

Etiology of ADHD

While early theories suggest that ADHD in children is caused by brain damage, modern researchers have determined that the disorder cannot be explained by one single risk factor (Thapar, Cooper, Eyre, & Langley, 2013). Instead, correlations exist among several environmental and genetic factors. In a literature review conducted by Thapar and colleagues (2013), it was found that children who are physically abused and/or neglected beginning at an early age are more likely to be diagnosed with ADHD. Additionally, the disorder is more prevalent among low-income families and households in which there are high levels of conflict.

In a study conducted by Schroeder and Kelley (2009), the associations between family environment, parenting practices, and overall functioning of children with and without ADHD were explored. Study participants were 134 parents of children with and without ADHD. Measures included the Behavior Rating Inventory of Executive Function-Parent Form (BRIEF), which assesses children's behavioral and cognitive functioning, and the Parent-Child Relationship Inventory (PCRI), which assesses parenting techniques and family environment. The study results did not find a significant association between parenting practices and the functioning of children with ADHD. However, parents of children with ADHD did report higher levels of family conflict and home disorganization that those with children without ADHD.

Banerjee, Middleton, and Faraone (2007) suggest that fetal exposure to alcohol increases a child's risk of developing ADHD. Damage to the brain's cerebellum may result in cognitive impairments including decreased ability to concentrate, recall information, and engage socially with others. Maternal cigarette smoking is also associated with higher rates of ADHD in children. Low birth weight, decreased uterine blood flow, and decreased cell growth are common results of fetal nicotine and carbon monoxide exposure and may result in damage to the brain's neurotransmitter systems, causing increased hyperactivity and sensitivity to external stimuli (Kotimaa et al., 2003). Finally, Fritz (2011) reported that early exposure to lead in paint and plumbing fixtures may increase a child's likelihood of developing ADHD.

Adoption, twin, and family studies suggest that a significant relationship exists between ADHD and genetic makeup (Sharp, McQuillin, & Guriling, 2009). In a literature review conducted by Faraone and colleagues (2005), it was found that the biological relatives of adopted children with ADHD are more likely to also have an ADHD diagnosis than the adoptive relatives. Additionally, identical twins are more likely to both exhibit symptoms of ADHD than fraternal twins. Among these studies, it was estimated that ADHD has a heritability rate of 76%, making it one of the most heritable of mental disorders.

While research indicates that the etiology of ADHD may be explained by environmental and genetic factors, beliefs vary according to culture. In a study conducted by Lawton, Gerdes, Haack, and Schneider (2014), 74 Latino parents were provided with questionnaires regarding their etiological beliefs of ADHD. The study began by having participants watch a 10-minute video portraying a Latino child

exhibiting standard ADHD symptoms. Next, the parents completed measures that assessed etiological beliefs, levels of acculturation, and cultural values. Study results revealed that parents with low levels of acculturation were more likely to believe that children's friends are a contributing factor to ADHD compared to those with high levels of acculturation. In addition, the Latino cultural values of familism, spirituality, and traditional gender roles were significantly associated with etiological beliefs related to nature and spiritual disharmony.

African American and Caucasian parents may also possess beliefs about ADHD that are unique to their cultures. In a study conducted by Bussing, Schoenberg, and Perwien (1998), 486 parents of children displaying ADHD symptoms were surveyed on their knowledge of the disorder. Study results found that 69% of African American parents had ever heard of ADHD compared to 95% of Caucasian parents. Additionally, African American participants were more likely to report that high-sugar diets caused ADHD (59%) compared to Caucasians (30%). Caucasians, on the other hand, were more likely to report that their child's school was to blame for the development of ADHD symptoms (35%) compared to African American parents (9%). These study results reveal the need for increased education among parents on ADHD, especially among the African American community. Given that Caucasian children are twice as likely to receive treatment for ADHD compared to African American children (Bussing et al., 1998), it is all the more critical for parents to receive accurate information on the causes of ADHD, as well as treatment options.

Impact of ADHD

Children

ADHD significantly impacts the cognitive, academic, and social functioning of the children and adolescents diagnosed with the disorder. Perhaps the most pervasive challenges experienced by children diagnosed with ADHD are those within educational settings. According to Daley and Birchwood (2010), children with ADHD are more likely to have failing grades and low standardized test scores, as well as to repeat a grade than typically developing children. In addition, these children have higher rates of suspensions and expulsions from school. Research also indicates that although a negative association exists between ADHD and IQ, children with the disorder perform at a lower level than would be expected based on their intelligence (Diamantopoulou, Rydell, Thorell, & Bohlin, 2007). Due to the immense academic challenges experienced by many children with ADHD, they experience high rates of high school dropout and often do not pursue higher education (Daley & Birchwood, 2010).

In a systematic review conducted by Danckaerts and colleagues (2009), 36 studies exploring quality of life among children with ADHD were analyzed. In the studies that utilized child self-ratings ($n = 7$), results were varied. Several studies found that the ratings of children with ADHD were similar to those of the control groups, while others found that children with ADHD scored lower within the domains of self-esteem and relationships. Among the 23 studies that utilized parent ratings of their child's quality of life and compared them to control group ratings, the majority of studies found that children with ADHD scored significantly lower within the domains of family functioning

and emotional/behavioral functioning. The review also found a correlation between symptom severity and quality of life rating.

In addition to overall quality of life, children with ADHD often struggle with obtaining positive peer relationships (Hoza, 2007). In a study conducted by Hoza and colleagues (2005), it was found that 52% of children with ADHD had been rejected by their peer groups and less than 1% fell within the "popular" category. While few studies exist that examine the relationship between gender and peer functioning, Hoza (2007) suggests that both boys and girls with ADHD are impaired in this area compared to typical children. Research also shows that behavioral interventions focusing on social skill development are effective treatments for children with ADHD struggling with peer interactions.

High rates of comorbid disorders present additional challenges to children with ADHD. According to the *DSM-5* (APA, 2013), approximately half of all children with ADHD meet diagnostic criteria for oppositional defiant disorder (ODD), while one-quarter qualify for conduct disorder (CD). Disruptive mood dysregulation disorder, specific learning disorder, major depressive disorder, and anxiety disorders are also more commonly seen in children with ADHD than among those in the general population. Children who maintain their ADHD into adulthood are more likely to develop substance use disorders, antisocial personality disorder, and other personality disorders. In a study conducted by Moffitt, Caspi, Harrington, and Milne (2002), the life experiences of 1,037 children were tracked from ages 3 to 26. The researchers found that those children who developed disruptive disorders at an early age and continued displaying violent behaviors throughout adulthood were most likely to have ADHD (38%).

Parents

Research indicates that parents of children with ADHD face several challenges associated with their child's behaviors, including decreased family cohesion and marital strain (Foley, 2011). According to Reader, Stewart, and Johnson (2009), parents raising children diagnosed with ADHD often experience significantly higher levels of stress than parents of typical children. In addition to managing their child's symptoms, parents of children with ADHD also have additional responsibilities including doctor or therapist appointments, long hours spent helping their child with homework, and conferences with teachers regarding their child's behavior and academic performance. Reader et al. (2009) also reported that these parents have higher levels of depressive symptoms and are less satisfied with their parenting role compared to those who parent typical children.

In a study conducted by Foley (2011), the functioning of families with and without children with ADHD was explored. Parents of children with ADHD ($n = 32$) and parents of typical children ($n = 23$) responded to questionnaires that assessed for ADHD, family adversity, and overall family functioning. Study participants were primarily white and of middle-class socioeconomic status, resulting in no significant differences in family adversity between the two groups. However, the study did find that the parents of children with ADHD reported significantly higher levels of family conflict and disorganization compared to the parents of typical children. These results clearly highlight the need for the early intervention and support of families of children with ADHD.

In addition to experiencing overall family discord, parents of children with ADHD are also more likely to divorce. Wymbs and colleagues (2008) conducted a study

in which the divorce rates of parents of children with ADHD were compared to those of parents of typical children. The study also examined factors such a parent divorce history, educational level, and mental health history, as well as the child's ADHD/ODD/CD symptom severity. Of the 282 parent participants who had children with an ADHD diagnosis, 22.7% were divorced by the time their child was 8 years old. In comparison, only 12.6% of parents in the control group were divorced in that same timeframe. Additionally, divorce rates were higher among mothers with lower educational attainment, fathers displaying antisocial behavior and with higher educational attainment, and parents of children with severe disruptive behaviors. While the study does not suggest that children with ADHD directly cause their parents to divorce, there is clearly an association between the stress caused by their disruptive behaviors and marital dissolution.

School-Based Interventions

Several promising school-based interventions exist for the treatment of ADHD in children. The Incredible Years program has been assessed for efficacy in numerous studies conducted by both the developer and independent researchers throughout the United States and other countries. In a meta-analytic review conducted by Menting, Orobio de Castro, and Matthys (2013), 50 studies on the parenting component of IY were analyzed. The review aimed to evaluate the overall effectiveness of IY with regards to parenting strategies, as well as to determine whether any intervention or parent/child characteristics affect IY program outcomes. Studies analyzed included a total of 2,472 participants in intervention groups and 2,273 in comparison groups. The number of participants from minority backgrounds ranged from 0.8% to 100% (*M = 44.7*), while 18

of the studies focused specifically on at-risk populations. Parents who received the IY training attended a number of sessions ranging from 4 to 60. The majority of these sessions were delivered in a group format (60%).

Results from the review conducted by Menting and colleagues (2013) revealed significant differences between intervention and control groups in the areas of child disruptive behavior and socialization. Additionally, it was discovered that symptom severity is the best indicator of program effectiveness. Studies that included a large number of children with severe behavioral issues reported better outcomes. Overall, research on the IY parent training program has shown the intervention to be quite effective in providing parents with the skills necessary to manage and reduce ADHD symptoms in their children (Azevedo, Seabra-Santos, Gaspar, & Homem, 2014; Gardner, Hutchings, Bywater, & Whitaker, 2010; Hurlburt, Nguyen, Reid, Webster-Stratton, & Zhang, 2013). Common themes present in the research indicate that the IY parent intervention results in participants gaining a sense of empowerment and competence, especially among at-risk populations. Unfortunately, none of the studies discuss specific cultural considerations for the implementation of the IY parent training program. Further research is needed in order to determine its multicultural competency.

The Challenging Horizons Program (CHP) is an additional school-based program that is designed to increase the functioning of children with ADHD both at school and home by enhancing skills such as organization, studying, socialization, and behavior self-regulation (Schultz, Evans, & Serpell, 2009). Additionally, regular meetings are held with the students' parents and teachers. Evans, Schultz, DeMars, and Davis (2011) conducted a study in order to evaluate the effectiveness of CHP on the social and

academic functioning of young adolescents. The sample consisted of 49 students in sixth through eighth grades attending two Virginia middle schools. Students in the experimental group were provided with the CHP intervention for two hours, two days per week for five months (recommended program length is nine months). Treatment included group academic and interpersonal skills building, recreational activity, and individual counseling. Participant behaviors were measured using several parent and teacher-rated instruments, as well as clinician assessments. Overall study results showed no significant difference in the social functioning of students in the experimental group, however disruptive behaviors displayed in the classroom did decrease. Additionally, students who participated in CHP experienced a significant improvement in academic performance. Similar positive results were found in several other studies exploring the effectiveness of CHP (Evans, Serpell, Schultz, & Pastor, 2007; Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008; Schultz et al., 2009). Limitations of the study included the program length and lack of cultural diversity present among participating students.

The Positive Parenting Program (Triple P) is another nonpharmacological ADHD intervention that has been heavily researched (Salari, Ralph, & Sanders, 2014). The program is designed to educate parents with children ages 0-16 on healthy and effective parenting strategies in order to decrease child disruptive behavior. Triple P is comprised of several different intervention levels that are applied based on parent and child needs. In a systematic review by Wilson and colleagues (2012), 33 randomized controlled trials were analyzed in order to determine program outcomes and identify publication bias. Overall review results revealed that parents participating in Triple P reported modest

improvements in child behavior. Additionally, it was found that 32 of 33 studies reviewed were conducted by Triple P developers, increasing the likelihood of biased results.

Incredible Years has been chosen as one of the evidence-based programs to be used in this grant proposal for several reasons. While there are several interventions supported by NREPP, IY has been extensively researched and shown to significantly improve the social and academic performance of children with ADHD. Unlike some of the other intervention programs, IY has not only been tested by those involved in its development, but has also been researched by many independent parties. Additionally, the participant samples used in IY research are culturally diverse, an important factor due to the substantial diversity of the grant proposal's target population. Finally, IY is one of the most cost-effective options when comparing evidence-based treatments for ADHD (NREPP, 2014).

The Challenging Horizons Program has been identified as an additional, promising intervention to be utilized in the proposed school-based ADHD intervention due to its focus on improving the academic performance of students struggling with hyperactive and inattentive symptoms. While studies conducted on CHP lack substantial multicultural awareness, considerations will be taken in the development of the proposed program in order ensure cultural competence.

Conclusion

Factors that have contributed to the increase of ADHD diagnoses include revisions made to the DSM, greater public awareness of ADHD, the shift towards managed care behavioral health systems, and the expansion of Medicaid. While no

single cause of ADHD has been identified, research demonstrates a strong association between genetics and ADHD, as well as environmental factors. It is important to note that different cultural groups often have their own unique interpretations of ADHD and its etiology. Children with ADHD are presented with various challenges, including difficulty with schoolwork and testing, interacting with peers, and low self-esteem. ADHD is also commonly associated with other disruptive disorders and may lead to long-term delinquency. Parents of children with ADHD often experience higher levels of stress and depressive moods, in addition to increased divorce rates. In order to support students with ADHD and their families, several school-based intervention programs have been extensively researched and assessed for treatment efficacy. The IY parent training program equips parents with the skills needed to better manage their child's symptoms at home, resulting in fewer disruptive behaviors and increased parenting confidence. Additionally, CHP provides students with the organizational and self-monitoring skills required to succeed within the classroom and excel academically. If funded, this program is expected to improve the overall functioning of students with ADHD both at home and within the classroom.

CHAPTER 3

METHODS

Identification of Potential Funding Source

The process of identifying potential funding sources for this grant was completed primarily through an Internet search. The grant writer utilized Google and Yahoo search engines, as well as the links and resources provided by the library at California State University, Long Beach (CSULB) social work page. Using key words such as *grants/ADHD/California, grants/mental health/California, grants/children/California*, the writer identified several funding sources including The Eisner Foundation, U.S. Department of Education, and the RGK Foundation.

Criteria for Selection of Actual Grant

When exploring various foundations for grant opportunities, the grant writer researched program information which included all criteria and restrictions on funding. Grant foundations selected as potential funding sources offered grant amounts that funded public education and aligned with the budget of the proposed program. Grant applications were accessible on the foundation website, which also included the posting of past and future grants. The grant writer ensured that the selected grant foundation was the best match possible in regards to mission statement, funding, and populations served.

Eisner Foundation

The Eisner Foundation is a private, family foundation that was established in 1996 (The Eisner Foundation, 2014). The foundation aims to support underprivileged

children in Los Angeles County through the development of afterschool activities, affordable healthcare options, and programs that prevent abuse or neglect. Recent grants awarded by the Eisner Foundation include those supporting childhood mental health services and dropout prevention services within Los Angeles Unified School District. Grants offered typically range from $10,000-$300,000, although in rare cases may exceed one million dollars. This funding source aligns with the writer's proposed project as it supports disadvantaged youth in Los Angeles County and will fund public school programs.

Submission Process

In order to apply for a grant from the Eisner Foundation, the applicant must first submit a two page Letter of Inquiry that includes a description of the agency and proposed program, expected program outcomes, program budget, and contact information. If the foundation determines the proposed program to be a good fit with its mission and funding priorities, the grant writer will be sent a full application to complete. Detailed application instructions and information regarding notification timelines are provided to the grant writer at that time.

Target Population

In a comprehensive approach that will address the difficulties associated with ADHD, this program will involve families at various levels of ADHD intervention. In partnership with Westchester Secondary Charter School, this school-based behavior management program will be targeted towards students diagnosed with ADHD, as well as their parents. The grant is intended to serve these target populations due to the high rates of ADHD diagnoses in Los Angeles County (LACPH, 2013). The purpose of the

grant is to increase the functioning and overall well-being of children diagnosed with ADHD through the implementation of the Incredible Years and Challenging Horizons Program interventions.

Target School

Westchester Secondary Charter School (WSCS) is located in Los Angeles and currently serves grades 6 through 10 (J. Landon, personal communication, May 3, 2014). WSCS serves an ethnically diverse range of students with different learning capabilities including traditional learners, gifted and high-achieving students, those with special needs, and English learners. It is estimated that 15 to 20 students enrolled in the school have an ADHD diagnosis, and this number is expected to increase as the school population grows with the addition of the eleventh and twelfth grades in 2015 and 2016, respectively. The school is primarily funded by the Los Angeles County Office of Education (LACOE). However, WCSC holds fundraisers and accepts private donations in order to fund various field trips in the community and additional arts programs that are not financially encompassed in the LACOE budget.

Needs Assessment and Collection of Data Needed for the Grant

Databases provided by the CDC, LACPH, Data Quest, and the USCB were accessed. There are approximately 3,885,000 residents in the city of Los Angeles, California (USCB, 2010). Nearly 25% of these residents are under the age of 18. The literature reviewed thus far illustrates the need for a school-based ADHD intervention, as it is estimated that 6% of students in Los Angeles County have been diagnosed with ADHD (LACPH, 2013). The literature also indicates that children diagnosed with ADHD are far more likely to experience financial, social, and mental health difficulties

as adults than children without a diagnosis (APA, 2013; Klein et al., 2012). In order to assess the need for a school-based ADHD program, this grant writer used various methods of data collection including a thorough review of existing literature.

CHAPTER 4

RESULTS

Summary of the Problem

ADHD is an increasingly prevalent issue among school-age children (CDC, 2013). Based on national averages, DuPaul and Jimerson (2014) estimate that the typical public school has one to three children with an ADHD diagnosis per classroom. Due to their impairments in sustaining attention and completing tasks, children with ADHD are more likely to repeat grades, receive special education services, and drop out of high school than typically developing children. Additionally, children with ADHD often have difficulty maintaining positive peer relationships as their symptoms may result in disruptive or aggressive behavior and impaired communication skills. As a result of these significant barriers in functioning, children with ADHD are also more likely to develop depression and anxiety, among other mental disorders.

School-based ADHD intervention is essential due to the fact that schools provide mental health services to three-fourths of children receiving mental health treatment (Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010). While school personnel serve as the most common child mental health service providers, only 59% of U.S. public schools offered programs for behavioral problems as of 2005 (Foster, Rollefson, Doksum, Noonan, & Robinson, 2005). Within Los Angeles County schools, the need for culturally competent mental health services is even greater. In a study conducted by Aguilar-Gaxiola, Loera, Méndez, Sala, and Nakamoto (2012), 553 Latino students and parents

residing in California shared their experiences with mental health issues and accessibility to services. Many participants expressed concern over the lack of funding at their children's schools for mental health programs, as well as the tendency of school personnel to label their children as "at-risk" or "problem students" rather than to provide them with mental health support. Study participants also reported they would like their children's schools to offer more parent-focused mental health programs, with an emphasis on education and parenting strategies.

Program Description

The proposed school-based program will be implemented during the academic year and will target both students with an ADHD diagnosis and the parents of those students. The program will combine two empirically supported interventions in order to comprehensively address ADHD among school-age children. The Challenging Horizons Program (CHP) will be used to support approximately 15 children in grades six through eight to decrease their symptoms of inattention and hyperactivity and improve their academic achievement and social skills. In order to support the parents of these children with gaining effective parenting skills, developmentally appropriate components of the Incredible Years (IY) parent training groups will also be implemented. Parents will learn techniques for promoting positive behaviors in their children, reducing disruptive symptoms, and supporting educational achievement. Research shows that these interventions are successful at improving the overall functioning of children with ADHD in educational settings (Azevado, et al., 2014; Webster-Stratton, Reid, & Beauchaine, 2011; McGilloway et al., 2012; Evans, Schultz, DeMars, & Davis, 2011; Schultz et al., 2009).

Program Objectives

The goal of the proposed intervention program is to increase the overall academic and social functioning of WSCS sixth through eighth grade students with ADHD diagnoses. The program will include parent training workshops and afterschool group intervention for the identified students. For the parent training portion of the intervention, a decrease in ADHD-related symptoms will be achieved through (a) weekly group sessions to strengthen parenting skills and (b) weekly support phone calls from the group facilitator in order to monitor progress and reinforce new skills. For the student intervention portion of the program, ADHD-related symptoms will decrease through (a) twice weekly group sessions to improve social functioning, academic performance, and emotional regulation, (b) monthly meetings with the student's parents to monitor progress, and (c) regular consultation with the student's teachers to monitor progress and implement behavioral management strategies in the classroom. One bilingual social worker with a Master of Social Work degree and Pupil Personnel Services credential will facilitate the ADHD intervention program for WSCS. The proposed program goal will be achieved through the following objectives:

Objective 1: Twice weekly student groups. CHP will be delivered to a group of approximately 15 students who have been identified by parents, teachers, or other school personnel as needing additional support due to symptoms of hyperactivity and/or inattention. Students will meet with the social worker twice weekly for 2 hours on campus. The sessions will take place after school and will run the course of the entire school year. Utilizing the CHP curriculum, group sessions will focus on academic and social functioning. Students will learn academic skills including study skills, note taking,

and summarizing notes (Evans et al., 2011). Once the students have had the opportunity to learn these skills, they will practice applying them to actual homework. Students will also identify individual goals in the area of social functioning and will participate in group activities including social problem solving, cooperative and competitive games, and role plays. In addition, self-regulation of emotions and behaviors will be taught and practiced. Students will have 30 minutes during each group to participate in recreational activities and apply their new skills.

Throughout the CHP group sessions, the social worker will monitor each student's behaviors and provide him or her with feedback based on a predetermined set of positive and disruptive behaviors. A rewards system will be implemented to provide additional incentive for emotional and behavioral self-regulation. Healthy snacks will also be provided to the students during each group.

Objective 2: Weekly parent sessions. The IY School-Age BASIC parenting program (Webster-Stratton et al., 2011) will be offered to the parents of the students participating in the CHP group sessions. Due to the large number of Spanish-speaking families at WSCS, sessions will be conducted in both English and Spanish. Parent sessions will take place once a week for two hours and will run for 12 weeks. Through a combination of videos, handouts, discussions, and role play activities, parents will have the opportunity to learn effective strategies for decreasing their child's disruptive behaviors (The Incredible Years, 2013). These strategies include utilizing praise and encouragement, persistence coaching, tangible rewards, limit setting, routines, and consequences. In addition, parents will learn how to support their child's academic performance with study skills, motivation, and parent-teacher communication. For

additional support, the social worker will make weekly phone calls to the parents in order to monitor progress and reinforce skills learned throughout the course of the program.

In order to promote participation in the IY parenting program, the social worker will contact the parents several weeks before the group begins to discuss the expected benefits of the program. Groups will also be held in the evening so that parents who work during the day may have the opportunity to participate. Snacks and drinks will be provided, and certificates of achievement will be given to those parents who complete the program.

Objective 3: Regular teacher consultations. The social worker will consult with the teachers of the identified students on a monthly basis for the entire school year. These meetings will provide the social worker with updates on their progress, as well as areas of functioning that continue to need development. The social worker will also have the opportunity to provide the teachers with behavior management strategies including positive reinforcement, limit setting, ignoring, redirecting, and facilitating relaxation exercises.

Program Activities and Timeline

1-2 months. Prior to the beginning of the school year, a bilingual School Social Worker holding a Master of Social Work degree and Pupil Personnel Services Credential will be hired. The position will be posted on edjoin.org and the school district's website. Once the social worker has been hired, he or she will be complete the CHP and IY trainings and purchase all necessary group materials. School personnel will be educated about the program and asked to refer sixth to eighth grade students exhibiting symptoms of hyperactivity and/or inattention. Parents of the identified students will be contacted by

the social worker and informed of the student and parent groups being offered. Consent forms will be sent home to the parents to sign and return to the school. The social worker will then meet individually with the identified students to review the purpose of the group, limits of confidentiality, and personal treatment goals. The students' parents will also complete the Behavior Assessment System for Children—Second Edition (BASC2; Reynolds & Kamphaus, 2006; Webster-Stratton, Reid, & Hammond, 2001) as a pre-intervention measure.

3-6 months. During the next 3 months, the social worker will facilitate both the twice weekly student groups and the weekly parent groups. The social worker will also consult with the students' teachers on a monthly basis and provide the parents with additional support through weekly phone calls. The social worker will document the CHP group activities and progress of each student on a weekly basis, as well as monitor the attendance of both groups. At both the beginning and end of the 12-week IY parent group, the Parenting Practices Inventory (PPI; Conduct Problems Prevention Research Group, 1996) will be distributed in order to measure the intervention's effectiveness.

7-9 months. The students will continue to participate in CHP groups until the end of the school year. The social worker will also continue to consult with the teachers on a monthly basis and check-in with parents as needed. At the end of the program, the BASC2 will be completed by the students' parents as a post-intervention measure. A celebration will be held to acknowledge the students for their progress and provide them with certificates of achievement.

Program Evaluation

The program outcomes will be evaluated using several different measures. The BASC2 instrument will be used both pre- and post-intervention in order to measure the students' internalizing and externalizing behaviors. The BASC2 is designed to measure maladaptive and adaptive behaviors and self-perceptions of children from 2.5 to 25 years old. There are five domains: Structured Developmental History, Parent Rating Scale, Teacher Rating Scale, Self-Report of Personality, and Student Observation System. The questions are on a four-point scale of frequency, ranging from "never" to "almost always." High scores suggest greater maladaptive behavior (Reynolds & Kamphaus, 2006). The BASC2 (manuals and forms) are available in the English and Spanish languages and the kit is available for $620 and includes the manual and hand scored forms. Coefficient alpha reliabilities have been in the .90s for the composite scales, and reliabilities generally in the .80s for individual scales across all forms in both the general sample and the clinical sample.

The PPI will be used to determine the parents' parenting strategies and consistency of interactions with their children both pre- and post-intervention. The PPI was adapted for Incredible Years from the Conduct Problems Prevention Research Group (Conduct Problems Prevention Research Group, 1996). This measure may be used to assess the disciplinary style of a parent. Parents rated themselves on each item of a 4-point scale ranging from "never" to "often," and summary scores were created for appropriate discipline, praise and incentives, monitoring, harsh and inconsistent discipline, and physical punishment. Higher scores indicate better parenting skills. All reliabilities for the PPI have been above .70.

In addition to the BASC2 and PPI instruments, the social worker will also track the attendance of the groups and document each student's weekly progress. Additional satisfaction questionnaires will also be provided to the students and parents at the end of their groups. Finally, improvements in the area of academic functioning will be determined by the students' letter grades pre- and post-intervention.

Budget Narrative

Personnel Costs

One full-time, bilingual school social worker will be responsible for the implementation of this program. The social worker must have a Master of Social Work degree, as well as a Pupil Personnel Services Credential. The social worker will receive training in the two empirically supported interventions being used in the program. He or she will then be responsible for all aspects of the program including student intakes, pre- and post-intervention measures, group facilitation, documentation, and consultations. The school social worker's annual salary will be $60,000 with benefits at 35% equaling $21,000.

Training and Travel Costs

Incredible Years School Age Basic Parenting Program training: The cost of the IY training is $500. This three day training will take place in Seattle, Washington. Costs for round-trip airfare and hotel (four nights) will be approximately $950. Food and transportation costs are expected to be approximately $250.

Challenging Horizons Child Program training: The cost of the CHP training is $4,000 and includes all program materials. This two day training will take place at the University of Ohio in Athens, Ohio. Costs for round-trip airfare and hotel (three nights)

will be approximately $1,000. Due to the 55 mile shuttle drive from the nearest airport to the university and hotel, $320 will be budgeted for transportation and food costs.

Direct Program Costs

Incredible Years Program materials: The cost of IY program materials in both English and Spanish will be $1,600. Included in these materials will be the facilitator handbook, activities, videos, handouts, and other visual aids. The PPI assessment measure will also be included.

Challenging Horizons Program materials: The cost of the CHP program materials will be included in the facilitator training price ($4,000). Program materials will include the facilitator handbook, activities, videos, handouts, and other visual aids. The BASC2 assessment measure (English and Spanish) will be purchased separately for $620.

Snacks and incentives: Approximately $1,520 will be used to purchase snacks for the student and parent groups. Incentives totaling approximately $900 will be used to encourage positive behavior during the student groups.

Copying and printing: Approximately $900 will be used to copy and print group materials including pre- and post-intervention measures, handouts, and certificates of achievement.

Office supplies: A budget of approximately $900 will be allotted for miscellaneous office supplies including pens, notepads, and printer paper.

Equipment: A computer used by the social worker for writing progress notes, sending emails, and conducting research will be purchased for approximately $800. A budget of $150 will be used for a printer.

Utilities: Utilities including internet, phone service, and electricity will total approximately $2,250 for the program's duration.

TABLE 1. Line-Item Budget

Westchester Secondary Charter School
ADHD Intervention Program
One Academic Year (9 months)

	Project Effort	Total Cost	Requested Amount
PERSONNEL COSTS			
School Social Worker	100%	$ 60,000	$ 60,000
Benefits @ 35%		$ 21,000	$ 21,000
PERSONNEL SUBTOTAL		$ 81,000	$ 81,000
DIRECT OPERATING COSTS			
IY Training		$ 500	$ 500
IY Training Travel Costs		$ 1,200	$ 1,200
CHP Training		$ 4,000	$ 4,000
CHP Training Travel Costs		$ 1,320	$ 1,320
IY Program Materials		$ 1,600	$ 1,600
BASC2 Assessment Measure		$ 620	$ 620
Snacks and Incentives		$ 2,420	$ 2,420
Copying and Printing		$ 900	$ 900
Equipment (computer, printer)		$ 950	$ 950
Utilities		$ 2,250	$ 2,250
		$ -	$ -
		$ -	$ -
DIRECT OPERATING SUBTOTAL		$ 15,760	$ 15,760
INDIRECT COSTS **@ 10%**		$ 9,676	$ 9,676

CHAPTER 5

DISCUSSION

Identification of Need for Proposed Program

The grant writer first identified the need for an ADHD intervention program while working in school-based mental health. It was observed that while students who displayed inattentive and hyperactive behaviors were often labeled as "defiant" or "troubled" by school administrators, they were not provided with mental health support. Severe impairments in academic and social functioning clearly indicated a need for behavior modification strategies and skill development, as well as the ability to interact with other students in a safe and nurturing environment. In addition to the expansion of school-based mental health services, conversations with the parents of these students indicated a need for increased parent education. Many parents expressed frustration over their child's behaviors, but lacked the knowledge of ADHD, treatment options, and parenting strategies to effectively intervene. Combining the writer's professional experience with a comprehensive literature review assisted the writer in gaining a greater understanding of the needs of students with ADHD and their families. Additionally, the grant writing process provided the writer with essential information and strategies for the program's development.

Location of Potential Funding Source

The process of identifying a potential funding source was challenging due to the specific criteria of the proposed program. After sorting through an overwhelming

amount of internet search results, the grant writer learned that while many government departments and foundations offer grants that fund youth intervention programs, far fewer fund public education. The grant writer overcame this obstacle by consulting with an experienced school-based mental health professional who was able to provide insight on potential funding sources. The grant writer was then able to more easily identify the funding source that best matched the program's purpose and objectives.

Strategies to Enhance the Likelihood of Funding

Once the Eisner Foundation was chosen as the potential funding source of the program, several strategies were used to enhance the likelihood of the grant being awarded. The grant writer explored the background and mission of the Eisner Foundation and ensured that the program being developed would support an underserved population. In addition, the grant writer ensured that the need for a school-based ADHD intervention program was thoroughly researched and clearly outlined. Evidence-based interventions were incorporated into the program design in order to support the likelihood of positive program outcomes, while reliable measures were proposed to quantify these outcomes. Finally, the grant writer ensured the program's budget was carefully considered and thoroughly described in the budget narrative portion of the grant proposal.

Program Design

The process of designing the proposed program was challenging due to the small number of empirically-supported interventions in existence that target ADHD-related symptoms. In addition, many of these interventions were designed for young children and were not developmentally appropriate for the grant's target population. Multicultural considerations were another challenge, as a great deal of the research conducted on

ADHD interventions used primarily Caucasian study participants. These obstacles required the grant writer to think critically about modifications that could be made to existing interventions in order to design a culturally competent and comprehensive ADHD intervention program.

In order to create a program that comprehensively addresses the student's behaviors, academic challenges, and home environment, the grant writer combined two evidence-based ADHD intervention programs. The grant writer also ensured that the components of these interventions were developmentally appropriate for students in middle school. In order to increase the multicultural relevance of the program, the grant writer utilized several strategies. A bilingual, culturally competent school social worker will be hired to implement the program and serve multiple cultural groups. In addition, all parent group materials will be purchased in both Spanish and English. As the program is implemented, the school social worker may identify further adaptations that are needed in order to increase its multicultural applicability.

Implications for Multicultural Social Work Practice

School social workers do not focus on one area of functioning, but work to improve transactions between the child, school, home, and community environments in order to enhance children's coping capacities and improve school environments. The proposed program allows school social workers to address individual student behaviors while also supporting parents and teachers. By intervening in more than one domain, the outcomes of this program are increasingly sustainable.

Implications for Social Work Policy and Research

Throughout the process of gathering research for the development of this program, the grant writer did not find any studies relevant to the topic of ADHD intervention that were conducted by social workers. Given the increasing number of ADHD diagnoses among school-age children, it is essential that social workers increase their involvement in research in order to identify new and promising interventions that are culturally appropriate. Additionally, it is essential that social workers advocate for increased public school mental health funding in order to provide students and their families with comprehensive support.

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