2015

Perceived Trends in ADHD Symptoms, Diagnosis, and Treatment in Vermont Schools

Charlotte F. Wonnell
University of Vermont

Perceived Trends in ADHD Symptoms, Diagnosis, and Treatment in Vermont Schools

Charlotte Wonnell

cwonnell@uvm.edu

4/17/15

College Honors Thesis

B.A. Degree in Anthropology and Psychology at the University of Vermont

Committee Members: Dr. Jeanne Shea (Advisor), Dr. Judith Christensen (Chair), Dr. Alessandra Rellini

Abstract:

Attention Deficit/Hyperactivity Disorder (ADHD) has become a topic of popular discussion over the past couple decades because of its steady increase in prevalence among children and the concomitant increase in need for medication and services, with much debate centered on the reasons for this increase (Carpenter-Song, 2009). Although a hot social topic, research to date has not yet come to a definitive consensus. By exploring school staff views of and approaches to ADHD in Vermont schools, my thesis describes perceived trends in ADHD symptoms, diagnosis, and treatment from the local, front-line perspective of a sample of Vermont school staff.

My research questions are: What can local school professional staff members' perceptions and observations, together with available information on school services and de-identified school demographic data, tell us about retrospective and cross-sectional trends in ADHD symptoms, diagnosis, treatment and behavioral management in local Vermont schools? Has there been a change here over time in ADHD symptoms, diagnosis, and treatment? What social characteristics has ADHD tended to be associated with here? Is there higher incidence based on male gender, lower SES, or White racial classification, as found in other studies? How do local school professionals explain any perceived retrospective or cross-sectional trends in ADHD symptoms, diagnosis, and treatment in their schools? Are there any differences across school level (elementary, middle, versus high school)?

I interviewed a total of twelve staff members from two school systems in Chittenden county, including: five special educators, the Director of Special Education, the Director of Student Support Services, two psychologists, two nurses and one teacher. Within school system A, of a higher socioeconomic status (SES) and more European American population, I interviewed two special educators from the elementary school, a special educator from the middle school, school psychologist from the district, the Director of Special Education from the district, and Director of Student Support Services from the high school. Within school system B, of a lower SES population with greater ethnic diversity, I interviewed two special educators from the high school, two nurses from the elementary school, one school psychologist from the district and one teacher from the elementary school. I conducted the interviews in fall of 2014.

In interviewing them, I found that local Vermont school staff believe it is a challenge differentiating symptoms and diagnosis of ADHD from anxiety. Family trauma is also a huge component to a child's behavior which may look similar to ADHD-like symptoms and behaviors. Majority of school staff indicate that pediatricians are increasingly prescribing ADHD medications to children with little communication from the school. This is seen as frustrating and unprofessional from the school staff's perspective as parents cannot be the single reporter and evaluator. School staff strongly feel that there is an unhealthy dependence on medication and only medication for treatment. Behavioral therapy is not used properly and not used enough at schools. There was variation by profession with the regard to school staff perception of the amount of increase in ADHD diagnosis of the younger cohort coming through elementary school,

however, many school staff assert that the apparent increase in prevalence is due to parental labeling and pediatricians overdiagnosing ADHD and overprescribing ADHD medication.

Table of Contents

Acknowledgements

I am greatly thankful for my thesis advisor, Dr. Jeanne Shea, and my two committee members, Dr. Judith Christensen, and Dr. Alessandra Rellini. I extend my gratitude for all the time, effort, and care Dr. Jeanne Shea has contributed to my thesis on a weekly basis. I am also very thankful to have Dr. Jeanne Shea, Dr. Christensen and Dr. Rellini commit to giving me feedback and proceeding with my thesis defense. Thank you all very much for your encouragement and support throughout this process. I look forward to sharing future ideas and keeping in touch.

I am also grateful to the school staff members who took time out of their busy lives and important work with children to share their views on ADHD with me. I salute their dedication to helping children learn and grow and meet the challenges that life brings.

Chapter 1: Introduction

Description of Project:

Attention Deficit/Hyperactivity Disorder symptoms, diagnosis and treatment have become an issue of great debate. Why have so many children been diagnosed with this disorder in past decades? Is it due to a change in some material aspect of their existence, or is it simply overdiagnosed now? It has been argued that this disorder has been underdiagnosed and overdiagnosed, poorly treated and overtreated (Parritz and Troy, 2014). Research thus far has utilized more quantitative statistical analysis of ADHD to explain trends rather than qualitative analysis of the symptoms, diagnosis, and treatment. While quantitative research gives us insight into the broad trends in formal diagnostic prevalence, it has not yet shed enough adequate light on local perceptions and social dynamics behind these trends.

The goal of my research is to gain a better understanding of the perceived trends in ADHD in Chittenden County by using a qualitative approach. I first did a review of existing qualitative social science research literature on ADHD to help me to create a sound research design for my own qualitative study. Betsy Hoza, an expert on ADHD, met with me to discuss recent findings on the treatment of ADHD. I then interviewed school staff from six different Vermont schools, kindergarten through 12th grade, looking at staff views and approaches to ADHD symptoms, diagnosis, and treatment. I interviewed a total of twelve staff members from two different school systems: five special educators, the Director of Special Education, the Director of Student Support Services, two psychologists, two nurses and one teacher. Within school system A, a higher SES population of mostly white students and educators, I interviewed two special

educators from the elementary school, a special educator from the middle school, a school psychologist from the district, the Director of Special Education from the district, and the Director of Student Support Services from the high school. From school system B, a lower SES population with greater ethnic diversity in its student body, I interviewed two special educators from the high school, two nurses from the elementary school, one school psychologist from the district and one teacher from the elementary school. I conducted the interviews in fall of 2014. I focus on self-reported staff perceptions on general ADHD trends cross-sectionally and over time at their school, as well as school staffs' approaches to managing ADHD at the individual student and classroom levels. I compare trends and approaches across schools at the elementary, middle, and high school levels. I compare my findings to those of other related qualitative studies.

Previous Work:

Many fields such as psychology, sociology, linguistics, education and anthropology have researched ADHD. In this order I will give the breakdown of significant findings from each discipline. In the psychology discipline, findings mostly come from quantitative and clinical data. Psychologists argue for and against stimulant and non-stimulant drugs to ADHD. Many clinicians claim that medication has its benefits and is often thought to be the first-line intervention because of substantial clinical evidence of efficacy (Parritz and Troy, 2014). Studies have shown significant change in children's reading and mathematics scores while on medication, at least according to parent-teacher ratings (Parritz and Troy, 2014). However, some psychologists demonstrate the harmful psychological and physical effects from ADHD medications

such as Ritalin (Scarnati, 1986) and question the validity or reliability of parent-teacher ratings.

Many sociologists argue that there has been inadequate attention to the limitations of ADHD diagnosis. They allege that many children have been diagnosed by unqualified doctors for "dubious" symptoms and that pharmaceutical profit motives are key. Today, about 15% of high school aged American students are prescribed ADHD medication. Less than 5% were prescribed a decade ago (Rosenthal, 2013). Why the sharp increase? Sociologists maintain that a factory-like school environment and pressures from big pharmaceutical companies play a large role in the increase (Rosenthal, 2013).

In linguistics, mostly qualitative methods have been used to focus on overarching cultural meanings of ADHD. Linguistic researchers argue that ADHD is a social construct. Danforth and Navarro (2001) describes ADHD as a "social constructionist discourse," entailing two main discourse genres: school and medical. Medical discourse refers to a "construction of child behavior" involving a scientific lexicon of symptoms, diagnoses, and medications. School discourse refers to behavioral conformity and academic achievement, an "ideological theme" endorsed by school professionals.

The cross-disciplinary field of anthropology and education has largely focused on cross-cultural comparisons of ADHD (Jacobson, 2002). Studies comparing America, England and Columbia show that there are universal ADHD-like behaviors among children labeled "normal;" however, universally there are great differences between teacher standards in terms of what is classified as appropriate or inappropriate behavior in classroom settings (Jacobson, 2002). While many anthropologists demonstrate cross-

cultural differences in recognition of and approaches to ADHD, they have not tended to focus in on a local state-based approach to ADHD, as I do so in my study.

Studies have shown that there is a 2:1 male to female ratio of ADHD diagnosis (Stevenson, 2000). In the US, depending on the subtype, the male to female ratio difference can be 9:1. Theories explain that boys have more externalizing behaviors, and because boys are more outwardly aggressive, they are more likely to be referred to clinicians (Stevenson, 2000). There is limited research focusing on socioeconomic status, race and ethnicity with prevalence, however, studies show that among children more Caucasians are being diagnosed as compared with other racial categories (Parritz and Troy, 2014). To check local views on rise, I examine local Vermont staff perceptions with regard to demographic characteristics such as these.

Significance:

Because ADHD is becoming more common in our country, I am able to easily relate to it. Having worked closely with children as a camp counselor for three summers in Vermont has shown me first-hand how many of our youth are taking Ritalin and other ADHD medications. Being a college student at UVM, I have seen a strong desire for Adderall, even among students who had not been formally diagnosed. I am inspired to explore the reasons behind the rise in ADHD and associated medications. I am studying the disorder in Vermont, because I am based here, and I have a high level of familiarity with the local social and cultural norms.

Quantitative research literature shows that Vermont-based prevalence of ADHD in children ranges from 9.6-10.9%. This range is right in the middle for the United States, not being at the lowest end (5.6%) in states like California, Texas, Arizona, New Mexico,

Utah, Nevada, and Colorado, or the highest extreme (15.9%) in states like Louisiana, Alabama, Delaware, and North Carolina (Parritz and Troy, 2014, p. 145). Vermont has a noticeably even distribution of case incidence across the state, and is not considered to be on the underdiagnosed or overdiagnosed side of the spectrum. Because of Vermont's modal position in national context and relatively even distribution of case incidence, it makes it a particularly interesting case for study with possible wider applications in similarly placed states beyond our borders.

Research has briefly touched upon the demographics of children diagnosed with ADHD in the US, and there are limited findings looking at the state-to-state racial and ethnic, or class-based, prevalence. In my research, I collected group-level data from the schools where I did research on race and ethnicity, and socioeconomic status, and whether they are locally linked with ADHD incidence at those schools. I also asked school staff their impressions of whether and how these factors are relevant for ADHD symptoms, behaviors, and diagnoses. I also collected group-level school data on gender and age and any apparent links to ADHD incidence, and asked for school staff views on whether and how age and gender relate to the disorder. I explored whether school handbooks and staff relate the culture of the state, supervisory union, town, or school to school trends in and their approach to ADHD.

Research Questions:

My research questions are: What can local school professional staff members' perceptions and observations, together with available information on school services and de-identified school demographic data, tell us about longitudinal and cross-sectional trends in ADHD symptoms, diagnosis, treatment and behavioral management in local

Vermont schools? Has there been a change here over time in ADHD symptoms, diagnosis, and treatment? What social characteristics has ADHD tended to be associated with here? Is there higher incidence based on male gender, lower SES, or White racial classification, as found in other studies? How do local school professionals explain any perceived longitudinal or cross-sectional trends in ADHD symptoms, diagnosis, and treatment in their schools? Are there any differences across school level (elementary, middle, versus high school)?

Methods:

Before conducting the interviews, I completed the 'University of Vermont Tutorial: Protection of Human Subjects in Research.' I then filled out the Qualitative Research Protocol, and the Institutional Review Board (IRB) marked my project as exempt. From there, I proceeded with interviews, and I have gathered interview data from local experts, available school informational literature, and partial de-identified school demographic data to examine perceived trends in ADHD symptoms, diagnosis, and treatment of two school systems in Vermont. I interviewed twelve school staff from two school systems. I had one group interview with all staff from school system A, and individual interviews from each staff member from school system B, except for the two nurses, which was a group interview. A drawback to the group interview is that school staff may have not voiced their views. Future research on the matter should require individual interviews only.

All interviewees are kept anonymous, including the two school systems, which are referred to school system A, and school system B. Out of the total twelve interviewees, all names are kept anonymous and have pseudonyms such as 'school

psychologist 1,' 'nurse 1,' 'special educator 1,' etc. Out of the staff members, five were special educators, one was the Director of Special Education, one was the Director of Student Support Services, two were psychologists, two were nurses and one was a teacher. Unfortunately, because of the short time frame I was working with, only one teacher was interviewed. Within school system A, I interviewed two special educators from the elementary school, a special educator from the middle school, a school psychologist from the district, the Director of Special Education from the district, and the Director of Student Support Services from the high school. From school system B, I interviewed two special educators from the high school, two nurses from the elementary school, one school psychologist from the school system and one teacher from the elementary school. I conducted the interviews in fall of 2014. School system A and school system B had extremely different demographics. School system A is a community of upper middle class Caucasian families. School system B has many lower income families and refugee families.

Throughout the interview process, I was entirely aware that the ontology of my thesis is important. During the interviews and while transcribing them, I was extremely sensitive to the term bias. I made certain to phrase questions in a non-bias way (see "Appendix: Recruitment Script"), and kept an open-mind during the interviews. I strived to have a neutral opinion of ADHD symptoms, diagnosis, and treatment throughout the interview process and research process.

Thesis Statement:

After careful analysis, the conclusions made are as follows: local Vermont school staff believe it is a challenge differentiating symptoms and diagnosis of ADHD from

anxiety. Family trauma is also a large component to a child's behavior which may look similar to ADHD-like symptoms and behaviors. Majority of school staff indicate that pediatricians are increasingly prescribing ADHD medications to children with little communication from the school. This is seen as frustrating and unprofessional from the school staff's perspective as parents cannot be the single reporter and evaluator. School staff strongly feel that there is an unhealthy dependence on medication and only medication for treatment. Behavioral therapy is not used properly and not used enough at schools. There was variation by profession with the regard to school staff perception of the amount of increase in ADHD diagnosis of the younger cohort coming through elementary school, however, many school staff assert that the apparent increase in prevalence is due to parental labeling and pediatricians overdiagnosing ADHD and overprescribing ADHD medication.

Organization of Thesis:

The thesis is broken up into six chapters. Chapter 1: "Introduction" is made up of the thesis question, thesis statement, previous work, methods and significance. Chapter 2: "Perceptions about Symptoms" is one main section. Chapter 3: "Perceptions about Diagnosis" is broken up into two main sections: "ADHD Diagnosis" and "Perceived Issues within the Diagnostic Process." Chapter 4: "Perceptions about Medication and Therapy" is broken up into three smaller sections: "Positive Effects from Medication," "Negative Effects from Medication" and "Perceptions of Medication Alone, Therapy Alone, or Combined Treatment." Chapter 5: "Perceptions about Risk Factors" has one main section on staff perspectives. Chapter 6: "Conclusion" has two components to it: "Limitations" and "Future Research and Implications."

Chapter 2: Perceptions About Symptoms

This section addresses three points of perceptions about symptoms. First, staff from both school systems deliberated on what kinds of symptoms to look for. Second, staff deliberated on issues in recognizing ADHD-like symptoms. Third, the section addresses staff views on the rough number of additional students showing symptoms of ADHD and who are not currently diagnosed. Many staff spoke to obvious ADHD-like symptoms, and also issues in distinguishing ADHD-like symptoms from other disorders. Most school staff did not speak to a rough number of additional students showing symptoms of ADHD who are not currently diagnosed.

First addressing what kinds of ADHD-like symptoms to look for, generally, school staff agreed that there are obvious ADHD-like symptoms. A special educator from school system A claimed that, "symptoms to look for are impulsivity, poor peer relationships, restlessness, and not completing tasks." During "K-2 a huge [symptom] is body awareness" and in middle school and high school, "executive functioning, restlessness, day dreaming, not appreciating other people's priorities, not planning for the future, [lack of] awareness of environment, poor planning, and poor organization." Teacher 1 from school system B highlighted key symptoms of ADHD, which many school staff from school system A observed as well. She declared that symptoms to look for are "inability to focus, can't sit still, restless, always touching others and needing attention, mostly off task and not being able to focus on their school work." The two school nurses at school system B agreed with Teacher 1. For example, Nurse 1 from

school system B stressed that ADHD symptoms look like: “impulsiveness, out of control behavior, unable to control their bodies” meanwhile, nurse 2 described symptoms as “unable to sit still, unable to pay attention and focus for more than 2 minutes.” An example she gave of this was “there’s a squirrel over there and I want a cupcake for lunch.” Special Educator 2 in school system B observed a lot of “hyperactivity, impulsivity to self-regulate, escaping behaviors, fidgeting, tapping, shaking, aggression, and extreme aggression.” School staff were not hesitant to explain the kinds of symptoms and behaviors they tend to associate with ADHD. Many school staff seemed confident and definite when describing obvious ADHD-like symptoms. Consistency in school staff perceptions of ADHD symptoms highlight that there are clear identifiable symptoms such as impulsivity, restlessness and inability to control behaviors like sitting still.

Although there are obvious ADHD-like symptoms, school staff felt that there are problems in recognizing them from other symptoms deriving from anxiety, depression, trauma, or poor parenting. School system A emphasized that there is a trend in the field with great confusion between what is anxiety and what is ADHD – trying to sift out “if this is an anxious kid” (school psychologist). A child who has experienced trauma can show similar symptoms to ADHD, therefore, it makes it challenging for school staff to distinguish between ADHD or trauma-related anxiety. This trend is also seen in school system B as many school staff expressed difficulty in distinguishing anxiety-like symptoms or trauma from ADHD-like symptoms. Special educator 1 from school system B stated that the “mental health team I work with call it anxiety, and I call it ADHD.” Special educator 1 admitted that there can be differences of how school staff perceive children’s behaviors: symptoms can be interpreted as two distinct disorders, ADHD or

anxiety. Nurse 2 from school system B denoted that, "I think it's personally hard to distinguish between what's a true ADHD" behavior and "what is a child who is not parented very well in the home…who doesn't have the best parental support in the home or the best training in discipline in the home to help with some of these issues." Nurse 2 conveyed that it is challenging to decipher between true ADHD-like symptoms and poor parenting that children are exposed to. Although there are these concerns, school psychologist 1 from school system B expressed that recognizing ADHD-like symptoms from anxiety is not a continuing issue. She felt that the school is getting better at distinguishing ADHD from trauma because staff better understand the social and cultural dynamics of school system B compared to the last several years. School psychologist 1's perceptions are further discussed in "Chapter 3: Perception about Diagnosis: Diagnosis Decreasing in Prevalence."

The last point to address is the number of additional students showing symptoms of ADHD who are not currently diagnosed. School staff, with the exception of one staff member, from both school systems, could not give an official number of how many additional students without a diagnosis show signs of ADHD. Teacher 1 from school system B gave an informal estimate. She believed, "this year, one student is diagnosed, but [there are] three with [ADHD symptoms]". She explained that because of "parental discretion," some kids are not diagnosed and put on medication. These ADHD-like symptoms are also not interfering with the classroom enough for her to report it. From school system A, the Director of Student Support Services voiced that some high school students can show symptoms, but are not diagnosed since teachers are prepared for this behavior. Students showing symptoms of ADHD are not seen as an issue because

"teachers are used to this by now" and they know how to manage it. There is further elaboration on this comment in "Chapter 5: Perceptions about Risk Factors." Most school staff, however, did not have access to the rough number of students showing symptoms or did not feel confident enough to make an inference concerning how many additional students without a diagnosis showed signs of ADHD.

Staff illustrated that there are obvious symptoms to look for such as impulsivity, poor peer relationships, restlessness, not completing tasks, poor organization, and inability to focus. Although both school systems are different culturally and economically, they are both familiar with recognizing obvious ADHD-like symptoms. Staff from both school systems also address the issues of differentiating ADHD-like symptoms from symptoms of anxiety, depression, trauma, or poor parenting. Symptoms overlap in other diagnoses. About eighty-two percent of school staff could not give a rough number of how many additional students without a diagnosis show signs of ADHD. This is because staff did not have access to the numbers or wished to not disclose this information. However, the staff who deliberated on the subject (teacher 1 from school system B and the Director of Student Support Services from school system A) felt that ADHD-like behaviors can be managed by teachers with students who are undiagnosed.

Discussion on Perceptions of ADHD Symptoms:

Prior to the publication of the DSM-V in 2014, the DSM-IV termed (the current) ADHD as Attention Deficit Disorder (ADD). There were issues with the DSM-IV, since highly acclaimed researchers, and clinicians "could find some basis for fault in virtually every sentence" in the diagnostic criteria (Widiger and Clark, 2000, p. 946). There was

hope that the DSM-V would eliminate confusion and bias within the diagnostic process. In the DSM-V, another component was added to the disorder, in the hopes of providing clarity to health professionals. Although there was some clarity, major issues remained within the diagnostic criteria (Parritz and Troy, 2014). Now, the DSM-V considers "attention deficit hyperactivity disorder" involving "compromised functioning in two underlying dimensions: inattention and hyperactivity/impulsivity." The issues regarding the two-factor model are that it creates a "convenient clinical shorthand," and some ADHD symptoms can be hard to differentiate between other symptoms (p. 145). Authors explain that a clinical shorthand is symptoms that are grouped together, such as hyperactive and impulsive behaviors, making it hard to solely distinguish between these two symptom-like behaviors. There is need for more valid distinctions between symptoms in the diagnostic process.

School staff present issues of distinguishing symptoms from anxiety, depression, trauma, or poor parenting. Research to date also presents similar trends as well. Referring back to the issues of the diagnostic process that Parritz and Troy (2014) present, it is hard distinguishing ADHD symptoms from other disorders such as oppositional defiant disorder (ODD), conduct disorder (CD), and bipolar disorder. Some researchers discuss that there is an overlap of ADHD and general anxiety disorder (GAD) (Safren, Lanka, Otto, and Pollack, 2001). Children who are at high risk factors for Autism Spectrum Disorder (ASD) may also have high risk factors for ADHD symptoms (Van Steijn, et al., 2012). There is also an overlap of symptoms between ADHD and anxiety symptoms (Baldwin, and Dadds, 2008), and ADHD and trauma (Szymanski, Sapanski, and Conway, 2011). In regards to poor parenting and ADHD-like symptoms,

Rothermel (2007) suggested that there is a significant relationship between parenting behavior (stress) and child behavior (ADHD-like symptoms). Children who are exposed to parents who are stressed may exhibit more ADHD-like symptoms.

Research on ADHD symptoms generally confirms school staff perceptions of ADHD symptoms and the challenges in distinguishing those symptoms from symptoms of anxiety, depression, trauma, or poor parenting. Research further addresses that ADHD symptoms are hard in distinguishing between bipolar disorder, CD, ODD, and GAD symptoms. Also, students who have ASD, can show symptoms of ADHD, but it does not necessarily mean that they have ADHD. There is a great amount of current research looking at the overlap of ADHD-like symptoms with other psychological disorder symptoms and research illustrates that there are remaining issues in differentiating certain symptoms of one disorder from another disorder, or even several disorders. There are many psychological studies and experiments explaining trends in ADHD symptoms. On the downside, there is extremely limited research looking at the perspectives of school staff in how they perceive ADHD symptoms and manage ADHD symptoms. Some researchers have addressed that teachers are trained in reporting and evaluating for ADHD-like symptoms (DuPaul and Stoner, (2014). However, other research stresses that there are issues regarding the diagnostic criteria for evaluating ADHD-like symptoms (Parritz and Troy, 2014). The majority of school staff from both school systems felt that there are clear issues regarding ADHD-like symptoms. Future research needs to address the social and cultural aspects of how school professionals approach ADHD symptoms in schools (Evans, Allen, Moore, and Strauss, 2005).

Chapter 3: Perceptions about Diagnosis

As research addresses ADHD overdiagnosis and underdiagnosis, school staff deliberated on the issue: some strongly believing the prevalence in diagnosis is decreasing while others firmly believing it is increasing. Only two school staff, a special educator and a school psychologist from school system B, observed that the prevalence is decreasing. Remaining staff discussed that the prevalence is increasing in diagnosis. Therefore, about seventeen percent believed the prevalence of an ADHD diagnosis is decreasing and eighty-three percent believed the diagnosis is increasing in prevalence, thus, the majority of staff members believe that ADHD diagnosis is increasing in prevalence. When staff explained underdiagnosis or overdiagnosis, most staff blended trends of diagnosis with trends of medication. In other words, medication was used to explain the prevalence in ADHD diagnosis as decreasing or increasing. Staff highlighted social, cultural, and economic factors playing a role in the decrease or increase in prevalence of ADHD diagnosis.

Minority Viewpoint: Perceptions that ADHD Diagnosis is Decreasing in Prevalence:

School psychologist 1 and special educator 1 from school system B make up the seventeen percent of all staff members who believe that there is a decrease in prevalence of ADHD diagnosis. Both school staff were very adamant about ADHD prevalence decreasing, however, they covered different factors of why there is a decrease in prevalence of ADHD diagnosis. School psychologist 1 expressed that a change in population, and a change in the school staff approach to ADHD diagnosis influence the

decrease in prevalence of the diagnosis. Special educator 2 discussed the negative stigmas attached to medication use influences the decrease in prevalence of the diagnosis.

Cultural Factors Contributing to Perceived Decrease in ADHD Diagnosis:

School System B is made up of a type of population where the level of socio-economic distress differs from the average American school system. School system B has many low-income refugee families who are up against issues of poverty and trauma. School system B's demographics contribute to a perceived decrease in ADHD prevalence. In this school system, school psychologist 1 is "finding" that "her numbers are much higher now for developmental trauma and the emotional piece than just looking at straightforward ADHD." Now there are many more refugee families and these kinds of families bring many layers to the table. School psychologist 1 proclaimed that,

> "I think we started having an increase in number of refugees seven or eight years ago. This is my sixteenth year. I'd say in the last ten years or so, the [ADHD] numbers have really gone down. I used to get a lot of ADHD referrals…It is really uncommon for me to get a little old ADHD screening."

Because of the steady change in population, there is a steady change in needs for that population, and so ADHD is becoming less common.

Another factor contributing to a perceived decrease in ADHD diagnosis is the extreme cultural differences the refugee population brings to school system B. In contrast with American families, many refugee families do not know what ADHD is, and some are informed, but do not want to consider an ADHD diagnosis for their child.

Refugee families do not seek doctors for prescriptions. They seek little help from health and school professionals on the matter of managing their children's behaviors. Rather, they manage their children's behaviors in different ways. School psychologist 1 believed that if families "are going to see a psychiatrist, there are like in the top 1%." School psychologist 1 finds that refugee families are not in the top 1%, since they tend to be on the lower functioning side of the spectrum. The higher functioning families seek doctors and resources, and they are "always" going to doctors "saying my son needs meds" more often than refugee families. It is vital in "understanding that" refugee families have a different 'sort of process' with their children's behaviors and that they believe "there are no resources to go talk to people" about behavioral issues.

If the community were different with a population of European Americans, where it "would it be like the rich white kids," these would be the at 'risk kids,' and there would be more diagnosis. However, this community is "really very different in that way," stated psychologist 1. School psychologist 1 believed that parents who are refugees respond significantly differently to their child's behaviors than Caucasian American parents. Because this community is diverse, not "many Caucasians [are] in this school anymore." Consequently, school psychologist 1 is "seeing less ADHD." However, she regarded that "in other parts of the rest of the world," "ADHD numbers are really increasing."

School Staff Approach Contributing to the Perceived Decrease in ADHD Diagnosis:

Staff experience, and their approach to evaluating children in this type of population contribute to a perceived decrease in prevalence of ADHD diagnosis. School psychologist 1 reports that staff are now veering away from the temptation of a simple

ADHD diagnosis fix, when there are more issues at stake: considering long-term effects children go through under certain environmental conditions. School psychologist 1 declared that,

> "… as far as the neurodevelopmental disorder for ADHD, unlike the trends in the rest of the country, my numbers are going down…because we're looking at it from a broader diagnostic umbrella, and I do feel like when I started practicing, when you had kids with a number of environmental problems that [ADHD] would be the typical diagnosis. And I've had psychiatrists say, 'not in this state,' to me who were treating the symptom, we realize it's a much bigger picture."

Pediatricians and staff are more careful and cautious now when evaluating children, according to school psychologist 1. School and health professionals are getting better at recognizing ADHD from trauma and other emotional disorders, since this kind of community, as school psychologist 1 stated, is susceptible to "high poverty, chaos, crime, domestic violence, drugs, and alcohol." Children of refugee families who come into the community are dealing with "many layers." What does this imply? School psychologist cannot give a simple ADHD fix to refugees or lower SES families. For instance, school psychologist 1 proclaimed that staff "very rarely get an Achenbach back that is only triggering the ADHD scales or the attention scales and then the diagnostic scales for ADHD so you know I think it reflects the community and it's got many more layers than just a neurodevelopmental disorder." School psychologist explained that "developmental trauma" has more of an emotional piece than neurodevelopmental piece, which staff realize and use this realization when evaluating a potential (ADHD)

diagnosis. School psychologist 1 believes that staff can distinguish ADHD from trauma – the neurodevelopmental from the emotional – therefore, this is part of the reason why ADHD prevalence is decreasing. There are more appropriate diagnoses today.

The school system is also trying to adapt to the community by providing more accurate diagnoses and better interventions to minimize problematic behaviors. School psychologist 1 made known that because there are more refugee families, "the lens has sort of adjusted" and "there has been a real emphasis on developmental trauma in designing ELL (English language learner) and special ed. curricula. "More "self-regulation strategies" are taught such as "mindfulness" and "in the elementary school" there is "social learning." Clearly, school psychologist 1 felt that strategies are put in place for guiding and aiding these refugee families. Offering tangible strategies and programs for children give the school and students some consistency and stability. Programs also help cultural integration and mitigate major language and cultural barriers. Whether it's ADHD or developmental trauma, school psychologist 1 said, school staff are "embracing the whole body and more of the whole person and whole community" in order to bridge cultural gaps, and create a better and more appropriate support system for refugee families. This is simultaneously helping students, families and staff while also contributing to a perceived decrease in prevalence of ADHD diagnosis.

Stigma Placed on ADHD Medication Contributing to Perceived Decrease in ADHD Diagnosis:

While school psychologist 1 gave a detailed perspective of how ADHD prevalence is decreasing through a change in population, and a better school staff approach to the diagnosis process, special educator 2 from school system B, gave a brief

description of how medication affects the decrease in prevalence of ADHD diagnosis. He asserted that as far as trends over time, "the prevalence of ADHD has gone down, because the use of medication has decreased." Special educator 2 expressed that this trend most certainly contradicts the research claiming that ADHD is increasing nationally. So why is there a decrease in prevalence within school system B? Special educator 2 concluded that the reason for the decrease in ADHD prevalence is directly associated with the decrease in medication. Parents and school professionals are more aware of the negative impacts from medication. "Medications have a street value which impacts its use administered, impacts fidelity of administration which discourages people to go on medication." Special educator 2 felt that the stigma placed on medication use and the fear of misdirection of medication directly affects ADHD diagnosis and drives diagnosis rates down. Special educator 2 was not alone in claiming that more people were avoiding ADHD diagnosis and medications to avoid the temptations of misdirecting medications.

Several staff members from the same school system, including special educator 1, nurses and teacher 1, observed a trend of misuse and misdirection of medication. Beginning with special educator 1, he indicated that, "the biggest problem we have with poverty and Medicaid is a lot of times, they run out of medicine before the end of the month and can't get more. This becomes a tremendous recurring problem every month creating an AB type experiment." Children are not replenished with drugs because of their socioeconomic position. This is seen as a major issue since children are not continuously taking their meds, and sufficiently getting the consistent effects from medication. They are rather experiencing the on and off effects from medication which is

dangerous. Teacher 1 addressed the misuse and misdirection with medication. She declared,

> "Because of this community having a lot of drugs, a lot of parents are against getting their children on medicine, drugs because of their own issues with drugs and abuse of drugs. They just don't want their kids – they have a lot of misconceptions about Ritalin or whatever the drug is. So I think they are very hesitant and sometimes parents sell the drugs. So I'm hesitant to recommend because I know what's going to happen. They are not going to get their medicine because of circumstances…I try to handle it with behavioral modification charts and rewards and work in other ways around it. But that [parents selling kid's ADHD meds] has been an issue in the past."

There are substance abuse problems in which parents in this community have experienced, making them sensitive and cognizant of their child's well-being. Additionally, parents will get desperate and sell drugs in order to make money. Nurses affirmed that there is misdirection of medication since there is substance abuse. Nurse 2 stated,

> "And it's also worrisome that potentially that same person is a known substance abuser and the kid's meds always go missing and we report it to the doctor, and yet he still has a script for the next month from the doctor."

Although special educator 1, teacher 1 and the nurses' stance on the matter of misdirection and misuse of medication may support the special educator's belief about a decrease in ADHD prevalence, these staff members still argued that there is an increase in prevalence of ADHD diagnosis. They viewed that the misuse and misdirection of medication does not have a powerful enough effect to discourage most parents from seeking doctors who will prescribe their children (for more information, see below: "Majority Counterpoint – Perception that ADHD Diagnosis is Increasing in Prevalence"). While school psychologist 1 and special educator 2 argued for the decrease in ADHD prevalence, the rest of the school staff deliberated on the increase in prevalence of ADHD, supporting most of the research on ADHD prevalence increasing.

Majority Counterpoint – Perception that ADHD Diagnosis is Increasing in Prevalence:

The majority of staff members felt that the prevalence in ADHD diagnosis is increasing: four out of six staff members from school system B and all staff members from school system A observed an increase in prevalence of ADHD diagnosis. Some staff, like school system A, jumped right into discussing the evaluation of symptoms linked with overdiagnosis. Staff from school system B blended medication and diagnosis when explaining their views on the prevalence in ADHD. Beginning with school system A, as touched upon in "Chapter 2: Perceptions of Symptoms," the school psychologist, shared that "overdiagnosis is happening in families of trauma and instability…sometimes anxiety is missed and given as ADHD, but there may be underlying anxiety symptoms." All other staff members, the five special educators, strongly agreed with the school psychologist. They believed that it is difficult discriminating ADHD from anxiety or

other symptoms related to trauma which "can explain the overdiagnosis in children" (school psychologist). School system A did not further elaborate on their perceived views on the increase in prevalence of ADHD diagnosis.

Theme of ADHD Overdiagnosis and Overmedication:

In comparison to system A, about sixty-seven percent of staff members from school system B responded that there is a growing trend of ADHD overdiagnosis linked to a trend in overmedication. Special educator 1, nurses, and teacher 1 report that ADHD is not only increasing in prevalence, but is also overmedicated, thus, overdiagnosed. Starting with special educator 1, he spoke to how overmedicated our culture is. Parents are so infatuated with medication that turning to the pill bottle is the most common way parents manage their children's behaviors. He expressed that most parents overmedicate. He claimed that,

> "I think the parents that I interact with will mostly overmedicate, a much smaller percentage will properly medicate, and an even smaller percentage will refuse to medicate. I have seen parents literally give a child the pill the second they get in the car. In other words, I am not dealing with you, take this pill and chill."

The increase in prevalence of ADHD diagnosis is strongly associated with the dependence on medication. Other school staff from school system B, such as teacher 1 and nurses, felt that there is an overdiagnosis solely due to a strong reliance on medication. Nurse 1 articulated that "probably close to 30 or 40%" of the students they serve are diagnosed with ADHD and on medication which, "is really high." It is so high that Nurse 2 claimed the increase in prevalence derives from "American born and raised

families [who] pass it out like candy." Nurse 2 was very blunt in the analogy she used with medication representing candy because she wanted to emphasize the strong reliance we as a culture have on medication.

ADHD overdiagnosis is influenced by the tendency to prescribe children first rather than consider other alternative options. Looking at Teacher 1, she not only concurred with special educator 1 and nurses on the issue regarding overmedication, but she also explained why ADHD is overmedicated. Before ending the interview with teacher 1, I posed the question: anything else that is important for me to know? Teacher 1 deliberately stated,

> "I just don't think it's fair for kids. There is just so much overdiagnosis of it. We are so quick to put kids on medicine for behaviors that might be able to be reduced with management or a different teacher, different classroom, different kids. So medicine is the last resort for me as a teacher to go to that. If I really feel like it's the best interest in the child, I'll pursue it, and other than that I try not to."

Teacher 1 did not specify who exactly is pushing for medication: whether it is parents, school/health professionals or a combination. Either way many adults are willingly prescribing children, since medication is an easy fix. However, medication is not the answer. Staff such as special educator 1, nurses, and teacher 1 believed that medication is used to fix to ADHD-like behavior. This perception contradicts the view of school psychologist 1 who felt that school professionals are no longer choosing a simple ADHD

medication fix for children showing problematic behaviors (see section on "School Staff Approach to ADHD Contributing to the Diagnosis Decrease").

Further elaborating on contradictions found, what is most interesting is that staff from the same school system contradicted each other. While school psychologist 1 and special educator 2 discussed the decrease in prevalence, teacher 1, nurses and special educator 1 remarked on the increase and overdiagnosis in ADHD. Moreover, special educator 2 spoke to the decrease in prevalence due to the stigma placed on medication. Some staff recognized the stigma placed on medication, but still perceived an increase in medication, thus, prevalence. All interviewees from school system A agreed in the increase and overdiagnosis of ADHD, without any noticeable contradictions that were found in school system B.

All staff from school system B who believed that ADHD is overdiagnosed also disclosed that it is overmedicated. Therefore, staff from school system B did not only perceive a trend in overdiagnosis, but also perceived a trend in overmedication. School system A staff mainly deliberated on overdiagnosis. What core factors can explain overdiagnosis? Simplified, but starkly emphasized by staff from school system B, parental influence is a large component in overdiagnosis (addressed in the following section: "Perceived Issues within the Diagnostic Process"). Parents are certainly relying on ADHD prescriptions more so than they should be.

All in all, in spite of the cultural and economic differences between the two school systems, there was an obvious trend observed. Eighty-three percent of staff members perceived an increase in prevalence of ADHD diagnosis, overdiagnosis or overmedication. School system A explain overdiagnosis deriving from the challenges of

distinguishing ADHD diagnosis from anxiety. School system B staff explain overdiagnosis deriving from the fixation on medication.

Perceived Issues within the Diagnostic Process Contributing to Overdiagnosis:

The previous section gave background to some of the perceived issues within the diagnostic process such as overdiagnosis and overmedication. This section covers three topics that negatively impact the diagnostic process: parental flagging or labeling of ADHD, the relationship between schools and pediatricians, and bias or subjectivity in various aspects of the diagnostic process. Seventy percent of all school staff discussed problems with parental flagging and poor relationships between the school and pediatricians. Three out of six members from school system B articulated on bias or subjectivity in the diagnostic process. Nearly, all school staff, deliberated on at least one of the three issues within the diagnostic process except for teacher 1 from school system B. It is important to note that teacher 1 contradicts some of the points made by other school staff, since she has experienced a different approach to ADHD than other school staff.

Parental Labeling of ADHD as a Perceived Cause for Increased Incidence:

Fifty-percent of staff from school system B address parental labeling as an issue with ADHD diagnosis. School staff from school system B denote that ADHD diagnosis is encouraged in today's society because it is publicized so often that parents are convinced their kids must have it. External forces like television, computers, the media, etc., advertise ADHD medication as an easy fix to problematic behaviors so parents are seeking help and meeting with doctors. Because ADHD medication is advertised very

much, parents find themselves capable of labeling their children with ADHD. Nurse 1 declared that,

> "I do see on my computer all the time 'like living with ADHD, did you have that?' You know, it pops up on my home screen all the time. I read the article and I don't think any other disease has been publicized as much as this has, leading people to going to their doctor, being like "I have that, my kid has that." So it's so in your face and it bombards everyone, people buy the pill and drink the Kool Aid and wanna fix their kids."

Because ADHD is exposed to many parents, they cannot help but question if their child has ADHD. It has become a social trend to consider your child for a diagnosis, seek a doctor, put them on a pill, 'or drink the Kool Aid' as Nurse 1 puts it: meaning that it is completely socially acceptable to label their children with ADHD. However, the issue with parents labeling their children with ADHD is that this contributes to overdiagnosis and overmedication. Special educator 1 noted that although potential behavioral problems may look like symptoms of ADHD, it does not necessarily mean the child should be diagnosed with ADHD and has ADHD. For instance, a child going through the terrible twos will show similar behaviors of ADHD, however, the terrible two behaviors are part of the normal development, therefore, in this circumstance, children should not be considered for a diagnosis. Special educator 1 proclaimed that,

> "I think we have become, this is an opinion, not science, not fact. I believe that America is becoming dependent on medication and I believe that parents are

> stressed more than they have been in a while and they don't have time to deal with children that don't behave so if they can knock them down with meds, a lot of them will. And it's really hard to tell if you're terrible two-year old child is a terrible ADHD because the behaviors look the same. And I'm sorry but you don't diagnose them at two because everybody at two has it, by diagnostic criteria."

More than half of the school staff from school system B report that ADHD is overdiagnosed and overmedicated largely due to parents labeling their children as ADHD, and wanting to medicate their children who should not necessarily be diagnosed with ADHD or prescribed medication. Parents are eager and desperate to get a hold of medication, partly because of external forces advertising ADHD (like television), and partly because of the social acceptability of labeling your child as ADHD. Parents also have many stressors in life – including their children's problematic behaviors. Finding a solution to potential problems can be difficult and time consuming. Many parents turn to medication since they would rather find a solution that is not effortful and time consuming. School staff recognize this trend, but are even more frustrated that doctors sometimes rely on parent-reports only, and do not involve the school during the evaluation process of an ADHD diagnosis (see following section for more detail).

Parental Labeling and the Lack of Communication between Doctors and Schools:

School staff from school system A and nurses from school system B (about 67 % of all staff) deliberated on the issue of parental labeling of ADHD and the lack of communication between the school and health professionals exacerbating the overdiagnosis problem. School system A expressed frustration because of the "little effort initiated by parents and health professionals to inform the school and work with school

staff during the diagnostic process." For instance, if "just the parent thinks the child has ADHD or just the parent goes to the clinician thinking their child has ADHD, then we're not involved at all." There was one instance where a special educator knew a student was due for an annual physical check-up and his parents were concerned about his behavior. The special educator called the pediatrician before the appointment to share the staff views of the student. In this circumstance several special educators noted that this was very lucky and unlikely to happen because parents usually speak to pediatricians first and pediatricians consider a diagnosis without speaking to staff. Pediatricians should make the effort to contact the school and also come into the school. Pediatricians really need to be more involved and take initiative as special educators felt they are carrying most of the weight by reaching out to pediatricians and making the effort to communicate.

Clearly, pediatricians don't work with schools as closely as school staff would like them too. However, sometimes "clinicians will come and meet with school staff, take input, but it also depends on the parent too." While there are some cases where parents and health professionals communicate with school staff, all school staff from school system A are normally frustrated with the dynamic of the diagnostic process and the lack of communication and effort from health professionals. A special educator suggested that "just having pediatrics working more closely with schools" can help the diagnostic process. The four other staff members nodded their heads, and came to a consensus. Better communication can lead to an outcome that is better for students and the school. Pediatricians largely rely on parents as the only reporters. If pediatricians seek out school staff, the school will feel more involved and multiple reporters will create a better

outcome for the student. School staff reports are an essential component to the diagnostic process.

Necessary measures need to be taken so that there are multiple reporters. Having several reporters per evaluation process creates a comprehensive evaluation of different perspectives. The school system should be involved in the process from the start since many school staff are involved a child's daily routine and school staff perspectives can play a significant role in reporting children's behaviors that are outside the home. With a greater perspective of the child's behaviors from different environments leads diagnostic indicators that are not as bias than just having parents be the reporters. School psychologist 1 and nurses from school system B disclosed the importance of school staff reports and the issues that succumb from pediatricians only using parent reports. School Psychologist 1 stated,

> "I don't think one rating scale from one person is useful at all. I have had kids come in, little kids, who have gone to the psychiatrist or the pediatrician with only the parent's reading and that's not good. I think having a number of reporters, having it be comprehensive and seeing how they perform in different settings because that's really the diagnostic indicator."

When health professionals such as pediatricians fail to contact and interview school staff, problems do arise such as bias. Health professionals should reach out to schools more to help lessen potential bias. Nurses 1 proclaimed,

> "And I think maybe not us specifically but I feel the school should be made more a part of the diagnosis process. I feel that if a parent goes into the doctor and is like, my kid just doesn't want to sit still at home and they're not listening and they have quote on quote bad grades or teacher says that they acted up today. I don't think that should be enough, like, you shouldn't base everything based on the parents perception of the situation. A doctor, I feel, should have to call the school, get an accurate full picture from a non-biased party here at the school to fully see if we really think this kid has an ADHD diagnosis or is this just really a home thing."

Nurse 1 indicated that the combination of parents seeking doctors and health professionals failing to contact the school leads to a bias evaluation of the student and a bias outcome.

The diagnostic process needs to involve the school and its staff in order to have a more realistic and non-bias view of the child's behaviors. "If the doctors were more apt to include the schools and the initial rounds before making the diagnosis and potentially the prescription, I really think the outcome would be different and I don't think you'd see as many kids being medicated." Again, the lack of communication with the school leads to bias diagnoses and an overdiagnosis. Perspectives of school staff help pediatricians attain a more accurate view of children. Nurse 2 felt that this pattern of parents seeking doctors and doctors prescribing children, without any or little communication, leads to an outcome that is problematic since a child will get a "prescription for a controlled substance" meanwhile "a lot of time therapy or all sorts of other activities will help more." From the nurses' discussion of EST (educational support team) programs in the

previous section, staff are willing and prepared to help with behavioral issues before turning to medication. However, parents sometimes do not express their concerns to school staff and "we as Americans, we turn to the pill bottle (Nurse 1). It is a shame that the pill is "the first line of defense."

While both school systems asserted that parents are largely involved in the diagnostic process, teacher 1 from school system B remarked that there is communication between parents and teachers. Teacher 1 believed there is enough communication between teachers, parents and health professionals. When she considers a student to show symptoms of ADHD, she "always" starts "with the parent just to see if there was anything already diagnosed or if there have been tests done by their doctor. "And then vary rarely" does she go "through the school with the green paperwork to fill out" since she "usually" goes "to the parent who will take it to the doctor if they see it at home too." Teacher 1 made it clear that she is involved with the ADHD diagnostic process, especially when she is concerned for the child and sees a pattern of behaviors. She proclaimed, "if we all see it and it's affecting their school work and lives at home, the parent will go to the doctor and get the paper work and have us all fill it out and the diagnosis gets done a lot quicker that way." Teacher 1 believed that the diagnostic process is a joint effort between the school and parents. She also spoke highly of the effort health professionals have made with schools. She discussed of a community care conference of school staff, pediatricians and doctors, which took place in town. She stated that "one of the pediatricians came and met with me and a parent. And we discussed ADHD and he explained it to me in a way in a way that has never been explained to me before…and I was blown away." Teacher 1 appreciated the conference

since she felt that health professionals are striving to educate and communicate with schools. Health professionals such as doctors and nurses are trying to form relationships with school staff by hosting conferences for school staff, especially teachers. Teacher 1 contradicted the perceived school staff views of negative relationships between the school and professionals, however, teacher 1 still perceives there to be issues with the diagnosis process such as overmedication (see "ADHD Overdiagnosis and Overmedication" section).

Bias and Subjectivity in Various Aspects of the Diagnostic Process:

The last issue to address is subjectivity. There is bias when parents only evaluate their children's behaviors, and there is also bias and subjectivity from teachers and staff, since the evaluation process is ambiguous. Special educator 2 remarked that there is "subjectivity involved in the survey" and "all together" the rating scale is "too subjective from a teacher's point of view or a teacher's standpoint." This is because "reporting is somewhat inconsistent" and there are "different subjective views varying by teachers." Reporting "also, depends on the predisposed relationships that the student has with his or her teacher which interferes with class." "Also there are varied cultural norms and because" this community "is diverse, there's not a universal understanding of ADHD." Special educator 2 presented many factors contributing to potential subjectivity.

First, among different school staff, there can be different perspectives and evaluations of the same student. Because staff perspectives vary, there is no guaranteed consistency when evaluating for the same student. The rating scale and questionnaire section is ambiguously set up for school staff, since there is subjectivity when staff evaluate students. Second, the classroom dynamic is crucial to how teachers form

relationships with students. Depending on the teacher and the kind of relationship formed with the student affects how a teacher perceives that student in relation to students in the classroom. For instance, a teacher who has a negative relationship with a student may be more likely to perceive that student as distracting, mischievous, hyperactive, etc., compared to a student who has a positive relationship with the teacher. Third, cultural perspectives can affect subjectivity. School system B is made up of many diverse cultural backgrounds and with that comes many different perspectives. Cultural norms and beliefs affect how a person perceives behaviors, let alone defines ADHD. Special educator 2's examples gave a general understanding of how the diagnostic process can be potentially bias and is dependent on which person is evaluating the child, what relationship he or she has with the child and what cultural background the person comes from. Special educator 2 expressed that it is crucial to have "norms placed in reference to symptoms" in order to make the diagnostic process not as subjective. "A team made up of two teachers, and one special educator who develop norms of accurate sample," and have "more checklists used from more staff" should be added to the evaluation process. Special educator 2 did not elaborate further on potential strategies that could help diminish bias, however, he presented basic aspects contributing to subjectivity.

By and large, all school staff perceived that there is at least one major issue in the diagnostic process. Staff discussed parental influence, poor communication, bias, subjectivity, and overdiagnosis. The overarching question is: who is at the center of these issues? School staff felt that too many parents are encouraging diagnoses by seeking health professionals. Health professionals are absent-mindedly prescribing children. School staff are not so consistent and reliable in their evaluations. There are no true

culprits. We cannot pinpoint or blame anyone, but rather take into account these issues and wonder what the next steps are moving forward.

Discussion on Perceptions Concerning ADHD Diagnosis:

The prevalence of Attention Deficit/Hyperactivity Disorder (ADHD) diagnosis has progressively increased among children. However, ADHD diagnosis across the nation is not increasing in prevalence at the same rate. Visser et al. (2010) give an overview of that the state-based prevalence varies from the east coast, the mid-west, and west coast. For instance, children along the east coast to mid-west show a range of 11-15.9% prevalence, with the west coast having a 5.6-9.5% prevalence. States like North Carolina and Louisiana have a range of 14-15.9% prevalence while California and has a prevalence range of 5.6-7.9%. Because the Vermont-based prevalence of ADHD in children ranges from 9.6-10.9%, this range is right in the middle for the United States (Visser et al., 2010). Even with this modal position, the majority of staff members still express that the increase in ADHD prevalence is increasing. Staff members consider ADHD overdiagnosed. Although, special educator 2 and school psychologist 1, from school system B, felt that there is a decrease in prevalence or underdiagnosis, they recognized that this does not match up with the literature. However, just as we see with school staff, there are conflicting views of ADHD diagnosis with some researchers arguing for and against ADHD overdiagnosis.

Many researchers explain that the increase in ADHD prevalence does not equate overdiagnosis. Some researchers claim that ADHD cannot be termed as overdiagnosed because there is not enough significant evidence to show that ADHD is misdiagnosed (Sciutto and Eisenberg, 2007). Scuitto and Eisenberg (2007) use a qualitative design to

compare the rate of false positives – children inappropriately diagnosed – to false negatives – children with ADHD who are not identified or diagnosed. They found that because the number of children inappropriately diagnosed did not exceed the number of children with ADHD who were not identified or diagnosed, there does not emerge to be enough substantial support for overdiagnosis. Scuitto and Eisenberg (2007) underline that perceived views of ADHD overdiagnosis may come from a variety of factors such as comorbidity, gender, subgroup norms and diagnostic inaccuracy involved with potential misidentification of ADHD in children. Even though there is variation within these factors contributing to misidentification in some instances, there is still not enough evidence to support the conclusion that factors, especially diagnostic inaccuracy, lead to overdiagnosis. Diagnostic procedures assume variability, thus, diagnostic inaccuracy cannot be linked to overdiagnosis (Scuitto and Eisenberg, 2007).

Bruchmuller et al. (2012) argue the opposite of Scuitto and Eisenberg by concluding that clinicians overdiagnose. Bruchmuller et al. (2012) speculated that therapists attune much of their focus into diagnosing a patient who meets the 'prototypical' ADHD type behavior and therapists do not follow the Diagnostic Manual of Mental Disorders as strictly as they should. To see if therapists overlook some portions of the diagnostic criteria, researchers conducted an experiment which entailed case vignettes and questionnaires of different scenarios. The vignettes consisted of children who met the criteria for ADHD diagnosis, and children who showed some ADHD symptoms, but did not meet the full criteria for ADHD diagnosis since certain criteria was unfulfilled. Out of the 1,000 psychiatrists and psychologists who participated, 16.7% of them diagnosed the non-ADHD vignettes. Although 16.7% appears to be an

insignificant number, this means that a potential 167 more diagnoses occurred than needed which is inexcusable and concerning (Bruchmuller et al., 2012). Bruchmuller et al. (2012) correlate the variability in the diagnostic process in regards to the lack of strict adherence to the Diagnostic Manual, which not only addresses overdiagnosis but a reason behind why it is overdiagnosed. This finding of subjectivity and diagnostic inaccuracy is very representative of many researchers who believe that ADHD is overdiagnosed. Safer (2000) remarked that reasons for overdiagnosis come from changes within the ADHD category such as adding the hyperactivity category, and infrequent communication between the teacher-physician. Other researchers address that there can be an overdiagnosis because of bias and preconceived notions of health professionals - categorizing and grouping appropriate verses inappropriate behaviors into an ADHD category can be dubious and subjective. Additionally, therapists, clinicians and psychologists may not consistently follow ADHD criteria; thus, potential bias may co-occur with the diagnosis process (Bruchmuller et al., 2012).

Overdiagnosis also comes from the fixation on outward behavior when considering diagnosis. Just because a female does not display outward behavior as much, she may still have ADHD. There is such a commonality on associating externalized impairment with the diagnosis (Skogli et al., 2013). Teachers, parents, and health professionals may seek out children who display what they think constitutes 'ADHD like' behavior. This grouping of 'ADHD like' symptoms contributes to overdiagnosis in boys and also Caucasian men as they are diagnosed more than females with an approximate 4.4% rate until adulthood (Kessler et al., 2006).

Researchers still debate over the increased prevalence of ADHD diagnosis, and if ADHD should be termed overdiagnosed. Has ADHD increased enough to be termed as overdiagnosed? If so, what contributes to the overdiagnosis? Researchers who believe in overdiagnosis explain that changes within the ADHD category contribute to overdiagnosis as well as subjectivity, stereotypes, not having multiple reporters per evaluation, and inconsistent teacher-physician communication. School staff explain that an overdiagnosis is coming from parental labeling (bias from parent reports only), poor communication between school and health professionals, and subjectivity from school staff. School staff and researchers assert each other's views of reasons for overdiagnosis, however, school staff emphasize the issue of lack of communication between pediatricians and the school.

Chapter 4: Perceptions about Medication and Therapy

This first section concentrates on school staff observations of the positive and negative outcomes from medication. Transparently, all school staff perceived that there is great variation of effects from medication, meaning that medication can be effective or ineffective. School system A found that "there is a huge variance" of outcomes from medication alone, since some kids have a very distinct outcome," but "some less obvious." All Staff, including school B staff, observed a variation of effects from medication. Although some staff spoke highly of the effectiveness from medication observed in children, the general consensus was that most staff reported more negative outcomes. This section emphasizes that medication creates more harmful and severe outcomes than rewarding outcomes for children. Lack of appetite, lack of sleep, depression, low energy and somatic complaints make up some of the harmful outcomes school staff point out.

Positive Effects from Medication:

In response to the question – how do you find the effectiveness of medications alone – staff initially addressed positive outcomes. For instance, special educator 2 originally supposed that, "with medication, it appears to have a profound effect, lowering hyperactivity, increased attention for extended duration of time, and more capable of maintaining time span." It is believed that medication is successfully working since it lessens ADHD symptoms and helps children attain better concentration and focus.

Children are also able to concentrate better from medication. Nurses affirmed this perception by proclaiming that,

> "… with some kids it's amazing the effect it has on them. They can sit and have a conversation. One kindergartner, he was going half days at school because his behavior was so out of control and he started on Concerta and he's had really wonderful days. He's back to a full day schedule and he's actually getting to experience school. That's nice."

Nurse 2 observed that a child concentrated better, attended school more, and thus, had a positive outcome from medication. Many children can experience positive outcomes since Nurse 2 indicated that "there is really a handful of kids that are on the ADHD meds now" and "I can look at them and say, wow that med really helps them, really truly, they 100% must have it and it really truly works." Evidently, nurses observed positive effects from. Teacher 1 also expressed that the effectiveness of medication, "is night and day" as "we know when they're not on their meds, any teacher will tell you this, because they are a different child and you cannot teach sometimes when they're not on their meds" – they are "literally running around." Teacher 1 claimed that teachers are able to decipher between students on and off of medication because when students are off of medication, they appear to have more out of control behaviors, which makes it harder for teachers to manage their classrooms.

Staff from school system B highlight positive effects from medication observed in children. Children tend to have more controlled behaviors, increased attention for extended duration of time, more capable of maintaining time span, and lower hyperactivity. Many school staff, like the special educator, nurses and teacher, deliberated on the effectiveness of medication; however, there was more deliberation on negative outcomes observed from medication.

Negative Effects from Medication:

School staff from school system B articulated the most on the negative effects they observed from medication. While staff realize that the effects of medication are essentially dependent on the child's response to it and there is a broad spectrum of effects to medication, staff still discuss that there are more of the harmful effects than positive effects observed in children. Staff, such as special educator 1, observed that "children" can be "so drugged that they can barely function." They appear as zombies. Special educator 1 deliberated more on the issue:

> "You take a child with ADHD who is normally bouncing off the wall and now they are unable to focus, they are not able to function. I mean they basically want to put their heads down on their desks and just be zombies. I mean we've had to call parents to cut back meds more often than put children on meds. Well, you gotta remember when a kid is a zombie and goes home and lays on the couch and watches TV or plays video games or whatever the kid is going to do, they are not bothering the parents at all."

Special educator 1 generalized that the effects of medication are damaging to children as they lose most of their energy, interest and become zombie-like – sluggish, tired and disengaged. Special educator 1 was not the only staff member to liken a drugged child to a zombie. Nurse 1 expressed her concerns with medication since she stated,

> "I've had parents who took his or her kid off the medicine because he said she felt she wasn't herself. She was a zombie…it makes her not have fun and it slows

her down too much. And I thought that was really interesting, because that's what it's supposed to do and she recognized what it did and she knows that she can't or doesn't have quite as much fun and is not quite as wild when she takes it and she can't think of more than one thing."

School staff, parents, and even children can recognize the negative effects from medication. The effects can be so tremendously awful that children express the desire to stop their medication. Nurse 1 and special educator 1 voiced that children resemble 'zombies' because of their sluggish-like behavior, and low energy from the effects of ADHD medication. Staff from school system B also deliberate on other negative side effects from medication to look for.

Obvious negative side effects from medication to look for in children are agitation, depression, lack of appetite, and lack of sleep. School psychologist 1 addressed the observed negative effects from medication since she stated,

"Well, it's definitely not the same for all children. For, I think sometimes that we find out a child has been misdiagnosed. Some of the kids will get on the con side. There are kids who might get more agitated or have agitated depression – get even more irritable that can be helpful in confirming diagnoses too, but there's no blood test. The side effects that I've seen kids experience, primarily is lack of appetite and weight loss and many of the children on stimulants here and their parents will complain they don't eat at all at school and they get home and have three meals between three and bedtime and eat a enormous meal before bed. There's also sleep problems for a lot of the kids…Kids who really, whatever you

> put in place, eat nothing. They start to have this negative self-concept of school, about being bad and telling me how bad they are, how stupid they are."

The side effects from medication can be so harmful that school staff wonder if a child was misdiagnosed. School psychologist 1 felt very strongly that medication has even contributed to negative self-concept and that children start to view themselves as stupid and bad students.

Staff members from school system B observe that the obvious negative side effects from medication are agitation, depression, lack of appetite, and lack of sleep. Staff such as special educator 2 and Nurse 2 assert similar negative side effects that school psychologist 1 observed. Special educator 2 and nurses deliberated on some of the same effects as school psychologist 1 such as lack of appetite, depression, but they also addressed other negative outcomes. Special educator believed that there is "lowered appetite and affect in students, decrease in communication and emotion, and even some students show that they are depressed, sluggish, but really depressed in terms of lowering emotion." Special educator 2 wondered if their depression was related to the medication, or if depression was related to not eating. Special educator 2 felt that either medication is directly or indirectly related to depression in students. Similar to special educator 2 and school psychologist 1, nurses observed that children experience loss in appetite and negative mood.

Not only do school staff observe depression as a side effect from medication, but staff also observe loss of appetite leading to somatic complaints. The nurses' experiences with children and medication lead them to express concerns and negativity toward

medication itself. The back and forth discussion between nurse 1 and nurse 2 emphasized the negative view they have of medication and how they are in disfavor of it.

> Nurse 2: And I was thinking another negative of the ADHD meds is it has an appetite suppressant in it so you get these kids that end up having somatic complaints, headaches, bellyaches throughout the day that you know they're just hungry, because they didn't really eat a good lunch or they skipped snack because they just don't have that desire to eat, and then they get home and they're like, some of these parents are like they're eating at home. So most of them don't have that food at home, so they're in this continual cycle of hungriness. And so I think that's a really big downside to the medication. And then you know, what does headaches and stomachaches lead to? More time out of the classroom, because they are having to travel down here to express their somatic complaint which we can pretty much guarantee 90% of the time related to a side effect of the medication only then to have to walk back to their class and still be miserable cause they don't wanna fix the problem, and they don't have that desire or drive to eat. So they lose a good 5-10 minutes more out of their day of education.

Nurses explain that there is a pattern of children having an off appetite schedule, with many children eating less. Because a side effect from medication is decrease in appetite, children experience the consequences from eating less such as headaches and bellyaches. Nurses remarked that students will leave the classroom to express their somatic complaints to them, while simultaneously missing valuable class time. Nine out of ten times, these somatic complaints are related to the side effects from the medication.

Staff report that the side effects from medication are significant. Staff also express that children will benefit more from therapy or other activities than from the extreme negative side effects from medication. Nurses from school system B, passionately felt that medication has extreme negative outcomes for children, and other alternatives like therapy should be the first line of treatment. They remarked that they wish "there was a prescription for therapy" rather than a prescription for medication. Below they address the intensity of ADHD medication use and the high dosage intake of five and six year olds.

> Nurse 1: "A lot of time therapy or all sorts of other activities will help more than a prescription for a controlled substance."
> Nurse 2: "The side effects are terrible and there are 5/6 years old on these drugs and we have some of them that are second and third graders taking like a teenager dose on them. It's crazy."
> Nurse 1: "I wish they could write a prescription for like therapy. It'd be easier."
> Nurse 2: "It'd be easier. Once a week you can take your kid here."

Before further discussing therapy and medication, school system A and school system B observed a trend in the effectiveness of medication: among children, there is great variation of effects from medication. School system A staff addressed positive and negative side effects while school system B staff predominately focused on the negative side effects from medication. School B staff highlighted that these negative effects create harmful outcomes, thus, children should turn to alternatives. This next section goes into greater detail of how staff view medication, therapy or combined treatment.

Perceptions of Medication Alone, Therapy Alone, or Combined Treatment:

When I posed the question of – how do you find the effectiveness of medications alone, behavioral therapy alone and combined treatment – all staff essentially viewed that combined treatment is the most effective for children. In regards to medication alone, school system A, and special educator 2 from school system B believed that medication is more beneficial. Nurses, special educator 1, school psychologist 1 and teacher 1 from school system B believed that behavioral therapy alone is most effective. This means that there was an even split of preference between medication alone (55% of staff) and behavioral therapy alone (45% of staff). However, all staff perceived combined treatment as the most beneficial, and there was not a single staff member who failed to mention that combined treatment is the most effective. Incredibly representative of many staff perceptions, special educator 1 declared that, "I think the big takeaways are medication is good, behavioral plus medication is better. That's the biggest takeaway I can give you. And behavioral alone is good, but not as effective when combined with medication." Although school staff believe combined treatment is the most beneficial for children, they were not satisfied with the behavioral therapy aspect of combined treatment. All staff from school system A and half of the staff from school system B addressed issues with treatment management. There are issues with the kinds of therapies and alternative programs offered to students, and lack thereof. There are also issues of staff not being fully trained to carry out effective behavioral programs.

A perceived issue with combined treatment is that school staff are not equipped for managing therapy or behavioral programs. Special educator 1 uses behavioral

treatment on all his students because his practice is predominately focused on behavioral treatment, however, he emphasized that "kids in the mainstream would be getting medicine only and that's literally because of the difference of having someone who knows how to provide behavioral treatment verses the rest of the staff that does not." Nurses agree with special educator 1 since they perceive that there is a "30-70 split of students on combined and medication only." This remains an issue since combined treatment is not the dominant treatment used by children. Staff members, teachers in particular, "are not trained in how to respond to" behavioral therapy. "Special educators in most cases are not trained to respond to this." Special educator 1 emphasized that some staff members are not trained to respond to behavioral therapy. Lack of training contributes to not as much behavioral treatment.

There is also limited support coming from the administration, and this contributes to the lack of behavioral programs set in place at schools. Special educator 1 noted that: "because our administration does not believe in behavioral treatment, the only place it's available is in my room." Special educator 1 has resorted to starting his own practice, not through the school, since the administration is very unsupportive of behavioral therapy. "[Administration doesn't] believe that behavioral treatment is effective" and "they actually believe that it is harmful." This greatly frustrated special educator 1 since he believed that behavioral therapy is extremely effective and "it has to be effective" because "if you are accurate in your function based assessment and you know the function of the behavior and together you put a function based treatment based on that function, it's going to work." The only drawback with combined treatment is "there may

be an anomaly where it doesn't work on 1% or 3% of the population, but it works on most of the population, by a long shot."

It is most frustrating that the administration does not recognize behavioral therapy as rewarding, but rather views it as ineffective. Special educator 1 explained that administration's view of ineffective behavioral therapy comes from "Alfie Kohn, a PHD author in psychology, [who] writes books that tell you that giving A's to children, putting gold stars on their pages, and smiling at them kills their intrinsic motivation." Alfie Kohn "could not be more wrong. The administration could not be more wrong." The school system has "students who are out of control and "they use whatever they think they can use to deal with them." With "no results," administration "eventually [goes]" to special educator 1 looking for support. He proclaimed that,

> "… when [ADHD students] come to me, the behavior changes. In the last two years the shortest behavior change - I've had from extreme aggression to absolute serenity - has been two days on the short side and thirty days on the long side."

Although the administration does not support behavioral therapy, they turn to staff, like special educator 1, who can help students with ADHD. Students come to his practice after using the mainstream approach to find that combined (behavioral therapy and medication) is working for them. Clearly, special educator 1 is irritated that behavioral therapy is not implemented in school system B's middle and high schools. However, special educator 1 praised the elementary school for their use of behavioral programs. He stated, "The elementary school uses positive behavioral support, which they are fine. They are actually very fine. I applaud the use of them. They might not use it

100% correctly but I think it's fabulous they are trying." Although the elementary school is using some sort of behavioral program, the bigger problem points to dire need for behavioral therapy and programs put in place at schools in the school system. School staff need to first have training and experience with therapies. Additionally, the approach to treatment has to change, starting with the administration. Similar to special educator 1, special educator 2 expressed flaws within the school system and felt that the approach to treatment needs a transformation.

There also needs to be a change in the kinds of behavioral treatments used in classroom settings. This change looks like more alternative based programs, for instance, hands on rather than the traditional classroom setting of sitting at the desk for hours. Even with the many "complexities and so many variables involved which are present in a public high school," "we [still] need to think about alternative programs besides sitting in a chair." Students have the capability of being successful with ADHD, "just not in traditional linear way." What does he mean by this? Special educator 2 delineated on the issue:

> "There is difficulty with ADHD, there are constraints of a typical class environment – lecture, notes, test, etc. A traditional linear approach creates challenges to ADHD students so therefore it's still challenging for them, but in hands on programs students can be very successful and are more successful. For instance, ilap, [an electronic device used for problem solving], encourages students by doing."

Whether it is the administration, certain school staff or other professionals, school staff need take the initiative to change the approach of behavioral therapy and management. As a whole, school system B does not see a necessary change in the approach to behavioral management. However, special educator 2 pointed out that students' chances of being successful are lower when they are organized in a linear approach: traditional classroom. When the approach is different – for example, hands on programs – students are more likely to thrive. But the approach to ADHD behavioral therapy and management fails to change. As one can imagine, this is very frustrating especially when special educator 2 observed a drastic and successful change in his students when applying the alternative program of using electronic devices for problem solving. Special educator 2 shed light on the positive outcomes that arise from using an alternative approach. Not only does the approach to ADHD treatment need remodeling, but also school staff attitudes toward implementing more behavioral programs need to change.

Half of school system B's staff expressed concerns of the underuse and insufficiency of therapy in the school. About sixty seven percent of school B staff elaborated on problems with the approach to therapy. All staff from school system A agreed on fundamental issues on their school's approach to treatment as well. School psychologist from school system A stated that "there are not a lot of child psychologists and most of our kids come from families that can't manage therapy" because therapy is dealing with the "social and emotional piece." Two factors are at play here. First, there are a limited amount of staff members, especially child psychologists, to help children undergo behavioral therapy. Second, parents especially struggle with the social and

emotional piece of therapy. Because therapy takes time and effort with an emotional piece involved, it may be hard for parents to seek therapy. Also, the school psychologist pointed out that there are problems with therapy itself. There is "not enough therapy working with ADHD specific strategies and children are "not learning life-long strategies." There was a consensus, from all staff members of school system A, on the issues that the school psychologist made known about therapy.

More than half of school staff from school system B and all of school system A staff observed core issues regarding treatment. The current and mainstream approach to treatment needs to change. Behavioral therapies and programs are vital to treatment and have to not only be considered, but also practiced by students. While the nurses and special educators brought up valid points, school psychologist 1 from school system B contradicts their statements made since she affirmed that "for students who have ADHD or sort of the subset of ADHD," there are "ED programs for the behavioral" so "it is pretty structured behaviorally based programs" for the "middle and high school." School psychologist 1 could not give a breakdown of the numbers of children taking medication alone, using combined treatment or behavioral therapy alone. However, she deliberated on a type of structure put in place, which provides counseling and therapy for children.

> "So, other school districts are considered SLD or specific learning disability and there are very few ADHD or ED (emotional disability) kids and we are the reverse of that. We have very few just specific learning disabilities because so many services have been built into school, I think almost everyone has an additional service. They're paid for, we have outside providers that come in so the parents have to approve of it and sign off on it, but they never have to figure

> out transportation or any of those things so almost no one gets meds only because we've got all these counseling connections. We have five therapists there. They do group and individual. They do family group, but it is hard to access here and it is hard for people to get to appointments. So it's sort of evolved in bringing all the services here so in that in the elementary and middle school, they built in the mindfulness and the social thinking so even though it's not being provided by a therapist, everyone's getting therapeutic services somehow."

There are some services built into the school that can help with the approach to combined medication. These services are paid for. With the notion that families struggle with appointments, services have been put in place in the classroom. Even when students do not take advantage of therapy sessions, alternative programs are enforced like mindfulness and SIMS. School psychologist 1 was extremely content with the services incorporated at school that students partake in since it is convenient and guided by teachers. School psychologist 1 felt that the school district is striving for a more cohesive approach. She felt that health professionals such as psychiatrists are encouraging a more cohesive approach as well. She proclaimed that "the psychiatrists are busy talking families out of medication management too and really looking at alternatives or at least a cohesive approach to it if you're going to try medicine." School psychologist 1 believed that health professionals are proactive at encouraging families and children to use a cohesive approach to ADHD. According to school psychologist 1, health and school professionals support a cohesive approach to ADHD of considering alternatives and not just medication management. There are also services in the school, which students can take advantage of and do take advantage of.

The importance behind this is that school psychologist 1 perceived a very different trend with the approach to combined treatment than did the majority of staff from both school systems. School psychologist 1 affirmed that programs are put in place, but most other staff (inside and outside of school system B) criticized the lack of programs put in place. Consequently, there will be contradictions between staff members of different professions and expertise. The noticeable contradiction indicate that some staff can be satisfied with the current efforts and programs for treatment, while others are dissatisfied, with great frustration. The contrasting viewpoints, however, do not imply that there is perceived inconsistency regarding ADHD treatment. All staff favor combined treatment. Nearly all staff express there are issues in carrying out combined treatment because there is a lack of therapy and alternative programs offered to students.

Discussion on Perceptions about Medication, Therapy and Combined Treatment:

Similar to school staff, research has clearly addressed that combined treatment is the most effective. Conners et al. (2001) showed that in a multimodal treatment of children with ADHD (MTA), children who experienced combined treatment (medication and therapy) had a statistically significant better outcome than children who experienced medication only or behavioral therapy only. Pelham et al. (2000) also note that combined treatment is the most effective kind of treatment for children. Children who were in the combined treatment group were "significantly better than the behavioral group in multiple measures: rule following, good sportsmanship, peer negative nominations, and teacher post-treatment ratings of inattention/overactivity" (p. 507). Children who were in the combined treatment group also showed that they were in a normative range as compared to the medication alone group and behavioral therapy alone group where

children were not in this range. There are more studies that replicated the original MTA study to show that combined treatment is the most effective for children, as well as adolescents and adults.

However, combined treatment is not the first-line treatment. Pharmaceutical drugs such as methylphenidate (Ritalin) and newer types of stimulants such as Adderall and Cylert are generally the first-line intervention (Parritz and Troy, 2014). The "extent to drug therapy only used by students is extremely high" in comparison to behavioral programs (LeFever, Dawson, and Morrow, 1999, p. 1359). Many researchers understand that there is more of a desire for medication than behavioral treatment. Medication can be effective, however, there are negative side effects to consider, and sometimes the negative side effects outweigh the positive side effects. Efron, Jarman and Barker (1997) propose that from their study, after looking at the side effects from methylphenidate and dexamphetamine in children, children experience severe insomnia, appetite suppression, and nausea. Negative emotional symptoms were also severe. Efron, Jarman and Barker (1997) highlight the main side effects observed from ADHD medication. The literature discusses negative side effects just as school staff do from school system B.

Although there is sufficient research looking at the negative side effects, researchers and psychologists also observe positive side effects from medication. For instance, Lerer, Artner, and Lerer (1979) study showed that more than half of students who were on Ritalin showed an improvement in handwriting skills. There was a direct observation that children who improved in their handwriting also improved in their visual-perceptual-motor functioning. Researchers concluded that Ritalin has a direct positive effect on children who are hyperactive. Posey et al. (2007) confirm that

methylphenidate significantly decreases hyperactivity and impulsivity in children through their analysis of measures. Thus, the literature covers positive effects that are beneficial. The following question is: do staff observe these positive effects? Parritz and Troy (2014) remark that "positive effects of stimulant treatments are observed for relationships with teachers…although teachers report different patterns of benefits and side effects" (p. 156). These researchers describe two succinct points. The first is that teachers observe a positive outcome from the effects of medication. The second is that teachers observe a variation in the kinds of effects children have from medication.

School staff from both school systems collectively agree that the side effects from medication vary. However, unlike Parritz and Troy's (2014) review, local Vermont school staff observed more negative outcomes from medication than positive outcomes. In fact, school staff expressed – especially nurses who dispense medication – that there are extreme negative outcomes from ADHD medication, and this type of treatment should not be the first-line intervention. However, schools struggle with treatment and behavioral programs. Pfiffner, Barkley, and DuPaul (1998) discuss that teachers are not adequately trained in managing school interventions. In fact, there needs to be more of a push with school based interventions and behavioral treatment. Similar to this finding, many school staff remark that teachers are not trained to carry out behavioral programs. Interviewees believed that school staff do not have support from either the administration or other school staff to implement programs. Therefore, medication is the first-line of treatment. However, staff observed more negative side effects than positive side effects from medication just as research addresses severe side effects from medication as well.

Treatment of ADHD diagnosis remains controversial both in the literature and in school staff members' perspectives.

Chapter 5: Perceptions about Risk Factors

This section addresses two distinct questions. They are: any variation that you've noticed at your school in grade level, age, gender, race/ethnicity, or socioeconomic status (SES) with symptoms, diagnosis, treatment and behavioral management? Why do you think that is? Starting with gender, without any hesitation, all staff proclaimed that males are diagnosed significantly more than females. According to staff from both school systems A and B, there is an obvious perceived trend of males having a higher incidence of diagnosis. Special educator 1 from school system B discussed that he is "seeing some females" diagnosed, but "most of the ADHD diagnoses seen are male." Teacher 1 from school system B solidified his view since she claimed "there are definitely more boys than girls." Nurse 1 from school system B made known that when dispensing medication to children, "boys over girls for sure" is a trend, "but that's changing" since she dispensed ADHD medication to "a lot more girls" over the past four years. Special educator 2 from school system B pointed out that "five of his sixteen students have ADHD and all are male." Collectively staff from both school systems felt that there is an obvious trend of males at higher risk for diagnosis than females, however, many school staff did not explain this trend, except for school psychologist 1.

Males have a higher risk for ADHD diagnosis strongly because of gender roles. School psychologist 1 from school system B explained how gender plays a role in reporting more boys than girls for a potential ADHD diagnosis. She conveyed that,

> "I think it's partly gender roles: the way that they are socialized starting from birth, 'what does the boy do, what does the girl do?' So in the classroom, for example, the kids that are referred to me, they are often in for alternative programs. There are some male and female students, but tend to be mostly female who have extreme depression or anxiety, but they don't bother their classmates. And I don't think that is just here, but they're not disrupting anyone else's learning and they're not disrupting the teacher so they can go unnoticed and the girls that I've tested anecdotally, there has been evidence of inattentive ADHD but again, it's not an attention grabber. And if a kid is interrupting and interfering with everyone else's learning and is a physical kid, then they get referred for everything. So the socialization of the boys and the girls is so different and then the way they're expressing whatever it is – their anxiety, their inattentiveness – just rises to the forefront with the boys."

Gender roles – internalizing and externalizing behaviors – strongly contribute to males being at higher risk more so than females. Males have more externalized behaviors than females. Because males are more physical, teachers and staff observe and interpret these behaviors as distracting. Meanwhile, females are not as distracting and display less physical behaviors that interfere less with the class. Because teachers are less likely to pick up on behaviors that do not interfere with the classroom dynamic, they are less likely to report females having behavioral problems like inattentiveness and distractibility.

However, females can have inattentive behaviors, but because of cultural norms and the socialization of both genders, males have more noticeable behaviors and get reported more often than females.

In regards to race and socio-economic status, all school staff believe that Caucasians are at higher risk for an ADHD diagnosis, however, there are disparities in perceived views of SES. Starting with school system A, while a descriptive statistic was not given, all six staff members concurred that "a large percentage of males diagnosed are white." School system A staff had difficulty explaining this trend other than that the area surrounding the school system is made up of many white families. Because the community of school system A is predominately white, with a higher socio-economic status, staff felt that explained the noticeable trend of white and wealthy kids having a higher incidence.

Staff from school system B agree with staff from school system A in that Caucasians are at a higher risk, however, school system B believes that Caucasians coming from lower SES are at higher risk for diagnosis. School B staff also elaborated more on race and socioeconomic factors contributing to higher risk. Special educator 2 from school system B noted that his class is largely white, since out of his five students who have ADHD, "four are Caucasian and one is African American." To put his numbers into perspective, 80% (4/5) of his students who have ADHD in his classroom are Caucasian and 20% (1/5) are non-white/African. Nurse 1 stated that she dispenses medication to "one new American and one African American and the rest are all white" out of forty students. Nurse 2 stated that "not a lot of new Americans are on these drugs. It's the kids that are born and raised in [this area]" who are white. Nurse 2 established

that non-refugees, born and raised American families, are mostly white and will want their child to go on medication. She voiced that,

> "I can only speak for this population...I just think that medication is considered a cure all in this population. You have parents as teenagers, potentially didn't graduate from high school. If they did, they didn't go to college. You know, they just don't know how to parent these kids. And it's just hard. They're not, I believe it's that they need to be better educated as to the diagnosis, what the treatment actually is, what the side effects are of these medications and maybe potentially other sources to help treat their kid. They might have a different outlook on it."

In terms of socioeconomic factors, school system B is made up of many low-income families. American families with lower economic status are exposed to minimal education, knowledge, and experiences of good parenting. These kinds of parents have not had access to great parenting, educational and job opportunities like other parents from different communities, such as school system A. Parents believe that medication will help and are not informed of other alternatives. These parents are also influenced by external forces such as television. Nurse 1 stated "that everyone watches TV and everyone sees the ads. It's all out there." As discussed in "Chapter 3: Perceptions of Diagnosis", Nurse 1 implied that the advertisements of ADHD can put children at higher risk since parents are likely to see advertisements and believe ADHD medication may be the cure. Parents then seek doctors for help. The combination of low-economic status,

poor education, and strong external forces contribute to children being at a higher risk for ADHD diagnosis, in this case, Caucasian children of lower economic status.

Also, children born and raised in broken families with prenatal exposure to drugs can have a higher risk of diagnosis because the child is already addicted to drugs and the home environment that they are in encourages drugs. School psychologist 1 gave perspective on SES factors contributing to higher incidence. She has a telling perspective than most staff from school system B as she remarked that, "I have evaluated a number of children who were born while the mom was addicted to drugs which places them in sort of a higher risk category for the diagnosis" since "there is such high poverty and there is so much chaos associated with poverty…there is a pretty high incidence of the chaos that goes along with that so there's crime, domestic violence, drugs, alcohol." This kind of home environment is usually correlated with poverty and chaos. School Psychologist 1 discussed familial lifestyle in relation to poverty plays a role in higher incidence.

In regards to a specific age level that is at a higher incidence for diagnosis, staff from both school systems strongly felt that high school students are at a lower risk for ADHD diagnosis more so than elementary and middle school students. School staff from school system A, without any apprehension, made a clear statement that high school students are not diagnosed as often as elementary and middle school students. A more detailed remark came from the Director of Special Education who proclaimed that "some kids you'd think they have ADHD at high school, but they aren't diagnosed. They maybe show some symptoms, but they don't technically have the disorder or diagnosis. Teachers are used to this now." While the Director did not wish to further elaborate on the statement, she brings up an interesting point. Whether it is high school teachers being less

sensitive to ADHD-like behavior, adapting well to ADHD-like behavior or implementing strategies for managing ADHD-like behavior, the numbers decrease in diagnosis as children get older. From school system B, school psychologist 1 stated that "the numbers decrease as you get to high school," which is extremely representative of most school staff opinions from school system B. Special educator 1 stated, "I'm seeing kids diagnosed with ADHD at younger ages" and "it is very rare for me to see a middle school or high school student diagnosed for the first time. As a matter of fact I can't even think of one that has been diagnosed from 6th grade up. I just haven't seen one." School staff agreed that ADHD is a disorder that is normally diagnosed in children in elementary and early middle school. It is rare to see high school students newly diagnosed with the disorder.

All in all, school system A and school system B emphasized that white males, who are in elementary school, are at higher risk for ADHD diagnosis. Between the school systems, there was a major difference in the socio-economic status. School staff from school system B felt the that children of lower SES are at higher risk while school staff from school system A felt that children with higher SES are at higher risk for ADHD diagnosis. This main discrepancy is explained by school B staff, since they are aware that their school system is a different type of community; therefore, it is implied that it may not be as representative of the average American school system. So the trend of low SES contributing to higher incidence cannot be generalized because school system B's demographics are very specific to the community.

Overall, staff expressed trends in gender, race, SES, and age level, however, some staff felt they could not speak to why the trends take place. Staff who explained perceived

trends in either grade level, age, gender, race/ethnicity, or SES were nurses, school psychologist 1, special educator 1 and 2 (all from school system B), and the Director of Special Education from school system A. Therefore, half of all staff members felt confident and comfortable in elaborating on gender, race, SES, and/or age level factors contributing to children being at higher risk for ADHD diagnosis.

Discussion on Perceptions of Risk Factors:

Staff perspectives from school system A very much align with the research found on race, socioeconomic status and gender contributing to higher incidence. Staff perspectives from school system B line up with research found on race and gender. Research shows that white race paired with higher SES contributes to higher incidence. The literature claims that Caucasians seem to be diagnosed more than minority groups (Morgan, Hillemeier, Farks, and Maczuga, 2013). Morgan et al. use a longitudinal design to convey the variables contributing to racial disparities of higher incidence. Their findings reveal that Caucasian children are far more likely to receive ADHD diagnosis than minority groups such as African Americans and Hispanics. Certain factors contributing to the increase likelihood of diagnosis involve being a young male, speaking English as the main language in a household raised by an older mother, and showing externalizing behaviors. There are also factors decreasing a child's likelihood of becoming diagnosed: not having health care, being more engaged in classrooms, and showing great academic achievement; minority groups can be correlated more with these factors than Caucasians (Morgan et al., 2013).

In terms of gender, research suggests that males are diagnosed more than females because males display externalized behaviors. Theories have explained that because boys

have more outward aggression, they are more likely to show symptoms of ADHD while girls are more inward, and less likely to show symptoms (Skogli, Teicher, Andersen, Hovik, and Øie, 2013). Skogli et al. (2013) address this issue of gender bias by using parent and teacher reports to look at symptomatology. Key findings demonstrate that there is an ADHD-symptom cluster involving poor executive skills in everyday function and impairment associated more with males than females. These variables were not the same for females, since more males were associated with poor executive functioning and impairment while females were associated with anxiety (Skogil et al., 2013).

In reference to age level, there are two recent patterns of diagnosis, which are noteworthy. ADHD is being identified at earlier ages, with many preschoolers meeting the diagnostic criteria, and also "ADHD is increasingly identified at later ages, into adulthood, with adults displaying similar patterns of symptoms" (Parritz and Troy, 2014, p. 141). There is a recent trend of high school students being diagnosed more (Danforth and Navarro, 2012). Although the research points this out, school staff clearly observed that younger children are at higher risk. The Director of Special Education from school system A remarked that there can be ADHD-like behavior among high school students, but teachers can manage this, so high school students generally aren't at a higher risk for diagnosis. All school staff agree that children, especially elementary students, are at higher risk for ADHD diagnosis. This makes sense since ADHD is "frequently diagnosed in early school years." Generally, the onset for this disorder is usually during childhood, because it is circled around developmental tasks and challenges related to self-regulation, effortful control and executive functioning (Parritz and Troy, 2014).

In school system A, gender, race, and SES match up with the literature, however most school staff do not go into great detail of these perceived trends, which makes it hard to thoroughly compare perceived trends of school staff from the literature. In school System B, gender and race match up with the research and school staff are able to elaborate more on perceived trends. As school psychologist 1 specifically addressed gender roles (internalizing and externalizing behaviors), researchers such as, Skolgi et al. (2013) remarked that gender roles contribute to males being at higher risk for ADHD diagnosis. Socioeconomic status from research does not match up to school staff B perspectives on SES since they felt that lower SES contributes to higher incidence. However, staff recognize that school system B is a different type of community, with refugee families of lower income, thus, this may not be representative of the general trend seen across the country.

Chapter 6: Conclusion:

Local Vermont school staff believe it is a challenge differentiating symptoms and diagnosis of ADHD from anxiety. Family trauma is also huge component to a child's behavior which may look similar to ADHD-like symptoms and behaviors. The majority of school staff indicate that pediatricians are increasingly prescribing ADHD medications to children without contacting the school. The poor communication from pediatricians is seen as frustrating and unprofessional from the staff's perspective as parents cannot be the single reporter and evaluator. School staff strongly feel that there is an unhealthy dependence on medication and only medication for treatment and that behavioral therapy is not used properly and not used enough at schools. There was variation by profession with the regard to the amount of increase now with the younger cohort coming through elementary school, however, many school staff assert that the apparent increase in prevalence is due to parental influence and pediatricians overdiagnosing ADHD and overprescribing ADHD medication.

What is contributing to this difference in prevalence across the nation? Some critics see the fundamental reason for this "epidemic" as due to our modern time: the fast pace of living, a competitive society, and the emphasis on consumerism (Safer, 2000). However, others present that it is a diagnostic fad of sorts and a cop-out (Desgranges, K., Desgranges, L., and Karsky, 1995). Many school staff speak to these latter issues in addressing the overdiagnosis and mistreatment of ADHD. school staff believe the dominant issues regarding symptoms and diagnosis are: deciphering ADHD from anxiety, parental flagging in ADHD, lack of communication with pediatricians, bias and

subjectivity deriving from parent-only reports, and poor system of how school staff evaluate for symptoms. School staff believe the dominant treatment and behavioral management issues are: obvious negative side effects from medication, lack of behavioral programs encouraged at schools, insufficient behavioral therapies, and lack of experience and support for staff to carry out behavioral programs.

There were, however, clear differences of opinions between school staff. Out of the perceived trends listed above, there were contradictions mostly within school system B regarding overdiagnosis and treatment. The obvious differences are among school psychologist 1 and the rest of school staff B. School psychologist 1 has her own experiences from her profession. She is the main school psychologist for all schools in the school system, so she may have a more positive outlook. Since she is striving to make a change and feels confident in her efforts made, her perceptions may reflect her positivity. Although this is speculation, it is important think about why these contradictions occur.

The perceived trends in symptoms, diagnosis, and treatment align with the research on overdiagnosis and overmedication. A number of psychologists and researchers discuss problems within the diagnostic process, such as reporting, and horrible teacher-physician communication (Safer, 2000). School staff views of medication and lack of behavioral therapy used at schools also matches up with the literature. Drug therapy is the dominant choice of treatment. Up to 63% of children are medicated in some areas of the country. Across US populations, in some groups of children, there is potential overtreatment (LeFever et al., 1999). School staff reiterate and

reaffirm already known problems observed by researchers, educators, psychologists, sociologists, and anthropologists.

Limitations:

It is important to take into account the strengths and weaknesses of conducting interviews. First, there were shortcomings with the interviewees. All school staff from school system A were interviewed as a group. Because this was a focus group, it is possible that the data is somewhat unclear. Sometimes people cannot think of concepts, words or ideas solely by themselves until others bring it to their attention. With a collective atmosphere, ideas come together. Also, some people disclose more information than others, some are quieter than others and some do not choose to voice certain opinions in front of crowds. People can feel nervous answering questions in a group and may not necessarily agree with a statement made, but might be too nervous or quiet to join in and make their point. Partial data on perceived trends may have been received because the interview offered glimpses of perspectives from all interviewees.

I interviewed special educators and school psychologists from both systems, however, I only interviewed one teacher from one school system. I could not compare the teacher to the other school system, which also contributes to partial data since there is only one view from a teacher. Also, I only interviewed nurses from one school system. Across the board, it is more beneficial to have a match in professions. Because school system B has low income families and is made up of a large portion of refugee families, there are cultural and economic biases such as programs and interventions already put in place to support and help the betterment of the community. In other words, this type of school system is not representative of an average school system in America, however,

school system A is more representative of America. The differences between school system A and B made for an interesting contrast and allowed me to look for differences and similarities in the patterns of perceived trends.

All the data is based on perspectives, therefore, subjectivity is high, and there is minimal objectivity. However, there are noticeable patterns and agreements in some perceived trends, which are noteworthy and meaningful. I also contribute to subjectivity by my interpretation of quotes from school staff. However, I have experience as an anthropology student, and have taken research methods, carried out a number of interviews, and have transcribed them. I feel confident in my transcriptions and staff are quoted on many accounts which validate my explanations and interpretations. I will not have time to member check each staff member, however, I will share my interpretations with school staff in a timely manner. School staff perceptions are important because they are on the front lines of ADHD, and their perceptions affect how they view and interact with children in their schools.

Future Research and Implications:

ADHD is an extremely important topic for discussion since the diagnosis directly affects many children, and health and school professionals. More than ten percent of children in the nation are diagnosed with this disorder and almost every clinician and psychologist come across this disorder. Adolescents and adults are also affected by this disorder as people – predominately males – are still diagnosed up until adulthood (Bruchmüller et al., 2012). Furthermore, ADHD diagnosis points out crucial issues related to the diagnostic accuracy and inaccuracy of clinicians and pediatricians. This topic reaches a larger level of discussion by addressing the problems surrounding the

DSM-V diagnostic criteria and the subjectivity observed by professionals using it. The DSM-V does not eliminate subjectivity from health professionals, but rather encourages a subjective approach to diagnosis (Bruchmüller et al., 2012). ADHD treatment is also seen as problematic since many children are overprescribed, and turn to just drug therapy instead of behavioral therapy or combined treatment (LeFever et al., 1999).

Because ADHD is becoming more commonly diagnosed among children – families, parents, and teachers are directly affected. School psychologists, therapists, educators, special educators, nurses, teachers, and of course parents are just as much involved with ADHD trends than psychiatrists and pediatricians. As psychiatrists and pediatricians evaluate for ADHD diagnosis, school professionals and parents interact with, teach and care for children on a daily basis. Many fields such as psychology, sociology, education and anthropology have researched ADHD and are in search for answers. However, questions will remain unanswered until more findings exceed the narrowly based quantitative research that fails to address social and cultural dynamics influencing the diagnostic process.

Research and school staff perceptions expose us to issues in ADHD symptoms, diagnosis and treatment. From looking at school staff perspectives, one can see the culture of ADHD within the schools. At a school building level, one can also see the culture of education. School perspectives expose us to the idea of teacher's lounge syndrome, which involves school staff blaming the parents. However, although the issue is discussed, there is not enough systematic research being done to find out what exactly is occurring in school systems and what is being done. Unfortunately, the

multidisciplinary part (education, anthropology, and psychology) is being lost in the educational bubble.

There are many remaining questions to address. What is contributing to this national difference in prevalence? Why is there an increase? How do educators, and school and health professionals view symptoms, diagnosis, and treatment in other parts of the country? In terms of the diagnosis process, do school staff have a baseline understanding of DSM criteria? Do their views of ADHD match up with DSM criteria? How do perceptions from local Vermont school staff compare to other staff views in other states, across the east coast and across the country? Predominately, psychology is the field that explains for most of the trends in ADHD. However, this is a cross-disciplinary topic as it covers psychology, education, and sociology. Future research needs to look at more approaches to and views of (from school and health professionals) ADHD symptoms, diagnosis and treatment. With this in mind, what are the next steps moving forward? How can school staff and health professionals solve these issues in ADHD symptoms, diagnosis and treatment?

It first starts with awareness. Once school staff are informed of the perceived trends of ADHD symptoms, diagnosis and treatment in their school, they can move forward with implementing programs, strategies, and a structural system for creating a better outcome for children. While I am no expert in the education field, I have worked with school staff long enough to see that there is sincere care and motivation behind helping children and what is in their best interest. The issue at hand is that usually ADHD only reaches a surface debate. By this, I mean that school and health professionals discuss the controversies or issues, and stop there. People refrain from making the effort to

change the system. While some schools predominately focus on behavioral programs and behavioral therapy, not all schools have the money, effort, and experience to provide effective therapy for students. The discouraging part is we are negatively affecting children long-term by not having effective therapies and programs put in place. One can only hope that soon enough we will be able to resolve the issues of overdiagnosis and overtreatment that influences, on average, up to 15% of children in the nation (Visser et al., 2010) and 10.9% of children in Vermont (Parritz and Troy, 2014).

Bibliography:

Baldwin, J. S., & Dadds, M. R. (2008). Examining alternative explanations of the covariation of ADHD and anxiety symptoms in children: A community study. *Journal of Abnormal Child Psychology, 36*(1), 67-79.

Brewis, A., Schmidt, K., & Meyer, M. (2000). ADHD-Type Behavior and Harmful Dysfunction in Childhood: A Cross-Cultural Model. *American Anthropologist*, *102*(4), 823-828.

Bruchmüller, K., Margraf, J., & Schneider, S. (2012). Is ADHD diagnosed in accord with diagnostic criteria? Overdiagnosis and influence of client gender on diagnosis. *Journal of Consulting and Clinical Psychology*, *80*(1), 128-138.

Carpenter-Song, E. (2009). Caught in the psychiatric net meanings and experiences of ADHD, pediatric bipolar disorder and mental health treatment among a diverse group of families in the United States. *Culture, Medicine and Psychiatry*, *33*(1), 61-85.

Conners, C. K., Epstein, J. N., March, J. S., Angold, A., Wells, K. C., Klaric, J., … Wigal, T. (2001). Multimodal treatment of ADHD in the MTA: an alternative outcome analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*, *40*(2), 159-167.

Danforth, S., & Navarro, V. (2001). Sampling the social construction of ADHD in everyday language. *Anthropology and Education Quarterly, 32*(2), 167-109.

Desgranges, M. K., Desgranges, L., & Karsky, K. (1995). Attention deficit disorder: Problems with preconceived diagnosis. *Child and Adolescent Social Work Journal*, *12*(1), 3-17.

DuPaul, G. J., & Stoner, G. (2014). *ADHD in the schools: Assessment and intervention strategies*, New York, NY: Guilford Publications.

Efron, D., Jarman, F., & Barker, M. (1997). Side effects of methylphenidate and dexamphetamine in children with attention deficit hyperactivity disorder: a double-blind, crossover trial. *Pediatrics*, *100*(4), 662-666.

Evans, S. W., Allen, J., Moore, S., & Strauss, V. (2005). Measuring symptoms and functioning of youth with ADHD in middle schools. *Journal of Abnormal Child Psychology*, *33*(6), 695-706.

Findling, R. L., Short, E. J., & Manos, M. J. (2001). Short-term cardiovascular effects of methylphenidate and adderall. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(5), 525-529.

Hawkins, L. L. (2003). Effects of stimulant medication on the social functioning and peer status of children with attention-deficit/hyperactivity disorder (ADHD). (Doctoral dissertation. University of Alabama.)

Jacobson, K. (2002). ADHD in cross-cultural perspective. *American Anthropologist*, *104*(1), 283-287.

Kessler, R., Adler, L., Barkley, R., Biederman, J., Conners, K., Demler, O., … Zaslavsky, AM. (2006). The prevalence and correlates of adult ADHD in the United States: Results From the National Comorbidity Survey Replication. *American Journal of Psychiatry:163,* 716-723.

Kovshoff, H., Vrijens, M., Thompson, M., Yardley, L., Hodgkins, P., Sonuga-Barke, E., & Danckaerts, M. (2013). What influences clinicians' decisions about ADHD medication? initial data from the influences on prescribing for ADHD questionnaire (IPAQ). *European Child & Adolescent Psychiatry, 22*(9), 533-542.

LeFever, G. B., Dawson, K. V., & Morrow, A. L. (1999). The extent of drug therapy for attention deficit-hyperactivity disorder among children in public schools. *American Journal of Public Health*, *89*(9), 1359-1364.

Lerer, R. J., Artner, J., & Lerer, M. P. (1979). Handwriting Deficits in Children with Minimal Brain Dysfunction Effects of Methylphenidate (Ritalin) And Placebo. *Journal of learning Disabilities*, *12*(7), 450-455.

Maxwell, Joseph A. "Qualitative Research Design: An Interactive Approach," Third Edition, London: Sage Publications, 2013.

Morgan, P., Staff, J., Hillemeier, M., Farkas, G., & Maczuga, S. (2013). Racial and ethnic disparities in ADHD diagnosis from kindergarten to eighth grade. *Pediatrics, 13(*85 -93).

Parritz, R. H., & Troy, M. F. (2014). *Disorders of Childhood: Development and Psychopathology Second Edition,* Belmont, CA: Wadsworth Cengage Learning.

Pelham Jr, W. E., Gnagy, E. M., Greiner, A. R., Hoza, B., Hinshaw, S. P., Swanson, J. M., … McBurnett, K. (2000). Behavioral versus behavioral and pharmacological treatment in ADHD children attending a summer treatment program. *Journal of Abnormal Child Psychology*, *28*(6), 507-525.

Pentecost, David, & Wood, Neil (2002). Knowledge and Perceptions of Child-Care Social Workers about ADHD. *The British Journal of Social Work*, *32*(7), 931-943.

Pfiffner, L. J., Barkley, R. A., & DuPaul, G. J. (1998). Treatment of ADHD in school settings. *Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment*, *2*, 458-490.

Posey, D. J., Aman, M. G., McCracken, J. T., Scahill, L., Tierney, E., Arnold, L. E., … McDougle, C. J. (2007). Positive effects of methylphenidate on inattention and hyperactivity in pervasive developmental disorders: an analysis of secondary measures. *Biological psychiatry*, *61*(4), 538-544.

Rahman, S., Robbins, T. W., Hodges, J. R., Mehta, M. A., Nestor, P. J., Clark, L., & Sahakian, B. J. (2006). Methylphenidate ('ritalin') can ameliorate abnormal risk-taking behavior in the frontal variant of front of temporal dementia. *Neuropsychopharmacology 31*(3), 651-658.

Rosenthal, A. (2013, December 18th). An epidemic of Attention Deficit Disorder: The opinion pages. *The New York Times.* pp. A38.

Rothermel, C. R. (2007). Differentiating the role of parenting stress within the parent-child relationship: a mediational and bi-directional model (Doctoral dissertation, Lehigh University).

Safer, D. J. (2000). Are stimulants overprescribed for youths with ADHD? *Annals of Clinical Psychiatry*, *12*(1), 55-62.

Safren, S. A., Lanka, G. D., Otto, M. W., & Pollack, M. H. (2001). Prevalence of childhood ADHD among patients with generalized anxiety disorder and a comparison condition, social phobia. *Depression and Anxiety, 13*(4), 190-191.

Scarnati, R. (1986). An outline of hazardous side effects of Ritalin (methylphenidate). *International Journal of the Addictions, 21*(7), 837-841.

Sciutto, M. J., & Eisenberg, M. (2007). Evaluating the evidence for and against the overdiagnosis of ADHD. *Journal of Attention Disorders, 11*(2), 106-113.

Sergeant, J., & Van, D. M. (1991). Ritalin effects and information processing in hyperactivity. *Ritalin: Theory and patient management,* (pp. 1-13). New York, NY: Mary Ann Liebert Publishers.

Skogli, E., Teicher, M., Andersen, P., Hovik, K., & Øie, M. (2013). ADHD in girls and boys – gender differences in co-existing symptoms and executive function measures. *BMC Psychiatry, 13*(1), 298.

Stevenson, J. (2000). Parental investment, self-control, and sex differences in the expression of ADHD. *Human Nature: An Interdisciplinary Biosocial Perspective*, *11*(4), 405-422.

Swanson, J., Wigal, S., Greenhill, L., Browne, R., Waslick, B., Lerner, M., &Cantwell, D. (1998). Objective and subjective measures of the pharmacodynamic effects of adderall® in the treatment of children with ADHD in a controlled laboratory classroom setting. *Psychopharmacology Bulletin, 34*(1), 55-60.

Szymanski, K., Sapanski, L., & Conway, F. (2011). Trauma and ADHD — association or diagnostic confusion? A clinical perspective. *Journal of Infant, Child & Adolescent Psychotherapy, 10*(1), 51-59.

Udal, A. H., Egeland, J., Øygarden, B., Malt, U. F., Lövdahl, H., Pripp, A. H., & Groholt, B. (2014). Differentiating between comorbidity and symptom overlap in ADHD and early onset bipolar disorder. *Developmental Neuropsychology, 39*(4), 249-261.

Van Steijn, D. J., Richards, J. S., Oerlemans, A. M., de Ruiter, S. W., van Aken, Marcel A. G., Franke, B., . . . Rommelse, N. N. J. (2012). The co-occurance of autism spectrum disorder and attention-deficit/hyperactivity disorder symptoms in parents of children with ASD or ASD with ADHD. *Journal of Child Psychology and Psychiatry, 53*(9), 954-963.

Visser, S., Bitsko, R., Danielson, M., & Perou, R. (2010). Increasing Prevalence of Parent-reported Attention-deficit/Hyperactivity Disorder among Children — United States, 2003 and 2007. *Morbidity & Mortality Weekly Report, 59*(44), 1439-1443.

Weber, K. S., Frankenberger, W., & Heilman, K. (1992). The effects of ritalin on the academic achievement of children diagnosed with attention-deficit hyperactivity disorder. *Developmental Disabilities Bulletin, 20*(2), 49-68.

Widiger, T. A., & Clark, L. A. (2000). Toward DSM—V and the classification of psychopathology. *Psychological bulletin*, *126*(6), 946.

Wozniak, J., Crawford, M. H., Biederman, J., Faraone, S. V., Spencer, T. J., Taylor, A., & Blier, H. K. (1999). Antecedents and complications of trauma in boys with ADHD: Findings from a longitudinal study. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*(1), 48-56.

Appendix:

Recruitment Script

Hello Mr. / Mrs. Surname,

My name is Charlotte Wonnell and I am currently a senior working on my thesis at the University of Vermont. I am inspired to write about school staff views of and approaches to ADHD in Vermont schools. My research study will describe perceived trends in ADHD symptoms, diagnosis, treatment and behavioral management seen among children from a local school-based perspective. I am looking to interview special education specialists, teachers, counselors, and nurses. I plan to conduct interviews at schools within the next month or so. If you or anyone you know is interested or has any further questions, please contact me at cwonnell@uvm.edu or 609-647-8888. You can also contact my thesis advisor and associate professor, Jeanne Shea. Her email is jeanne.shea@uvm.edu.

Hope to hear from you soon.

Thank you.

Best,
Charlotte

List of Interview Questions

1. What is your position/title? How many years have you been in this position? How many years have you been working at the school?

2. In your school or among the students you serve, what is the rough number of ADHD diagnosis? How many additional students without a diagnosis show signs of ADHD, in your opinion?

3. What kinds of symptoms and behavior do you see at your school that you associate with ADHD, whether or not a student has that diagnosis?

4. When you consider a student to show symptoms of ADHD, what are your next steps? (Do you contact someone? If so, who? How long do you wait to contact that person?)

What, if any, is your role in the diagnostic process? Do you get consulted in any way, if so, how?

5. The Diagnostic rating scale states, "each rating should be considered in the context of what is appropriate for the age of the children you are rating." What do you consider in thinking about age and context in flagging that ADHD might be an issue?

6. How do you find the rating scale? How useful is it? What are the pros and cons?

7. If you could add something to the scale or diagnosis process, what if anything, would you add and why? If you could take something out, what, if anything, would you take out and why?

8. How similar or different do you think your approach to ADHD is compared to other school staff? In what ways is it similar? In what ways is it different?

9. In terms of medication distribution at your school, who plays a role in dispensing ADHD medication to children? Who reminds the child to go take their medication? Who mainly administers the medication? As far as you know, does the medication appear to have an effect? What kinds of effects? Are the effects the same for all children?

10. As far as you know, what is the distribution of age and gender of the children on ADHD medication? As far as you know, what is the percentage of children on medication? What is the percentage of different kinds of medication?

11. In terms of treatment, how many students take medication alone? How many students use combined treatment (medication and therapy)? How many students just use behavioral therapy?

12. As far as you know, what kinds of behavioral treatments are used at your school (e.g. cognitive, behavioral and mindfulness strategies)? Of those behavioral treatments that are being used at your school, do you find them effective? Do some seem to be more effective than others? Does it vary by students, if so, how?

13. How do you find the effectiveness of medications alone, behavioral therapy alone and combined treatment?

14. [Teacher Questions]: How do you manage your classroom of non-ADHD students and ADHD students? If any, what techniques and strategies do you use? What do you find is the most challenging with classroom management? What do you find is the easiest with classroom management? Do you interact with any other school staff and/or family members of that student? If so, what does this interaction look like?

[SSS Questions]: Among ADHD students, what kinds of behavioral plans are used? How often are Individualized Education Plans used? As far as you know, what plan(s) do you find most effective and why? Do you interact with any other school staff and family members of that student? If so, what does this interaction look like?

[Counselor, Paraprofessional, and Nurse Questions]: What is your role in interacting with an ADHD student on a behavioral management plan? What does your daily interaction look like? Do you interact with any other school staff and family members of that student? If so, what does this interaction look like?

15. Any variation that you've noticed at your school in grade level, age, gender, race/ethnicity, or socio-economic status with symptoms, diagnosis, treatment and behavioral management? If so, what? Why do you think that is?

16. What kinds of trends over time have you noticed with regard to ADHD symptoms, diagnosis, treatment and behavioral management? Why do you think that is?

17. Do you have any school literature on information that you could share about ADHD at your school? If not, what would be the protocol for requiring access at your school? Who would be the best person to contact?

18. Anything else you think is important for me to know? How did the interview go? Do you have any suggestions for improvement?

Thank you very much for taking time to talk to me. I greatly appreciate it.

Information Sheet

Title of Research Project: Perceived Trends in ADHD Symptoms, Diagnosis, Treatment and Behavioral Management in Vermont Schools
Principal Investigator: Charlotte Wonnell

Faculty Sponsor: Jeanne Shea

Sponsor: University of Vermont and Department of Anthropology

You are being invited to take part in a research study because you are a licensed school faculty member in Vermont. This study is being conducted by a student at the University of Vermont.

You are encouraged to ask questions and take the opportunity to discuss the study with anybody you think can help you make this decision.

Why is This Research Study Being Conducted?
The purpose of this study is to explore school staff views of and approaches to ADHD in Vermont schools and will describe perceived trends in ADHD symptoms, diagnosis, treatment and behavioral management from a local, front-line perspective.

How Many People Will Take Part In The Study?
Between twelve to twenty school staff in the Chittenden County will take part in this study.

What Is Involved In The Study?
You are being asked to answer questions on the subject of ADHD symptoms, diagnosis, treatment and behavioral management. The interview will approximately take 45 minutes to an hour.

What Are The Risks Of The Study?
Everything possible will be done to protect information. The risks associated with being in this study are minimal. While there is a risk that confidential information might accidently be exposed, many steps will be taken to carefully guard your confidentiality. All contact information, recorded tapes and any other identifiable information will be in a secure locked cabinet. All identifiable information will be coded within a week of each interview and the coded information will be on a secured laptop and a secure university server with password protection. By May 30th, all contact information, recorded tapes and any other identifiable information will be disposed of by shredding papers and erasing recordings.

What Are The Benefits of Participating In The Study?

There may be no direct benefit to you for your participation. However, others may benefit by understanding the perceived trends of ADHD from a local perspective which can help add to qualitative research in the literature.

What Other Options Are There?
The only other option is not participate.

Are There Any Costs?
There is no cost to you other than your time.

What Is the Compensation?
You will not be compensated for your participation in this study.

Can You Withdraw From This Study?
You may discontinue your participation in this study at any time. Once you stop participation, then the information that has been collected will be discarded.

What about Confidentiality?
All research information will be kept in a confidential folder on my laptop that is secured with a UVM server password and stored in a locked space. Investigator Charlotte Wonnell and the faculty advisor, Jeanne Shea, will maintain the security of your information. The results of this study may eventually be, published but your confidentiality will be maintained. Your name, school name, or any other identifying information will not appear in any publication.

Contact Information
You may contact Charlotte Wonnell, the Investigator in charge of this study, at cwonnell@uvm.edu, for more information about this study. If you have any questions about your rights as a participant in a research project you should contact Nancy Stalnaker, the Director of the Research Protections Office, at the University of Vermont at 802-656-5040.

Statement of Consent

Now that you have read a summary of this research study, should you have any further questions about the research, please contact Charlotte Wonnell's address and telephone number given below. Your participation is voluntary and you may refuse to participate or withdraw at any time without penalty or prejudice.

If you agree to participate in this study, please indicate "yes I agree." This will be considered your verbal consent to participate in this study.

_____

_____

Name of Principal Investigator: Charlotte Wonnell
Address: 307 Pearl St Apt #1, Burlington VT 05401

Telephone Number: 609-647-8888

Name of Faculty Sponsor: Jeanne Shea
Address: 515 Williams Hall, Burlington, Vermont 05405
Telephone Number: 802-656-3884