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**Educational video impact on preservice teacher knowledge,
opinions, and referral attitudes regarding Attention-Deficit/
Hyperactivity Disorder**

Brandon Shane Davis

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EDUCATIONAL VIDEO IMPACT ON PRESERVICE TEACHER KNOWLEDGE,
OPINIONS, AND REFERRAL ATTITUDES REGARDING
ATTENTION-DEFICIT/HYPERACTIVITY
DISORDER

By

Brandon Shane Davis

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Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Master of Science
in Clinical Psychology
in the Department of Psychology

Mississippi State, Mississippi

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EDUCATIONAL VIDEO IMPACT ON PRESERVICE TEACHER KNOWLEDGE,
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ATTENTION-DEFICIT/HYPERACTIVITY
DISORDER

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Educators' knowledge of and attitudes towards Attention Deficit/Hyperactivity Disorder (ADHD) vary. Still, teachers serve a crucial role in the diagnostic and referral processes regarding ADHD in children. Educational videos on ADHD aim to develop or alter viewers' knowledge and attitudes. This study investigated the impact of two different videos on preservice teacher knowledge, opinions, and referral tendencies for ADHD children. One video was consistent with a medical model, multi-disciplinary approach to understanding ADHD while the other video provided a critical and ultimately negative review of the diagnostic category and its application. Results indicated that preservice teacher knowledge, opinions and referral attitudes were impacted by the type of video they viewed. Specifically, preservice teachers viewing the video with a decidedly negative stance on ADHD had reduced willingness to endorse referral options for a child. Notably, their opinions about the usefulness of stimulant medication for the disorder became more negative.

DEDICATION

This research is dedicated to my parents, Bill and Joy Davis. I would not have been able to accomplish this without their unwavering support.

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CHAPTER I

INTRODUCTION

Attention-Deficit/Hyperactivity Disorder (ADHD) is the most commonly diagnosed childhood psychiatric disorder, affecting three to five percent of school-age children, (Snider, Busch, & Arrowood, 2003). Youths with the disorder comprise up to 50% of the child psychiatry clinic population (Leslie, Weckerly, Plemmons, Landsverk, & Eastman, 2004). The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR*; American Psychiatric Association, 2000) states that a child with ADHD presents “a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development (p. 85).”

The construct of Attention-Deficit/Hyperactivity Disorder has evolved over the years. Hyperkinetic Reaction of Childhood was originally introduced in the second edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-II*; APA, 1968). *DSM-III* (APA, 1980) renamed the disorder Attention Deficit Disorder (ADD) and distinguished between two subtypes: ADD with Hyperactivity (ADD/H) and ADD without Hyperactivity (ADD/WO). The *DSM-III-R* (APA, 1987) reconceptualized the disorder as a unidimensional syndrome and used the term Attention-Deficit Hyperactivity Disorder (ADHD). *DSM-III-R* also created a category termed Undifferentiated Attention

Deficit Disorder (UADD). The label was used to identify children with Attention Deficit Disorder with Inattention only (ADDI). Thus, a differential diagnosis between children with hyperactivity and without hyperactivity was supported by the *DSM-III-R* (Stormont, Stebbins, & McIntosh, 1999). The current criteria for diagnosing Attention Deficit/Hyperactivity Disorder are contained in the *DSM-IV-TR*. The most notable change in the current criteria is the distinction between hyperactivity and inattention within the AD/HD category. *DSM-IV-TR* creates subtypes for ADHD which include ADHD Predominately Hyperactive-Impulsive Type (ADHD/HI), ADHD Predominately Inattentive Type (ADHD/I), and ADHD Combined Type (ADHD/C). According to the *DSM-IV-TR*, a diagnosis of ADHD is obtained by meeting six of nine inattentive symptoms or six of nine hyperactivity-impulsivity symptoms for at least six months. Concurrently, the child must present impairment in two or more settings (i.e., school and home) and some of the symptoms causing impairment must have been present before age seven. The construct presented in the *DSM-IV-TR* leads to a more heterogeneous group, with one category covering all types of attention deficits (i.e., inattentive, hyperactivity, or both). Consequently, the category lumps together a wide-ranging collection of temperament and behavioral variations (Carey, 1999).

A broad all-encompassing label, such as the one used in the *DSM-IV-TR*, can be misleading by suggesting that members of the category express similar behaviors. To the contrary, researchers have found that children with attentional deficits with hyperactivity-impulsivity have more externalizing problems, whereas children with attentional deficits without hyperactivity-impulsivity have more internalizing problems (Barkley, DuPaul, &

McMurray, 1990; Lahey & Carlson, 1991). Specifically, children with hyperactivity-impulsivity were more likely to be aggressive, impulsive, distractible, active, and have conduct problems (Walker, Lahey, Hynd, & Frame 1987). Children without the hyperactivity-impulsivity component were more shy, withdrawn, sluggish, anxious, depressed, and likely to exhibit academic difficulties (Stanford & Hynd, 1994).

Further complicating the diagnostic utility of the current ADHD construct is the high rate of comorbidity with other mental disorders. Nearly one third of children with ADHD have at least one coexisting disorder (Agency for Health Care Policy and Research, 1999). The most common comorbid disorder is Oppositional Defiant Disorder (ODD) with 35.2% of children with ADHD also meeting the criteria for ODD, followed by Conduct Disorder (CD) at 25.7%, anxiety disorders at 25.6% and depression at 18.2% (Agency for Health Care Policy and Research). Comorbidity can cause the ADHD symptoms to become overshadowed by the more disruptive and defiant behavior characteristic of ODD and CD. Consequently, ADHD symptoms can be overlooked causing more difficulties with school work and social development (Biederman, Newcorn, & Sprich, 1991). If a child has ADHD with a coexisting disorder, difficulty lies in the decision about which symptoms to treat first.

Gender differences in the diagnosis of ADHD have also been evident. Boys are consistently diagnosed more frequently than girls regardless of the population sampled (American Psychiatric Association, 2000). However, considerable differences in the ratio of boys to girls exist between clinical samples (referred) and nonclinical samples (nonreferred). The ratio of boys to girls diagnosed with ADHD in clinical samples ranged

from 6:1 to 9:1 whereas ratios in nonclinical samples ranged from 2:1 to 3:1, indicating that boys are being disproportionately referred for ADHD as compared to girls (Gershon, 2002). Gaub and Carlson (1997) attribute the discrepancy to the behaviors expressed by boys identified with ADHD. Boys with ADHD typically exhibit higher levels of aggressive and disruptive behavior, which teachers find more troublesome and stressful than classroom behaviors exhibited by girls (Biederman et al., 2002; Scitutto, Nolfi, & Bluhm, 2004). Girls with ADHD tend to exhibit lower levels of disruptive behaviors and higher levels of inattentiveness and internalizing problems, which are less likely to disrupt the classroom and more likely to be overlooked (Biederman et al.; Gaub & Carlson, 1997).

Stimulant Medication in the Treatment of ADHD

Currently there is no independent valid diagnostic instrument for the assessment of ADHD. For example, ADHD cannot be definitely diagnosed through a single neurological and physiological screening method such as Magnetic Resonance Imaging (MRI), computerized axial tomography (CAT) and electroencephalogram (EEG) (Agency for Health Care Policy and Research, 1999; Carey 1999). However, some evidence for differences in neural activity between ADHD children and children without ADHD on response inhibition tasks is emerging (Suskauer et al., 2008). Although at this time, ADHD cannot be conclusively attributed to a specific brain malfunction.

Despite the lack of overwhelming empirical evidence linking ADHD etiology to brain chemistry, one of the major modes of treatment currently employed is the use of

central nervous system (CNS) stimulants to treat ADHD symptoms. The use of stimulant medication to treat ADHD began in the 1960s after research showed beneficial results on classroom behavior in hyperactive boys. The following three decades witnessed an explosion of medication treatment for ADHD. The number of children treated with stimulant medication for ADHD rose from 300,000 in 1974 to 750,000 in 1988 to 1.5 million in 1995 and to 2.5 million in 2005 (CDC, 2005; Safer & Zito, 1999). Safer, Zito, & Fine (1996) also reported a 2.5 fold increase in methylphenidate (Ritalin) prescriptions for adolescents from 1990 to 1995.

A number of reasons have been presented to account for the dramatic increase in psychostimulant therapy. First, the number of females receiving an ADHD diagnosis has increased. The ratio of males to females receiving stimulant medications for ADHD in a school sample changed from 6:1 in the early 1980's to 3.5:1 in 1997 (Safer & Zito, 1999). Second, the duration of medication treatment has increased. Stimulant medication was mainly prescribed to children in elementary school during the 1970's. At that time, it was believed that the benefits of stimulant medication were lost by the time a child reached the teenage years; this is no longer the case. In 1997, a sample from the Baltimore school system showed that the middle school had the same rate of stimulant medication for treatment of ADHD as its elementary school (Safer, 1997; Safer & Krager, 1994). Third, the increase in stimulant medication may be related to societal perceptions and advertising. Our culture has had an increased acceptance of the use of psychotropic medications to improve mood and performance (Schmitz, Filippone, & Edelman, 2003). Such acceptance has led to a more favorable environment for

medication treatment for ADHD. Finally, advertising and positive media coverage could also play a role. In the 1990's, an aggressive and broad-based advertising campaign marketed the use of Adderall for the treatment of ADHD, subsequently increasing the drug's market share (Safer & Zito). In 1997, approximately one million prescriptions were made for Adderall, a six-fold increase from the previous year (Safer & Zito, 1999).

Frankenberger and Cannon (1999) stated two primary reasons for the increased use of stimulant medication for the treatment of children diagnosed with ADHD. First, because most children with ADHD are inattentive, a treatment that increases attention to school tasks while lowering children's level of impulsivity should result in an increase in overall scholastic achievement. Second, children who display hyperactive and impulsive behavior may be disruptive to the classroom environment, interfering with their own and other children's ability to learn. A treatment that reduces the disruptive behavior would prove beneficial. However, the effects of stimulant medication on academic achievement are indirect. For the most part, there is no clear evidence that stimulant medication alone increases a child's academic achievement (Snider et al., 2003). Some research has shown that children treated with stimulants do not improve in academic achievement; but instead, they drop further behind (Frankenberger & Cannon, 1999). Specifically, Ritalin was not found to have significant positive effects on children's academic performance (Alto & Frankenberger, 1994; Barkley & Cunningham, 1978).

Generally, stimulant medication has shown some short-term positive effects on classroom behavior of children with ADHD (Snider et al., 2003). Behaviors of children with ADHD might not return to completely normal, but a reduction in the behaviors'

intensity may be achieved. However, children with ADHD who receive stimulant medication continue to have more problem behaviors than average children. According to teacher reports, children receiving stimulant medications were more appropriate in social situations and showed a decrease in the number of disruptive behaviors (Borgschatz, Frankenberger, & Eder, 1999). Given that such a large number of children are being diagnosed with ADHD and that a significant proportion of these children are treated with medication, it is imperative that teachers have sufficient knowledge of diagnostic implications and treatment effects.

Teacher Knowledge of ADHD

Relatively few studies have examined teacher's overall knowledge of ADHD. Kos, Richdale, and Jackson (2004) reported an average score of 60.7% by inservice teachers on a teacher knowledge questionnaire about ADHD. For instance, teachers were asked true/false questions such as: "If medication is prescribed, educational interventions are often unnecessary" (Kos et al., 2004). Teachers would then respond to the item as True, False, or Don't Know. In similar studies, 77.5% (Jerome, Gordon, & Hustler, 1994) and 47.8% (Sciutto, Terjesen, & Bender-Frank, 2000) of teachers provided the correct answers, indicating a high degree of variability in teacher knowledge of ADHD. Such discrepancies could be attributable to differences in methodology, but also indicate that more research is needed to clear up inconsistencies. Kos et al. also compared ADHD knowledge between in-service teachers (teachers who have graduated and are current primary classroom teachers) and preservice teachers (teachers who have not graduated

from college). The results indicated that inservice teachers had a higher average score on actual knowledge items than preservice teachers. Preservice teachers were found to have an average knowledge score of 52.6% whereas inservice teachers' average knowledge score was 60.7% (Kos et al.). Inservice teachers also provided higher ratings of their own knowledge of ADHD compared to self-rating provided by preservice teachers (Kos et al.).

Several other factors have been shown to influence teacher knowledge of ADHD. As suggested by the Kos et al. (2004) study, teaching experience has been shown to positively affect ADHD knowledge (see also, Jerome et al., 1994; Sciotto et al., 2000). In general, a higher number of years teaching resulted in higher scores on tests of ADHD knowledge. In addition, past classroom exposure to children with ADHD influenced teacher knowledge of ADHD. Teachers who had prior exposure to children with ADHD in the classroom scored significantly higher on total knowledge tests than teachers without prior exposure (Sciotto et al., 2000). More specifically, the actual number of children with ADHD taught by the teacher was positively associated with ADHD knowledge.

Considering that teachers are key contributors in the ADHD assessment process, their possessing a sound understanding and knowledge of the disorder is crucial for establishing reliable diagnoses. Past methods of assessing childhood psychopathology often relied on a single informant to obtain all clinically relevant information and form the basis for a particular diagnosis (i.e., parent self-report, interview with child). However, modern practice standards require clinicians to include information from

multiple sources such as teachers, parents, and with older children, the referred children themselves (Loeber, Green, & Lahey, 1990). A multiple informant assessment is ideal because each informant provides unique aspects of a child's behavior which can be synthesized into a comprehensive view of the child. Although multiple informants are preferred, teacher's ratings are considered to be more useful than a child's rating of their own behavior or than a parent rating of a child's behavior (Loeber et al.). Classroom teachers are considered one of the most valuable sources of information regarding diagnosis of a child because they have daily exposure to behavior in a clinically relevant situation (Pelham, Evans, Gnagy, & Greenslade, 1992) and because teachers have a broad sample underlying their judgments of normative and nonnormative behaviors.

Teachers may play their most pivotal role before a diagnosis has been made given the sequence of events reported from studies examining ADHD referral patterns. Teachers have been shown to initiate between 40 and 75% of all ADHD referrals (Sciutto et al., 2004; Snider et al., 2003). Children who are evaluated for ADHD are identified because of behavioral and academic performance in the classroom. It is common that teachers first become aware of the child's difficulty maintaining the behavioral, academic and attentional norms for the classroom and subsequently suggest the possibility of ADHD to parents. Parents, concerned over their child's academic and behavioral performance, follow up with a visit to a physician. Referred students are frequently diagnosed with ADHD by the physician based on the parent and teacher reports (Pearcy, Clopton, & Pope, 1993; Runnheim, Frankenberger, & Hazelkorn, 1996). Problems occur because researchers have shown that teachers sometimes provide inaccurate or

inappropriate advice to parents of children with ADHD, and parents frequently follow that advice even if it leads to faulty conclusions about the child's symptoms (DiBattista & Shepherd, 1993).

The impact of various efforts to train educational professionals and parents concerning ADHD has not been systematically studied. Prior to studying the effects of educational materials on teachers' knowledge, opinions, and openness to referring children with ADHD symptoms, a methodology is needed to validly assess target variables. Pritchard (2008) conducted a study with psychology undergraduate participants in which she provided participants with exposure to one of two ADHD educational videos. The first video was an education video hosted by biologically oriented family practitioners (Mark Wolraich, M.D. and Donald B. Middleton) which promoted integrative treatment techniques (with a detailed emphasis on pharmacological interventions) for children with ADHD. The second video was hosted by a neurologist (Fred Baughman, M.D.) who presented a critical analysis of the commonly accepted notion that ADHD is a biologically based disorder that should be treated with medication. After viewing these videos, students' knowledge about ADHD did not improve. However, the opinions toward the acceptability of medication based treatment became more conservative for the group viewing the video that openly criticized the biological basis for the disorder. When asked if they would support a referral for cases presented in vignette form after the videos, there was no significant difference between those who watched the two videos. Pritchard's interpretation was that the videos were not powerful enough to motivate a change in her sample's willingness to participate in processes that

may end up “medicalizing” children’s symptoms. Specifically, the Baughman video was persuasive enough to negatively affect favorable opinions towards ADHD, but, again, the opinion change was not sufficiently powerful to embolden participants to alter their own willingness to participate in making a referral of a child with ADHD type symptoms for a formal evaluation by experts. Pritchard’s study is important in that it examines the effects of educational videos on students (who may one day be parents) and factors affecting their attitudes towards referring children for formal evaluation and integrated/pharmacological interventions. Unfortunately, no study to date has systematically examined the impact of viewing educational videos on the factors contributing to preservice or inservice teachers’ willingness to refer children for ADHD evaluations.

Purpose of Study and Expected Findings

Teachers’ lack of knowledge of ADHD and their central role in referral and diagnosis suggests that efforts to educate teachers may ultimately lead to improved professional decision-making (e.g., assessing symptomology and deciding on whether to support further evaluation for ADHD) and better outcomes for children. Lack of teacher knowledge about ADHD has been identified as one of the biggest obstacles in providing adequate services to children with ADHD (Shapiro & DuPaul, 1993). The current study assessed the impact of video content on preservice teachers’ knowledge, opinions, and referral attitudes regarding ADHD.

Teachers were shown one of two videos used by Pritchard (2008). The first video presents the perspective that ADHD can best be treated from a medically supervised, integrative approach (American Academy of Family Physicians, 2002). The title of this video is “Diagnosis and Management of Childhood ADHD in the Family Practice” (Pro-ADHD). Conversely, the second video is hosted by a neurologist (Baughman, 1999) who scrutinizes the scientific basis for the medicalization (e.g., diagnosis and treatment) of ADHD symptoms - indeed questioning the very existence of the disorder and ultimately accusing the pharmaceutical companies of teaming with primary care clinicians to perpetrate a money-making hoax on unsuspecting people whenever children struggle in school. The title of this video is “ADHD- 100% Total Fraud” (Anti-ADHD). After viewing one of the videos, teachers completed questionnaires concerning their knowledge, opinions and referral attitudes toward ADHD. Considering that preservice teachers will soon be employed within the education system and will likely encounter students with ADHD symptomology, it was important to assess the accuracy and malleability of teachers’ knowledge and opinions about ADHD (Kos et al., 2004).

The current study measured the impact of educational videos on preservice teachers’ knowledge, opinions and willingness to refer a child for ADHD. Consistent with the previous research, it was expected that preservice teachers would be more willing to refer a child who exhibits more hyperactive-impulsive symptoms, as described in a vignette, than a child who exhibits primarily inattentive symptoms. This pattern was anticipated to remain constant regardless of the video presented. As a group, preservice teachers who viewed the Pro-ADHD video were expected to be more willing to refer a

child for an ADHD evaluation than preservice teachers viewing the Anti-ADHD video. The tendency to refer a child with hyperactive-impulsive symptoms was expected to reach peak levels for preservice teachers viewing the Pro-ADHD video. Conversely, preservice teachers viewing the Anti-ADHD video were expected to be less likely to refer a child for ADHD symptoms. The group least likely to make a referral for a child should be preservice teachers concurrently presented with a vignette describing a child with primarily inattentive ADHD symptoms and viewing the anti-ADHD video. Thus, a significant interaction between video type and ADHD subtype on referral recommendations was expected.

CHAPTER II

METHOD

Participants and Design

Preservice teachers taking any of the 5 sections of the “Psychology of Exceptional Children and Youth” course offered in the College of Education at a major Southeastern university were asked to participate during a class period selected by their instructor. A total of 160 students were eligible based on having attended class that day. Of this number, 22 students requested that their data not be used and 21 students provided responses that were inconsistent with the requested format (e.g., providing True/False answers to items requesting a Likert rating or vice-versa). This left 117 participant records eligible for data analysis. All participants completed an informed consent procedure as approved the Mississippi State University Institutional Review Board for Human Subjects Research (see Appendix A).

Materials

Demographics Survey

All participants were asked to provide their age, gender, race, and year of study in school (see Appendix B).

Prior Exposure to ADHD

The 14-item true or false questionnaire asked the participants to indicate their previous exposure to ADHD through media sources and everyday experience (see Appendix C). Additionally, participants were asked to identify if either they, an immediate family member or close friend, or another person they knew had ever been diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD), and whether any of these individuals had been treated with medication. Finally, participants were asked to identify if these ADHD individuals had any negative side effects from the medication and if treatment was considered successful.

Knowledge Regarding ADHD

The 10 cm line scale (Kos et al., 2004) was developed to indicate participant's perceived knowledge of ADHD (see Appendix D). The scale is anchored so that 0 cm indicates "Very Little" and 10 cm indicates "A Lot." Participants were asked to "place a cross on the part of the line that best represents how much you know about ADHD." Due to an initially undetected word-processing problem, the actual length of the line in this study was 7.0 cm. This did not affect the use of the scale as we simply multiplied our responses by .7 to obtain equivalent responses.

Specific Knowledge Items Regarding ADHD

Two separate knowledge scales were used to assess knowledge of ADHD symptoms and characteristics. Specific Knowledge Items Regarding ADHD Section A (Kos et al., 2004) contained 27 True/False items (see Appendix E). Specific Knowledge

Items Regarding ADHD Section B (Snider et al., 2003) contained 13 items that were answered using a five point Likert-type scale (1 = strongly disagree; 3 = neutral/don't know; 5 = strongly agree) (see Appendix F). Part B includes 13 items that were developed based on conclusions offered in the 1998 National Institutes of Health Consensus Statement concerning Attention Deficit/Hyperactivity Disorder. No psychometric properties were presented by the authors for these scales. Scores were designed to be translated to true (answering a 4 or 5) and false (answering a 1 or 2) for scoring purposes. The sum of correct responses for each section was calculated separately. Section B was tabulated separately based on the true/false recodes.

Opinions Regarding ADHD

The 23-item scale (Snider et al., 2003) measures opinions regarding ADHD using a Likert-type scale (1 = strongly disagree to 5 = strongly agree) (see Appendix G). For instance, teachers used the scale to rate the following statement: Taking stimulant medication helps students diagnosed with ADHD improve their cognitive and language functioning in the long run. No psychometric properties were presented by the authors for this scale. Responses to items 1-11 were summed to create a more psychometrically sound index of participants' opinions regarding stimulant medication. These items were chosen specifically for their stimulant medication content and allowed for an analysis of how helpful participants believed stimulant medications are in the treatment of ADHD. The items were statements concerning the perceived effectiveness and therapeutic benefit of stimulant medication in the treatment of ADHD.

Videos

Two videos were used as the primary experimental stimuli (see Appendix H). Video 1 served as the Pro-ADHD video and is titled “Diagnosis and Management of Childhood ADHD in the Family Practice” (American Academy of Family Physicians, 2002). The video was sponsored by the McNeil Pharmaceutical Company and distributed through the on-line continuing education section of the Association of Family Practitioners’ web site. The video is hosted by two family practitioners, Dr. Mark Wolraich and Dr. Donald B. Middleton. The video states other credentials for Dr. Wolraich as a CMRI (Children’s Medical Research Institute)/Shaun Walters Professor of Pediatrics and the Director of the Child Study Center at the University of Oklahoma Health Science Center in Oklahoma City, Oklahoma and for Dr. Middleton as the Professor of Family Medicine at the University of Pittsburgh Medical Center (UPMC) at St. Margaret and the Vice President of Family Practice Education in Pittsburgh, Pennsylvania. The video is approximately 36 minutes in length.

Video 2 served as the Anti-ADHD video and is titled “ADHD: 100% Total Fraud” (Baughman, 1999). It was produced and narrated by neurologist Fred Baughman. The video states Dr. Baughman has been a neurologist in private practice for 35 years and is a Fellow of the American Academy of Neurology. The video was edited from 59 minutes to 39 minutes to ensure the videos were closer to one another in length. Edits made included the exclusion of any material that Video 1 did not present to make the videos more equivalent (Pritchard, 2008).

Video Quizzes

Quizzes were designed for use as a manipulation check to ensure that participants comprehended key points from the videos (see Appendix I). The 10 item quiz for the pro-ADHD video was taken from the on-line Continuing Education Units quiz posted for professionals visiting that site. The 10 item quiz for the anti-ADHD video was constructed to be similar in format. Data from participants who scored less than 70% on a video quiz were going to be separated during analysis. As discussed below, this proved to be much too high a criterion for either video quiz.

Vignettes

Short vignettes adapted from cases presented in Kearney (2006) and Oltmanns, Neale, and Davison (1999) presented the symptomology of one child (“Rick;” see Appendix J). The child is described in an unambiguously worded vignette that uses symptom language taken directly from the American Psychiatric Association’s *DSM IV-TR* (APA, 2000) in describing ADHD symptoms. The language was used so that it would be clearly sufficient to a reader that the child met diagnostic thresholds for an ADHD diagnosis (i.e., in one vignette, “Rick” presents with 7 symptoms for ADHD Predominately Hyperactive-Impulsive subtype and in the other vignette “Rick” presents with 7 symptoms for ADHD Predominately Inattentive subtype – the symptom descriptors in the vignettes were identical to the symptom descriptors in the questions asked of participants concerning the presence/absence of key symptoms). The vignettes are distinguished by current ADHD subtypes and will allow for any possible differences

to be seen in willingness to refer a child based on the nature of the child's presenting symptoms (Hyperactive/Impulsive versus Inattentive subtypes).

Vignette Evaluation Form

After reading the vignettes, participants were asked to complete a response form (see Appendix K). Participants answered questions designed to assess the pre-teachers' perceptions of ADHD symptoms, the potential value of making a referral for an ADHD assessment, and possible medication treatment for the cases being described. Ratings for all referral items were based on Likert scale (1= definitely no to 7 = definitely yes). To ensure that participants read the vignettes, several non-ADHD related questions were developed about the vignettes for this study. Data from participants who missed key information from the vignettes were evaluated for possible exclusion from follow-up analyses.

Procedure

Participants were randomly assigned to view one of the two videos (Pro-ADHD video, Anti-ADHD video). Each class of preservice teachers was divided randomly into two separate groups so that half of each class saw each video. Students in five sections of EDX 3213 "Psychology of Exceptional Children and Youth" were invited to participate. Video presentation occurred in two separate classrooms.

Once participants reached their respective classroom, they were subdivided by vignette presentation. Approximately half of all participants received the vignette describing a child with symptoms resembling that of ADHD Predominately

Hyperactive/Impulsive Type and the remaining half received the vignette describing a child with symptoms resembling that of ADHD Predominately Inattentive Type. The vignettes were distributed randomly by alternating the placement of vignettes to each desk in the classroom. Having the materials already placed on each desk prior to participants arriving ensured randomization for the order of test materials and allowed for efficient use of time. Thus, each participant was first randomly assigned to one of the video groups and then subsequently randomly assigned to one of the vignettes.

In each group, the participants entered the room and completed the informed consent procedure before continuing with the study. A brief announcement was made to state the length of the study and to provide instructions for completing the questionnaires. After the instructions were given, participants filled out the demographics questionnaire, the knowledge measures, and the opinions measure. The participants were then asked to read the vignette and complete the vignette evaluation form. Participants then inserted these measures into the provided folder. After this was completed, either the Anti-ADHD video or the Pro-ADHD video was shown. Following the video, the participants were asked to take a short quiz designed to ensure that they were paying attention to the material. The quiz was handed out prior to video presentation to allow participants opportunities to find correct responses while watching the movie. Note that the quiz was not designed to be used as a measure of knowledge but rather as a manipulation check for whether participants attended to the videos. The participants were then given the same vignette they had before the video and the corresponding video quiz. Following the vignettes, they were once again asked to complete the knowledge measures, opinion

measures and the Vignette Evaluation Form. Finally, the participants were debriefed following the debriefing script (see Appendix L).

CHAPTER III

RESULTS

A 2 Video type (Pro-ADHD, Anti-ADHD) x 2 Vignette type (ADHD Predominately Hyperactive-Impulsive, or ADHD Predominately Inattentive subtype) between-subjects factorial design was used. Each participant received one level of the between groups measure (Video type) and one level of the within groups measure (Vignette type). Participants were randomly assigned to one of these four groups. The groups differed based on which video was presented and which of the vignettes was presented for evaluation. Dependent measures included pre and post video scores obtained from knowledge measures, opinion measures, and responses to ADHD diagnostic and referral items contained in the Vignette Evaluation Form (VEF).

Manipulation Checks

Video quizzes and Vignette Evaluation Form items 1-4.

Initially, the study was designed with two separate manipulation checks to ensure the integrity of the data obtained. First, a video quiz score of less than 70% was intended to exclude participants who might not have paid close attention to the video. Second, correct answers to the first four items from the Vignette Evaluation Form (VEF) was to

be evidence that participants read the vignette carefully enough to make relevant judgments on the critical referral and diagnosis items that followed.

The video quiz results were not as useful as intended. The quiz for the Pro-ADHD video was taken directly from the American Academy of Family Physicians website as part of a continuing education module. The mean percentages of correct responses for the Pro-ADHD video quiz were 44% for the pretest and 48% for the posttest. After viewing the sub par total scores from the quiz, a review of individual quiz items was conducted. Once this was complete, several reasons were found supporting the conclusion to discard low scores on the video quiz as an exclusion criterion for potential participants in the study. First and foremost, the Pro-ADHD quiz was developed for practicing physicians and related healthcare professionals. Prior to the study, the questions did not appear to the author or advising professor as overly difficult, however the quiz clearly targeted a level above the comprehension of preservice teachers at the undergraduate college level. The content of the quiz contained specific information that would require (or at least greatly benefit from) pre-existing knowledge of ADHD and psychological disorders in general. Secondly, some of the items on the quiz were not directly mentioned in the video and appear to test healthcare professionals' ability to integrate the video module material with preexisting knowledge.

The Anti-ADHD video quiz was created by Prichard (2008) and had separate issues. The mean percentages of correct responses for the Anti-ADHD video quiz were 49% for the pretest and 64% for the posttest. On the positive side, the items from the quiz are explicitly stated during the video. However, the content of the items may have been

more difficult than expected for our undergraduate preservice teachers, perhaps because the items were developed by a graduate student with considerable background in the subject area. With that in mind, preservice teachers could have taken away more broad and general information discussed in the video but that was not documented by the quiz items.

Another issue with both video quizzes was that excluding preservice teachers based on their response to difficult quizzes would have resulted in a much smaller and less representative sample of preservice teachers. This would have negatively impacted the external validity of the study's results. In summary, the video quiz was not used as an exclusion criterion based on the aforementioned reasons.

The Vignette Evaluation Form was intended to measure whether preservice teachers read the vignettes used in the referral portion of the study. The first four items from the Vignette Evaluation Form were designed to test whether participants carefully read the vignette. The vast majority of participants did answer these items correctly. Five participants did miss multiple items, at either pretest or posttest, concerning simple demographic information about the child described in the vignette (i.e., age, school setting, and grade level). These participants' records were individually reviewed for signs of random responding. No other indications of compromised participation were observed. Upon careful consideration, it was deemed prudent to err on the side of protecting external validity by including the data of these subjects. Being that this was how these particular preservice teachers responded, all of their data was retained for analysis on the

basis that the generalizability of our results would be reduced if the participants were excluded.

Participant self-exclusion and incorrect answer format.

Participant data were excluded from the study for two separate and unpredicted reasons. The first reason participants might have been excluded was due to the fact that our sample was a captive audience from the five “Psychology of Exceptional Children and Youth” course sections being offered in the Fall 2007 semester. The potential participants were a “captive audience” in the sense that they were invited to allow use of their responses from a class exercise (i.e., viewing a video on ADHD) – their class instructors expected the students to attend the video viewing but did not require participation in the research component. To ensure that participants did not feel coerced into the situation, they were allowed to identify on their response sheets, in an anonymous, unobtrusive and private manner, whether they wanted their materials used for research purposes (i.e., data analysis) or discarded. This gave participants the option of having their documents shredded if they did not feel comfortable allowing them to be used for the study. It was also presumed that individuals not taking the study seriously and who may provide inaccurate, random or careless responses could simply mark their materials as discard from research. Out of a possible 160 participants, 22 indicated that they wanted their materials discarded and not used in the study, leaving 138 participants available for data analysis.

The second reason data were excluded from the study was due to incorrect answer formatting on certain measures of our dependent variables. As described in the materials section, some of the items in the knowledge and opinions section require a True/False response, whereas other items are rated by the participant on a Likert-type scale. A total of 21 participants answered some sections with the improper answer format (i.e., answered True/False on items that called for a Likert scale response or vice versa). The participants who answer with the incorrect format likely did not read the directions as they explicitly state whether to answer True/False or a Likert rating scale. It was also difficult to confidently project how a True/False answer could be translated to a 1-5 rating scale or vice-versa. It was believed that these data were too unreliable for further analysis so records from these 21 participants were discarded from the final data set used for analysis.

Demographics

As previously mentioned, the current study is a 2 x 2 factorial design. This design indicates four total cells used for comparisons. To illustrate and further clarify cell membership, each cell is defined by which video was used and the corresponding vignette presentation. Cell 1 contains the group of participants who viewed the Pro-ADHD video and were presented with the vignette describing a child with symptoms resembling ADHD Predominately Hyperactive/Impulsive subtype. Cell 2 contains the group of participants who viewed the Pro-ADHD video and were presented with the vignette describing a child with symptoms resembling ADHD Predominately Inattentive

subtype. Cell 3 contains the group of participants that viewed the Anti-ADHD video and were presented with the vignette describing a child with symptoms resembling ADHD Predominately Hyperactive/Impulsive subtype. Cell 4 contains the group of participants who viewed the Anti-ADHD video and were presented with the vignette describing a child with symptoms resembling ADHD Predominately Inattentive subtype. With the definitions of the cells and their corresponding membership criteria, demographics information will be provided for each cell.

In the current study, 89 (76.1%) of the participants were female and 28 (23.9%) were male for a total of 117 participants used for the study. The high number of female participants is consistent with the gender distribution for students in the preservice teaching curriculum. A chi-square test showed that there were no significant gender differences across cell membership, $\chi^2(3, N = 117) = 2.02, p = .567$. The average age of the participants was 21.8 years with a standard deviation of 3.5. Two analysis of variance (ANOVA) procedures were used to evaluate differences in age and GPA across cell membership. The first ANOVA revealed that there were no significant age differences across cell membership, $F(3, 112) = .21, p = .891$. The mean estimated GPA reported by participants was 3.18 with a standard deviation of 0.47. No significant differences were found in GPA across cell membership, $F(3, 110) = 1.24, p = .299$. Ethnicity tabulations of participants were computed; 92 (79.0%) white, not of Hispanic origin, 22 (19%) Black/African American, 1 (.9%) Asian/Pacific Islander, 1 (.9%) Hispanic, and 1 (.9%) Other. A chi-square test showed no significant differences in ethnicity across cell membership, $\chi^2(12, N = 117) = 10.69, p = .556$. Classification tabulations were

computed for participants; 15 (12.8%) Sophomores, 67 (57.3%) Juniors, and 35 (29.9%) Seniors. A chi-square test showed no significant differences in classification across cell membership, $\chi^2(6, N = 117) = 6.64, p = .356$.

Table 1

Gender Across Cell Membership

Gender	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
Female	79.3% (n = 23)	80.6% (n = 25)	77.8% (n = 21)	66.7% (n = 5)
Male	20.7% (n = 6)	19.4% (n = 6)	22.2% (n = 6)	33.3% (n = 10)
Total	(n = 29)	(n = 31)	(n = 27)	(n = 30)

Table 2

Classification Across Cell Membership

Classification	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
Sophomore	10.3% (n = 3)	3.2% (n = 1)	22.2% (n = 6)	16.7% (n = 5)
Junior	65.5% (n = 19)	61.3% (n = 19)	44.4% (n = 12)	56.7% (n = 17)
Senior	24.1% (n = 7)	35.5% (n = 11)	33.3% (n = 9)	26.7% (n = 8)
Total	(n = 29)	(n = 31)	(n = 27)	(n = 30)

Table 3

Ethnicity Across Cell Membership

Ethnicity	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
White, not of Hispanic origin	82.8% (<i>n</i> = 24)	74.2% (<i>n</i> = 23)	77.8% (<i>n</i> = 21)	80.0% (<i>n</i> = 24)
Black/African American	13.8% (<i>n</i> = 4)	25.8% (<i>n</i> = 8)	18.5% (<i>n</i> = 5)	16.7% (<i>n</i> = 5)
Asian/Pacific Islander	0% (<i>n</i> = 0)	0% (<i>n</i> = 0)	0% (<i>n</i> = 0)	3.3% (<i>n</i> = 1)
Hispanic	3.4% (<i>n</i> = 1)	0% (<i>n</i> = 0)	0% (<i>n</i> = 0)	0% (<i>n</i> = 0)
Other	0% (<i>n</i> = 0)	0% (<i>n</i> = 0)	3.7% (<i>n</i> = 1)	0% (<i>n</i> = 0)
Total	(<i>n</i> = 29)	(<i>n</i> = 31)	(<i>n</i> = 27)	(<i>n</i> = 30)

Analyses of Expected Findings

Specific Knowledge Sections A and B.

Two one-way analysis of covariance (ANCOVA) procedures were conducted. The two independent variables, educational video and vignette type, each included two levels. The video viewed was either the Anti-ADHD video or the Pro-ADHD video described above. The vignette presentation differed on the symptoms of the ADHD subtype being portrayed by the child (i.e., ADHD Predominately Hyperactive/Impulsive, ADHD Predominately Inattentive). The dependent variable was the participant's posttest score of the items included in the Specific Knowledge Section A and Section B. Results are presented below.

Specific Knowledge Regarding ADHD Section A.

For each participant, a score was computed by summing the total number of correct responses from the 27 items in *Specific Knowledge Regarding ADHD Section A* (see Appendix E). The covariate was participants' Pretest score on the same items. These items include a myriad of True/False items assessing the participant's knowledge of key areas in the ADHD arena. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = 0.41$, $MSE = 6.44$, $p = .75$, partial $\eta^2 = .01$. The overall ANCOVA model was significant, $F(3, 113) = 6.01$, $MSE = 6.34$, $p < .0001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 20.36$, $p <$

.0001, partial $\eta^2 = .16$, $\beta = .40$. There was a significant main effect for video type, $F(3, 113) = 6.10$, $p = .015$.

The means of the posttest scores for *Specific Knowledge Section A* were adjusted for initial differences (see Table 4). Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 17.09$, $SEM = 0.33$ which was significantly lower than the adjusted mean rating provided by the Anti-ADHD group ($M = 18.25$, $SEM = 0.34$).

Specific Knowledge Regarding ADHD Section B.

The score for this section was computed by summing the total number of correct responses from the 13 items contained in *Specific Knowledge Regarding ADHD Section B* (see Appendix F). The covariate was participant's pretest scores on the same items. These items included multiple statements that were rated by the participant with a Likert-type scale ranging from 1 – 5, assessing the participant's knowledge of key areas in the ADHD arena. The likert ratings were then coded into a True/False format. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = 0.89$, $MSE = 3.94$, $p = .450$, partial $\eta^2 = .02$. The overall ANCOVA model was significant, $F(3, 113) = 5.98$, $MSE = 3.93$, $p < .0001$. The covariate, the pretest rating, showed a significant linear regression relationship with the

posttest ratings, $F(3, 113) = 14.15, p < .0001$, partial $\eta^2 = .11, \beta = .31$. There was a significant main effect for video type, $F(3, 113) = 7.97, p = .006$.

The means of the posttest scores for the *Specific Knowledge Section B* were adjusted for initial differences (see Table 4).. Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 4.84, SEM = 0.26$ which was significantly lower than the adjusted mean rating provided by the Anti-ADHD group ($M = 5.88, SEM = 0.26$).

Opinions Regarding ADHD Stimulant Medication Treatment

A one-way analysis of covariance (ANCOVA) was conducted. The two independent variables, educational video and vignette type, each included two levels. The video viewed was either the Anti-ADHD video or the Pro-ADHD video described previously. The vignette presentation differed on the symptoms of the ADHD subtype being portrayed by the child (i.e., ADHD Predominately Hyperactive/Impulsive, ADHD Predominately Inattentive). The dependent variable was the participant's posttest score of the 11 critical items included in the Opinions Regarding ADHD section (see Appendix G). Participants rated these statements on a Likert-type scale ranging from 1-5 (i.e., 1= Strongly Disagree, 5= Strongly Agree). The score was computed by summing the total of the ratings provided by participants from the items in the section. The covariate used was the participant's pretest score on the same items. These items include a myriad of statements assessing the participant's opinions of stimulant medication treatment for

ADHD arena. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = 0.16$, $MSE = 51.99$, $p = .92$, $\text{partial } \eta^2 = .004$. The overall ANCOVA model was significant, $F(3, 113) = 20.65$, $MSE = 50.81$, $p < .0001$. The covariate, the pretest scores, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 55.24$, $p < .0001$, $\text{partial } \eta^2 = .33$, $\beta = .66$. There was a significant main effect for video type, $F(3, 113) = 22.55$, $p < .0001$.

Table 4

Posttest Adjusted Mean Ratings for Specific Knowledge and Opinions Regarding ADHD

Category	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
Specific Knowledge Section A	$M = 17.08$ $SEM = .47$	17.10 .21	18.26 .48	18.24 .46
Specific Knowledge Section B	4.71 .37	4.97 .36	6.01 .38	5.75 .36
Opinions Regarding ADHD items 1- 11	42.72 1.33	42.63 1.29	35.22 1.38	37.54 1.33

The means of the posttest scores for the *Opinions Regard ADHD Section* were adjusted for initial differences (see Table 4).. Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 42.67$, $SEM = 0.92$ which was significantly higher than the adjusted mean rating provided by the Anti-ADHD group ($M = 36.38$, $SEM = 0.95$).

Vignette Evaluation Form Critical Items 6-11

A series of one-way analyses of covariance (ANCOVA) were conducted. In each ANCOVA presented below, the two independent variables, educational video and vignette type, each included two levels. The video viewed was either the Anti-ADHD (i.e., Baughman, 1999) video or the Pro-ADHD (American Academy of Family Physicians, 2002) video described above. The vignette presentation differed on the symptoms of the ADHD subtype being portrayed by the child (i.e., either ADHD Predominately Hyperactive/Impulsive or ADHD Predominately Inattentive). The dependent variable was the participant's posttest rating of critical items from the Vignette Evaluation Form (VEF). The covariate used was the participant's pretest ratings of each critical item from the VEF. Items from the VEF are presented in Table 6 and appear in their original form in Appendix K.

Vignette Evaluation item 6 – “Does the child have ADHD?” The first item analyzed from the VEF was item 6 which addresses the degree that the participant thinks the child described in the vignette does have ADHD. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = .48, MSE = 11.88, p = .695, \text{partial } \eta^2 = .01$. The overall ANCOVA model was significant, $F(3, 113) = 21.55, MSE = 1.36, p < .0001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 71.52, p < .0001, \text{partial } \eta^2 = .39, \beta = .67$. There was a significant main effect for video type, $F(3, 113) = 6.12, p = .015, \text{partial } \eta^2 = .05$ (see Table 6). There was no significant main effect for vignette, $F(3, 113) = .04, p = .852, \text{partial } \eta^2 = .00$ and no significant interaction between video type and vignette type, $F(3, 113) = .016, p = .899, \text{partial } \eta^2 = .00$.

Table 5

Posttest Adjusted Mean Ratings for Vignette Evaluation Form Items 6-11

Question	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
Item 6 - Do you feel as though this child has ADHD?	<i>M</i> = 5.38 <i>SEM</i> = .22	5.39 .21	4.82 .22	4.89 .21
Item 7 - Would you suggest the parents seek a referral for a formal ADHD evaluation?	5.78 .25	5.74 .24	4.94 .26	5.20 .24
Item 8 - Would you suggest a referral for a formal psychoeducational evaluation for possible learning disabilities?	5.13 .24	5.69 .23	5.14 .24	4.73 .23
Item 9 – How strongly would you suggest the parents seek evaluation from a physician who might prescribe stimulant medication?	5.53 .23	5.63 .22	4.19 .24	4.79 .23
Item 10 – How strongly would you suggest the parents seek evaluation from a psychologist who might suggest classroom changes or therapy?	5.18 .23	6.01 .22	5.36 .24	5.35 .23
Item 11 - How strongly would you suggest the parents seek evaluation from a physician and a psychologist?	5.31 .21	5.85 .21	4.96 .23	5.16 .21

The means of the posttest scores for item 6 from the VEF were adjusted for initial differences (see Table 5). Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 5.39$, $SEM = .15$ which was significantly higher than the adjusted mean rating provided by the Anti-ADHD group ($M = 4.86$, $SEM = .15$).

Vignette Evaluation item 7 – “Refer for formal ADHD evaluation?” The next item analyzed from the VEF was item 7 which addresses the participant’s willingness to refer the child described in the vignette for a formal ADHD evaluation. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = 1.53$, $MSE = 1.73$, $p = .211$, partial $\eta^2 = .04$. The overall ANCOVA model was significant, $F(3, 113) = 13.24$, $MSE = 1.75$, $p < .0001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 34.12$, $p < .0001$, partial $\eta^2 = .23$, $\beta = .57$. There was a significant main effect for video type, $F(3, 113) = 7.44$, $p = .007$, partial $\eta^2 = .06$. There was no significant main effect for vignette, $F(3, 113) = .02$, $p = .656$, partial $\eta^2 = .00$ and no significant interaction between video type and vignette type, $F(3, 113) = .35$, $p = .554$, partial $\eta^2 = .00$.

The means of the posttest scores for item 7 from the VEF were adjusted for initial differences. Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 5.76$, $SEM = .17$ which was significantly higher than the adjusted mean rating provided by the Anti-ADHD group ($M = 5.07$, $SEM = .18$) (see Table 5).

Vignette Evaluation item 8 – “Refer for psychoeducational evaluation?” The next item analyzed was item 8 which addresses the participant’s willingness to suggest a psychoeducational evaluation for a possible learning disorder. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = .52$, $MSE = 1.61$, $p = .669$, partial $\eta^2 = .01$. The overall ANCOVA model was significant, $F(3, 113) = 19.97$, $MSE = 1.59$, $p < .0001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 75.32$, $p < .0001$, partial $\eta^2 = .40$, $\beta = .67$. There was a significant main effect for video type, $F(3, 113) = 4.12$, $p = .045$, partial $\eta^2 = .04$. Additionally, the interaction between video type and vignette type was significant, $F(3, 113) = 4.24$, $p = .042$, partial $\eta^2 = .04$. See Figure 1. There was no significant main effect for vignette, $F(3, 113) = .10$, $p = .751$, partial $\eta^2 = .00$.

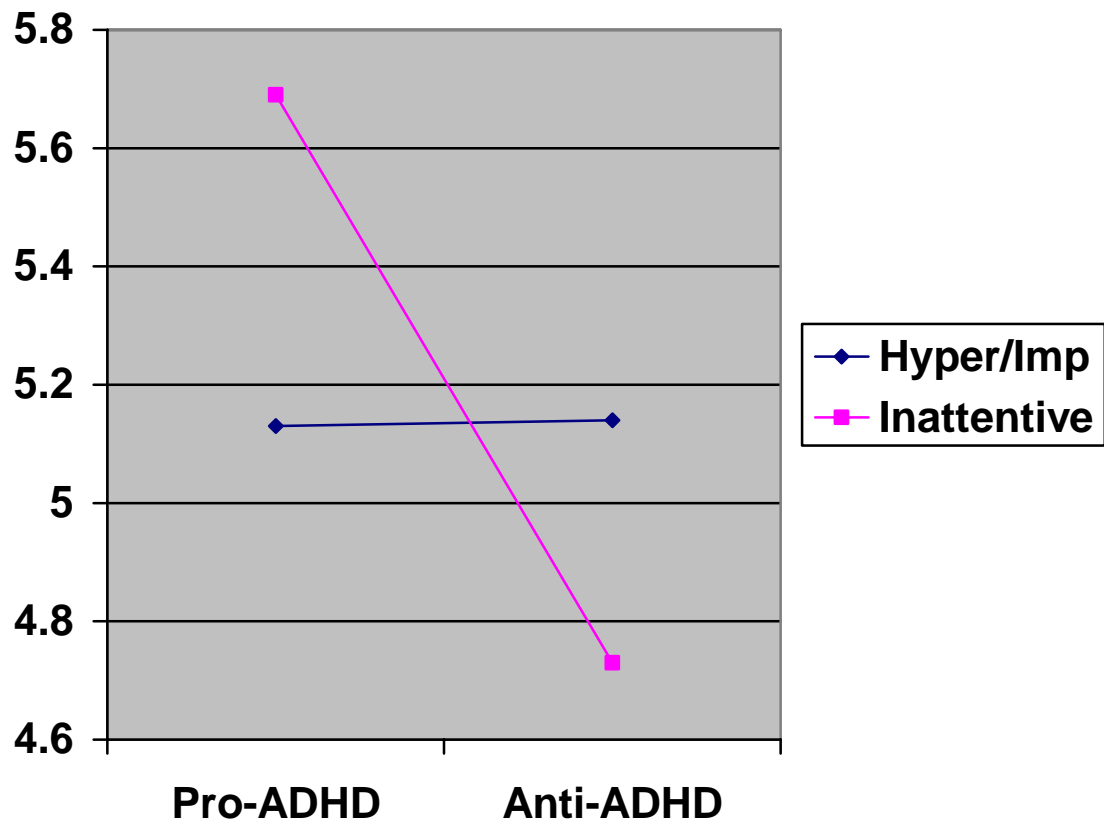


Figure 1 Posttest referral ratings for psychoeducational evaluation for a possible learning disability.

The means of the posttest ratings for item 8 from the VEF were adjusted for initial differences. Participants who viewed the Anti-ADHD video and were presented with the Predominately Inattentive vignette had the lowest mean ratings ($M = 4.73$). Those who watched the Pro-ADHD video with the Inattentive vignette obtained a significantly higher mean rating ($M = 5.69$) than any other video group. The Pro-ADHD video group with the Hyperactive/Impulsive vignette had nearly identical mean ratings ($M = 5.13$) as

the Anti-ADHD video group presented with the Hyperactive/Impulsive vignette ($M = 5.14$). Based on the LSD procedure, the significant interaction revealed that the adjusted mean rating for item 8 in the Pro-ADHD video – Inattentive vignette group was the highest while the adjusted mean rating for the Anti-ADHD video – Inattentive vignette was the lowest. See Table 5.

Vignette Evaluation item 9 – “Refer for medication evaluation?” The next item analyzed from the VEF was item 9 which addresses the willingness of the participants to refer the child described in the vignette to a physician for a medication consultation. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = .67, MSE = 1.53, p = .575, \text{partial } \eta^2 = .02$. The overall ANCOVA model was significant, $F(3, 113) = 27.80, MSE = 1.52, p < .0001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 67.56, p < .0001, \text{partial } \eta^2 = .38, \beta = .63$. There was a significant main effect for video type, $F(3, 113) = 21.90, p < .0001, \text{partial } \eta^2 = .16$. There was no significant main effect for vignette, $F(3, 113) = 2.28, p = .134, \text{partial } \eta^2 = .02$ and no significant interaction between video type and vignette type, $F(3, 113) = 1.14, p = .288, \text{partial } \eta^2 = .01$.

The means of the posttest scores for item 9 from the VEF were adjusted for initial differences (see Table 5). Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when

compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 5.58$, $SEM = .16$ which was significantly higher than the adjusted mean rating provided by the Anti-ADHD group ($M = 4.49$, $SEM = .17$).

Vignette Evaluation item 10 – “Refer to a psychologist?” The next item analyzed from the VEF was item 10 which addresses the willingness of the participants to refer the child to a psychologist for individual/family therapy and environmental changes. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable differed significantly as a function of the independent variable $F(3, 113) = 3.80$, $MSE = 1.53$, $p = .012$. The partial η^2 for the relationship was .10, indicating that in our sample the mean differences for the posttest ratings varied moderately as a function of the pretest ratings. The overall ANCOVA model was significant, $F(3, 113) = 14.85$, $MSE = 1.52$, $p < .001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 49.74$, $p < .0001$, partial $\eta^2 = .31$, $\beta = .63$. There was no significant main effect for vignette, $F(3, 113) = 3.16$, $p = .078$, partial $\eta^2 = .03$ and no significant main effect for video type, $F(3, 113) = 1.10$, $p = .297$, partial $\eta^2 = .01$.

The means of the posttest ratings for item 10 from the VEF were adjusted for initial differences (see Table 5). A nearly significant interaction for video type by vignette type, $F(3, 113) = 3.22$, $p = .076$, partial $\eta^2 = .03$, showed that the Pro-ADHD video viewers with the inattentive subtype vignette rated this item higher ($M = 6.01$, $SEM = .22$) than the other three groups. (See Figure 2.)

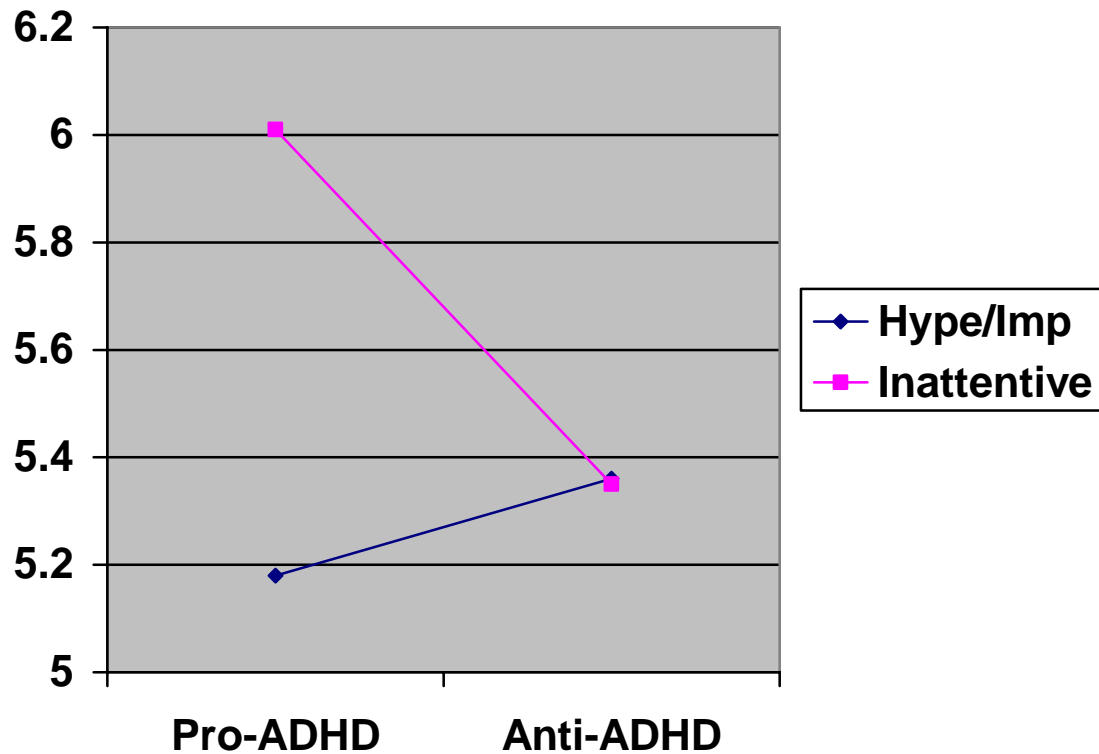


Figure 2 Posttest referral ratings for individual/family therapy or environmental modification.

Vignette Evaluation item 11 – “Refer to both physician and psychologist?” The next item analyzed from the VEF was item 11 which addresses the participant’s willingness to refer the child described in the vignette to both a physician and a psychologist. A preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relationship between the covariate and dependent variable did not differ significantly as a function of the independent variable $F(3, 113) = 1.66, MSE = 1.28, p = .18, \text{partial } \eta^2 = .04$. The overall ANCOVA model was significant, $F(3, 113) = 23.87,$

$MSE = 1.30, p < .001$. The covariate, the pretest rating, showed a significant linear regression relationship with the posttest ratings, $F(3, 113) = 72.91, p < .001$, partial $\eta^2 = .39, \beta = .66$. There was a significant main effect for video type, $F(3, 113) = 5.81, p = .018$, partial $\eta^2 = .05$. See Table 6. There was no significant main effect for vignette, $F(3, 113) = 3.01, p = .085$, partial $\eta^2 = .03$ and no significant interaction between video type and vignette type, $F(3, 113) = .63, p = .429$, partial $\eta^2 = .01$.

The means of the posttest scores for item 11 from the VEF were adjusted for initial differences (see Table 5). Based on the LSD procedure, the adjusted means for the video condition revealed significant differences but the means did not differ significantly when compared across vignette type. The adjusted mean rating for the Pro-ADHD video group was $M = 5.58, SEM = .15$ which was significantly higher than the adjusted mean rating provided by the Anti-ADHD group ($M = 5.06, SEM = .15$).

Post Hoc Analyses

Opinion Change by Video

To determine the magnitude and direction of opinion change based on the video type presented, two measures were created. These measures were then correlated with actual knowledge, perceived knowledge, and referral endorsements within each video group.

Magnitude. A magnitude of opinion change measure was created by summing the absolute values of the differences between pretest and posttest opinion ratings for items 1 through 11 (see Appendix G). This measure provides the overall size or extent of each participant's opinion change regarding the effectiveness of stimulant medications to treat ADHD across the two video groups. An ANOVA revealed no significant difference between the two video groups, $F(1, 114) = .09, p = .764, \text{partial } \eta^2 = .001$.

Direction. A direction of opinion change measure was created by subtracting the pretest ratings for all opinion regarding stimulant medication items from the all posttest ratings. The differences were then summed to form a direction of change measure that would allow for comparisons on whether opinion changes shifted in a positive (i.e., higher number) or negative (i.e., lower number) direction regarding the usefulness of stimulant medications. An ANOVA revealed a significant difference between the two video groups on the direction of opinion change, $F(1, 114) = 20.57, p < .0001, \text{partial } \eta^2 = .153$. Although both videos showed an opinion change shift in the negative direction, the Anti-ADHD video group changed their opinions of stimulant medication in a much more negative direction ($M = -10.43, SD = 8.39$) than the Pro-ADHD video group ($M = -4.10, SD = 6.58$). This indicates that the Anti-ADHD video group was more skeptical of the effectiveness of stimulant medications after viewing the video than the Pro-ADHD video group.

Opinion Change and Actual Knowledge by Video

Magnitude. There were no significant correlations between actual knowledge (i.e., Specific Knowledge Section A) and magnitude of opinion changes for either the Pro-ADHD video ($r = -.01, p = .462$) or the Anti-ADHD video ($r = -.04, p = .375$).

Direction. To test whether increased knowledge was associated with less opinion change, direction of opinion change was correlated with the scores from Specific Knowledge Section A. There was no significant correlation between knowledge and direction of opinion change for the Anti-ADHD video group ($r = -.02, p = .456$). The Pro-ADHD video group's actual knowledge score was positively correlated with direction of opinion change indicating that lower scores on Specific Knowledge Section A were associated with more negative opinions for the Pro-ADHD video group ($r = .36, p = .004$). Therefore, higher scores on Specific Knowledge Section A were associated with an opinion shift in the positive direction for the Pro-ADHD video group.

Opinion Change and Usefulness of Stimulant Medication by Video

Magnitude. The magnitude of opinion change was correlated with scores on the opinions regarding the effectiveness of stimulant medications within each video. No significant correlation was found for the Pro-ADHD video group ($r = -.022, p = .435$). A strong negative correlation between magnitude of opinion change and ratings of medication usefulness was found for the Anti-ADHD video group ($r = -.71, p < .0001$).

This indicates as shifts in opinions became larger, participant ratings for the usefulness of stimulant medications declined.

Direction. The Pro-ADHD video group's ratings of the usefulness of stimulant medication was positively correlated with the direction of opinion change ($r = .46, p < .0001$). Therefore, the belief that stimulant medications were useful was associated with an overall opinion change in the positive direction. The Anti-ADHD video group revealed that as their opinion change shifted in a negative direction they were less likely to think that stimulant medications were useful ($r = .65, p < .0001$).

Opinion Change and Referral Tendencies by Video

Magnitude. Correlations between the magnitude of opinion change and all referral measures were computed. There were no significant correlations with any referral measures and the magnitude of opinion change for the Pro-ADHD video group (see Table 6). There were numerous correlations between the referral measures and the magnitude of opinion change for the Anti-ADHD video group. In general, the larger the magnitude of opinion change, the less likely the Anti-ADHD video group was to provide a strong endorsement for any type of referral (see Table 6).

Direction. There were no significant correlations with any referral measures and direction of opinion change for the Pro-ADHD video group (see Table 6). VEF item 6, which addresses the degree to which one thinks the child has ADHD, showed a significant correlation with the direction of opinion change measure ($r = .36, p = .003$)

for the Anti-ADHD video group. This indicates that when their opinions about stimulant medications changed in a negative direction members of the Anti-ADHD video group were less likely to endorse that the child had ADHD.

Table 6

Correlations Between Opinion Change And Referral Measures

Referral Items	Pro-ADHD		Anti-ADHD	
	Magnitude	Direction	Magnitude	Direction
VEF Item 6 Does child have ADHD?	$r = -.07$	-.04	-.25*	.36**
VEF Item 7 Refer for ADHD Evaluation?	$r = -.10$.09	-.33**	.14
VEF Item 8 Refer for LD Evaluation?	$r = .03$.01	-.20	-.01
VEF Item 9 Refer to Physician?	$r = .04$.10	-.44***	.22*
VEF Item 10 Refer to Psychologist?	$r = -.11$	-.04	-.23*	-.05
VEF Item 11 Refer to Physician and Psychologist?	$r = -.16$	-.04	-.31**	.07

* Correlation is significant at $p = .05$ level (2-tailed)

** Correlation is significant at $p = .01$ level (2-tailed)

*** Correlation is significant at $p < .0001$ level (2-tailed)

CHAPTER IV

DISCUSSION

This study primarily addressed the impact of two videos on preservice teachers' knowledge, opinions, and referral attitudes regarding ADHD. The study was also designed to help assess whether ADHD subtype by itself, or in interaction with video type, affected preservice teachers' endorsement of different kinds of referrals. Overall, the study's goal was to analyze differences across the two video groups while concurrently monitoring any changes in referral attitudes based on ADHD subtype (vignette type). The predicted interaction between video type and ADHD subtype on referral recommendations was not found for all items, but there was a significant interaction for item 8 and a nearly significant interaction for item 10 from the VEF. Generally, few changes based on ADHD subtype were observed but an overall main effect for video type was observed throughout the analyses.

Preservice Teacher Knowledge of ADHD

Knowledge scores were obtained for Specific Knowledge Regarding ADHD Section A. The items from Specific Knowledge regarding ADHD Section A were taken verbatim from Kos et al. (2004) and were analyzed separately. We found that preservice teachers in our study had a higher average knowledge score on these items than those

reported for preservice teachers in Kos et al. As a whole preservice teachers in our study had an average knowledge score of 65.5% while Kos et al. reported an average score of 52.6% for preservice teachers. One can speculate as to possible reasons for the differences in knowledge scores. Perhaps this sample of preservice teachers had a curriculum presenting more background on ADHD than the previous study. Specifically, the sample of preservice teachers we obtained were enrolled in a course that directly trains students on how to work with and understand children who deviate from the average on mental, physical, emotional or social characteristics. This course and others like it could have contributed to our sample's higher level of knowledge of ADHD compared to knowledge scores of inservice teachers from Kos et al. Additionally, media coverage of ADHD has grown in the past decade and students in this study may have benefited from seeing more information presented about ADHD and related disorders in various forms of media (e.g., TV, magazines, newspapers).

Opinions Regarding ADHD

As we predicted, there was a significant change in our opinion measures based on which video was viewed. Posttest (after video) ratings of preservice teachers opinions were calculated on the 11 items selected, as described above. A higher score on this index indicates more positive opinions towards the effectiveness and usefulness of stimulant medications in the treatment of ADHD. Overall, preservice teachers who viewed the Pro-ADHD video had a higher average opinion rating than those who viewed the Anti-ADHD video.

The opinion items selected were statements that dealt specifically with the effectiveness and therapeutic benefit of stimulant medications in the treatment of ADHD. The Anti-ADHD video presents a highly skeptical stance on the use of the medications for a disorder that the maker of the video views as questionable at best. It seems logical that if one were persuaded by the Anti-ADHD video, responses to the opinion measures would be in a more negative direction and that this would lead to a more conservative approach to referring children with so-called ADHD symptoms. This difference was observed - preservice teachers viewing the Anti-ADHD video changed their opinions towards stimulant medications in a much more negative direction than those who watched the Pro-ADHD video. Responses to opinion items show that the Anti-ADHD video by Baughman was effective in creating negative views towards ADHD and medication treatment.

Scores from the direction of opinion change were positively correlated with Specific Knowledge Section A scores for the Pro-ADHD video group. This indicates that knowledge scores on this measure were lower for participants whose opinions towards stimulant medication became more negative. The Anti-ADHD video group's opinions changed (i.e., became more negative) independently of their knowledge scores. Preservice teachers viewing the Anti-ADHD video with high knowledge scores were just as likely to shift their opinions about stimulant medication in a negative direction as those with low knowledge scores viewing the same video. This finding supports the notion that the Anti-ADHD video was successful in creating doubt regarding the effectiveness of stimulant medications, regardless of preservice teachers' knowledge level.

The obtained results suggest that preservice teacher opinions were malleable. This malleability is important to note as this group will soon become inservice teachers who are likely to have children in their own classroom diagnosed with ADHD or being considered for an ADHD evaluation. Because teachers are extremely important in the referral process for ADHD, it is intriguing to consider how videos, such as those viewed in this study, could have such an impact on how participants felt about the efficacy of medication for the treatment of the most prevalent childhood disorder. Based on our results, preservice teacher opinions about the effectiveness and desirability of stimulant medications in the treatment of ADHD can be modified by outside media influences. It is not known if this malleability would also be observed with recently trained inservice teachers although one would expect that older and more experienced teachers would be less influenced by watching one video.

Referral Attitudes Regarding ADHD

Multiple items from the Vignette Evaluation Form (VEF) were used to assess referral attitudes in preservice teachers. All but one item showed a significant main effect for video type. A manipulation of the ADHD subtypes “Predominately Hyperactive/Impulsive” and “Predominately Inattentive” as presented in the vignettes did not have the expected effect on referral attitudes. No referral items showed a significant main effect for ADHD subtype. However, Item 8 did have a significant interaction between video and ADHD subtype, and Item 10 had a nearly significant interaction as described below.

Item 6 from the VEF addressed the degree to which the participant believed the child described in the vignette did have ADHD. Preservice teachers who viewed the Anti-ADHD video were less likely to endorse that the child in the vignette had ADHD than those who watched the Pro-ADHD video. The Anti-ADHD video directly challenges the existence of the disorder and this belief may have led preservice teachers to be more skeptical about endorsing the diagnosis. A positive correlation between ratings for item 6 and the direction of opinion change regarding stimulant medication was found for the Anti-ADHD video group. The Anti-ADHD video participants who were more skeptical of stimulant medication were also more skeptical of a diagnosis of ADHD for the child. The Anti-ADHD video's message appears to be effectively communicated as seen in the opinion data and will be seen throughout referral measures discussed below.

Item 7 from the VEF addresses the degree to which the preservice teachers would suggest a referral for a formal ADHD evaluation based on the description of the child given in the vignette. Preservice teachers that viewed the Anti-ADHD video were less likely to suggest a referral for a formal ADHD evaluation than those who viewed the Pro-ADHD video. A negative correlation between the magnitude of opinion change regarding stimulant medication and ratings for item 7 was found. This illustrates that greater opinion change was associated with lower endorsements of referrals for a formal ADHD evaluation. The Anti-ADHD video appeared to successfully create doubt in viewers' minds concerning the utility of a formal ADHD diagnosis.

Item 8 from the VEF addresses the degree to which the preservice teachers would suggest a psychoeducational evaluation for a learning disorder based on the description of

the child given in the vignette. This item was particularly interesting in that there was the expected main effect for video type as well as a significant interaction between video and ADHD subtype. The Pro-ADHD video group that received the vignette describing a child with symptoms resembling ADHD Predominately Inattentive Type were more likely to suggest a referral for a psychoeducational evaluation for a learning disability than any other group. This could have occurred because the Pro-ADHD video viewers might have been more open to other possibilities for the child's problem where the Anti-ADHD viewers appeared to be skeptical regardless of the symptoms. With an assumption that the Pro-ADHD viewers might be more open minded about multidisciplinary interventions, it would make sense that the ADHD Predominately Inattentive Type vignette would receive higher ratings for a learning disability evaluation. The more private, covert inattentive symptoms of ADHD may be more easily seen as indicators of a learning disability compared to the overt symptoms of hyperactivity and impulsivity. A child who stares off into space or who does not pay attention and routinely scores under average on school work may be seen as a better candidate for a possible learning disorder than the hyperactive child with disruptive symptoms such as constantly being out of the seat, fidgeting and interrupting the teacher.

Item 9 from the VEF addresses the degree to which the preservice teachers would suggest the child get an evaluation from a physician for possible stimulant medication treatment. This item is considered critical because it addresses the use of stimulant medications for the treatment of ADHD. Consistent with our hypothesis, the Anti-ADHD video groups rated this item significantly lower than the Pro-ADHD video groups. This

indicates that the Anti-ADHD video group was more hesitant to suggest an evaluation for which stimulant medication was a possible outcome. One of the main points of the Anti-ADHD video was the perceived misuse of these potentially dangerous medications for a disorder whose validity is questionable. Further, ratings for item 9 were correlated with the magnitude and direction of opinion change measures regarding stimulant medication in the Anti-ADHD video group. The ratings for a referral to a physician who might prescribe stimulant medication were negatively correlated with the overall magnitude of opinion change scores. This indicates that the more participants in the Anti-ADHD video group changed their opinion about stimulant medication the less likely they were to endorse a referral to a physician. Also, the ratings for item 9 were positively correlated with the direction of opinion change. This relationship shows that the more negative opinions were towards stimulant medication the less likely participants were to endorse referrals to a physician. Therefore, the Anti-ADHD video group's negative opinions towards stimulant medication affected their referral ratings for this item. As their opinions became more negative towards stimulant medications the less likely they were to refer to a physician. Also, as the magnitude of this negative opinion shift increased, the less likely they were to refer to a physician. The Pro-ADHD video holds the position that medications are a viable and useful way to treat children with ADHD. Ratings show that both videos appeared to effectively communicate their points on this subject.

It is interesting to consider the malleability of the preservice teacher willingness to suggest a referral to a physician for stimulant medications based on a video they viewed. As teachers have been shown to initiate up to 75% of all ADHD referrals, it is

critical to understand how teachers make referral decisions and what factors influence these decisions (Sciutto et al., 2004). Even brief videos like those used in this study may have a significant impact on new teachers as they interact with parents and other professionals over symptoms that might reflect ADHD.

Item 10 from the VEF addresses the degree to which preservice teachers would suggest the child get an evaluation from a psychologist for possible therapy and/or environmental changes. This item showed no significant main effects for video or vignette. However, a nearly significant interaction was observed. Following the same line of logic as was used in Item 8, it appears logical that viewers of the Pro-ADHD video who were presented with the Inattentive subtype vignette were the most likely to make a referral to a psychologist. The inattentive symptoms could have been more easily identified as an internalizing problem, such as depression, anxiety, or lack of interpersonal or learning skills. These may be considered by preservice teachers to best remedied from the help of a psychologist who might alter the classroom or find a way to instruct the child in a manner that holds the child's attention more closely or improves self-regulation. The hyperactive children might be viewed as disruptive and incapable of self-regulation – that their problems go beyond what can be influenced by environmental changes or therapy.

Item 11 addresses how strongly preservice teachers would suggest the child get an evaluation from both a psychologist and a physician. Again, viewers of the Anti-ADHD video rated this item significantly lower than those who viewed the Pro-ADHD video. It

seems likely that the Anti-ADHD video successfully persuaded some preservice teachers to be more skeptical of “medicalizing” ADHD type problems.

Overall, the preservice teachers who viewed the Anti-ADHD video rated every referral item except item 10 significantly lower than those watching the Pro-ADHD video. This trend leads to the aforementioned conclusion that the Anti-ADHD video was especially effective in persuading viewers to devalue medical approaches to ADHD symptoms in the classroom.

Strengths of the Study

At this time it appears that no single study has simultaneously evaluated preservice teacher’s knowledge, opinions and referral attitudes regarding ADHD. Previous research has evaluated inservice and preservice teacher knowledge and opinions of ADHD (Sciutto et al., 2004; Snider, 2003). There is little, if any, research evaluating factors that may influence preservice teacher referral attitudes regarding children with ADHD. With this in mind, the current study addressed how professionally developed videos affected a sample of preservice teachers concerning their knowledge of ADHD, their opinions of stimulant medications and their overall referral attitudes. The study was able to identify a clear malleability of preservice teacher opinions and referral attitudes based on differing views of the disorder as presented in the videos. Because preservice teachers will soon be teachers of their own classrooms and be exposed to children with ADHD, it is important to better understand what factors affect their knowledge, opinions, and referral attitudes for ADHD and the children who exhibit ADHD symptoms.

Limitations of Study and Recommendations for Future Research

The manipulation checks for the video and vignette were ineffective and poorly matched to the intended participant pool of undergraduate students. While it seems likely the manipulation checks were just too difficult, it remains possible that some participants did not make a good effort with the experimental protocol (e.g., didn't read or listen closely) and, despite an option to have their data excluded, allowed their data to be included for analysis.

The final sample for this study was 117 preservice teachers. The sample for the current study was confined to the limits of the number of preservice teachers that attended the "Psychology of Exceptional Children and Youth" course for one particular semester. This sample was then further reduced by the previously mentioned reasons of participant self-exclusion and answering with the incorrect format. It would be worthwhile to obtain a larger number of preservice teachers to increase the generalizability of the results and improve directions on the tests regarding the correct answer formats (e.g., clearer True/False or Likert scale prompts). Additionally, the sample came solely from one large southeastern university and this cohort may have had unique educational or societal experiences not representative of other preservice teacher populations. Gathering the sample from multiple locations to increase diversity could provide information on differences in regional referral tendencies or better establish conclusions about preservice teachers in general.

The present study relied primarily on the between subjects comparisons across video groups. Another possibility would have been to present the preservice teachers with both videos (with counterbalanced groups) and compare how the participants responded following conflicting presentations on the same topic. This type of within subjects comparison would allow for the researcher to evaluate how much the mixed messages affected responses to the dependent measures. However, this would increase the overall length of the experimental protocol and this may lead to participant exhaustion or other iatrogenic effects.

Although our study offers valuable information regarding preservice teachers and ADHD, other studies show that teacher knowledge of the disorder is increased by actual exposure to children with ADHD in the classroom (Sciutto et al., 2000). As an avenue of future research in this area, it would be valuable to obtain data on inservice teacher knowledge, opinions and more importantly referral attitudes. There is little information regarding factors that may affect inservice teacher referral attitudes. A study examining knowledge, opinions and referral attitudes of inservice teachers would provide useful insights as to how active teachers understand ADHD and how they apply their knowledge and opinions towards referral options when children struggle in the classroom.

A final line of future research would be to expand on the current study by adding a third video. A video that explains the psychoeducational and behavior modification treatments for the disorder would be an interesting manipulation. The viewpoint that ADHD is a disorder that can be controlled through environmental/classroom changes and perhaps behavior therapy with the child or family could be useful. This would provide

clues regarding teacher perceptions of treatment options that are grounded in a more psychological nature while also adding a manipulation to see if another type of video could impact teacher willingness to refer children to different professionals.

In summary, the video manipulation appears to have had a significant effect on preservice teacher opinions and referral attitudes. The Anti-ADHD video appears to have created doubt in the minds of preservice teachers regarding the usefulness of an ADHD diagnosis and ultimately skeptical of most treatment options. The Anti-ADHD video was particularly successful in altering opinions regarding the usefulness of stimulant medications in the treatment of ADHD.

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APPENDIX A
INFORMED CONSENT

Informed Consent

Title of Study: Knowledge, Opinions, and Referral Attitudes regarding Attention-Deficit/Hyperactivity Disorder

Researchers: Brandon Davis (Graduate Student in Clinical Psychology), & Dr. Kevin Armstrong (Faculty member in Department of Psychology)

The current research project is designed to explore College Student Knowledge and Opinions regarding Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms as well as the impact of educational videos developed to teach about ADHD. Your participation may benefit those who want to know more about understanding college students' current knowledge and opinions about ADHD and the ability of educational videos to teach college students about professionals' perspectives on ADHD.

All students will be asked to complete an informed consent procedure. Then, participants will complete a demographics questionnaire, and various measures and questionnaires that inquire about ADHD knowledge and perceptions. Participants will be asked to watch a video and then repeat the measures along with reading vignettes and answering questions about the vignette. This study should take no longer than two hours to complete. There are no anticipated physical risks or other risks or discomforts associated with participation in the present study. However, should you become distressed either during or after completing the session, you should tell the experimenter and then go across the street to the Student Counseling & Testing Center in Lee Hall Room 103 - or call them at 325-2091.

Your participation is strictly voluntary and you can withdraw at any time, even after filling out the questionnaires, without penalty. We ask that you separate the consent form from the questionnaire package so there will be no identifying marks or names on the completed surveys. By doing this, confidentiality will be preserved during, as well as after the study. Although you will not receive immediate benefit by completing the proceeding study, the research will help to develop a better understanding of college students' familiarity with ADHD. ****Also, please note that these records will be held by a state entity and therefore are subject to disclosure if required by law.****

Participants who wish to receive more information about the experiment may contact Dr. Kevin Armstrong at 325-7657/kevin.armstrong@msstate.edu or Shane Davis at 694-1944/ bsd64@msstate.edu. For additional information regarding your rights as a research subject, please feel free to contact the MSU Regulatory Compliance Office at 662-325-5220.

You will be given a copy of this form for your records.

I have read the above description of the project and the researcher has answered my questions to my satisfaction. I _____ agree to participate in the experiment.
(Participant – Please Print)

Participant Signature

Date

Investigator Signature

Date

Participants who wish to receive a summary report upon completion of this research project on Development of Experimental Materials for an ADHD Media Effects Study can do so by contacting Dr. Kevin Armstrong at kevin.armstrong@msstate.edu or 662-325-7657.

APPENDIX B
DEMOGRAPHICS SURVEY

Demographics Survey

Instructions: Please answer the following questions as accurately as possible.

Part I. Demographics.

1. Gender (Please circle one) M F

2. Age _____

3. Ethnicity (Check the group with which you most closely identify)
_____ Southeast Asian
_____ Other Asian / Pacific Islander
_____ Black / African American, not of Hispanic origin
_____ Hispanic
_____ Native American (American Indian or Alaskan Native)
_____ White, not of Hispanic origin
_____ Other, please explain: _____

4. Classification (e.g., Freshman, Sophomore, etc. - pick closest category) Please check one:
_____ Freshman
_____ Sophomore
_____ Junior
_____ Senior

5. Years in college _____

6. Anticipated graduation date _____

7. Cumulative Grade Point Average (GPA - estimate, if not known) _____

8. College and Concentrations (Please Check One and write Major beside it)

College of Agriculture and Life Sciences _____

College of Architecture, Art and Design _____

College of Arts and Sciences _____

College of Business and Industry _____

College of Education _____

College of Engineering _____

College of Forest Resource _____

College of Veterinarian Medicine

Undeclared

Approximate total hours of undergraduate class time (note 50 min = 1 hour; 75 min = 1.5 hours) devoted to children's behavioral disorders SO FAR in your undergraduate coursework _____

APPENDIX C
PRIOR EXPOSURE TO ADHD

Prior Exposure to ADHD

Instructions: Please indicate on the line provided a **T** for true or **F** for false

- _____ 1. Prior to today I have had one or more college class period(s) that addressed ADHD.
- _____ 2. As part of my training I have been in a classroom setting with one or more ADHD children.
- _____ 3. I have attended a professional development workshop where ADHD was the primary focus.
- _____ 4. I have read one or more articles written for education professionals regarding ADHD.
- _____ 5. I have watched one or more television specials regarding ADHD.
- _____ 6. I have watched one or more educational videos in which ADHD was the primary focus.
- _____ 7. I have read one or more magazines articles (other than professional journal articles) regarding ADHD.
- _____ 8. I currently have a close friend or family member diagnosed with ADHD, or I am currently diagnosed with ADHD.
- _____ 9. I currently have a close friend or family member who is taking stimulant medication for ADHD.
- _____ 10. I am currently taking stimulant medication for ADHD.
- _____ 11. I have had contact with one or more people (children or adults) diagnosed with ADHD, other than family members or friends.
- _____ 12. I have had contact with one or more people (children or adults) being treated with stimulant medication for ADHD, other than family members or friends.
- _____ 13. I personally know someone who has had a positive response to stimulant medication treatment for ADHD.
- _____ 14. I personally know someone who has had a negative response to stimulant

APPENDIX D
KNOWLEDGE REGARDING ADHD

Knowledge Regarding ADHD

Instructions: Please indicate how much you think you know about ADHD by placing a cross on the part of the line that best represents your knowledge.

0	10
Very little	A lot

APPENDIX E
SPECIFIC KNOWLEDGE ITEMS REGARDING ADHD SECTION A

Specific Knowledge Items Regarding ADHD Section A

Instructions: Please indicate on the line provided a **T** for true or **F** for false

- _____ 1. There are a greater number of boys than girls with ADHD.
- _____ 2. There is approximately 1 child in every classroom with a diagnosis of ADHD.
- _____ 3. If medication is prescribed, educational interventions are often unnecessary.
- _____ 4. ADHD children are born with biological vulnerabilities toward inattention and poor self-control.
- _____ 5. If a child responds to stimulant medication (e.g., Ritalin) then they probably have ADHD.
- _____ 6. A child who is not overactive, but fails to pay attention, may have ADHD.
- _____ 7. ADHD is often caused by food additives.
- _____ 8. ADHD can be diagnosed in the doctor's office most of the time.
- _____ 9. Children with ADHD always need a quiet environment to concentrate.
- _____ 10. Approximately 5% of United States school children have ADHD.
- _____ 11. ADHD children are usually from single-parent families.
- _____ 12. Diets are usually not helpful in treating most children with ADHD.
- _____ 13. ADHD can be inherited.
- _____ 14. Medication is a cure for ADHD.
- _____ 15. All children with ADHD are overactive.
- _____ 16. There are subtypes of ADHD.
- _____ 17. ADHD affects male children only.
- _____ 18. The cause of ADHD is unknown.
- _____ 19. ADHD is the result of poor parenting practices.

- _____ 20. If a child can play Nintendo for hours, then s/he probably doesn't have ADHD.
- _____ 21. Children with ADHD cannot sit still long enough to pay attention.
- _____ 22. ADHD is caused by too much sugar in the diet.
- _____ 23. Family dysfunction may increase the likelihood that a child will be diagnosed with ADHD.
- _____ 24. Children from any walk of life can have ADHD.
- _____ 25. Children with ADHD usually have good peer relations because of their outgoing nature.
- _____ 26. Research has shown that prolonged use of stimulant medications leads to increased addiction (i.e., drug, alcohol) in adulthood.
- _____ 27. Children with ADHD generally display an inflexible adherence to specific routines and rituals.
-

[LEAVE BLANK UNLESS YOU HAVE JUST SEEN A VIDEO]

How consistent is this video with your previously held views on ADHD?

1 2 3 4 5 6 7
(1 Definitely NOT consistent 4 No opinion 7 Definitely consistent)

APPENDIX F
SPECIFIC KNOWLEDGE ITEMS REGARDING ADHD SECTION B

Specific Knowledge Items Regarding ADHD Section B

Instructions: Indicate on the line provided a **1** for strongly disagree, **2** for disagree, **3** for I don't know, **4** for agree, and **5** for strongly agree.

- _____ 1. ADHD is the most commonly diagnosed psychiatric disorder of childhood.
- _____ 2. There are data to indicate that ADHD is caused by a brain malfunction.
- _____ 3. ADHD symptoms (e.g., fidgets, does not follow through instruction, easily) may be caused by academic deficits.
- _____ 4. Stress and conflict in the student's home life can cause ADHD symptoms.
- _____ 5. Diagnosis of ADHD can be confirmed if stimulant medication improves the child's attention.
- _____ 6. Stimulant medication use may decrease the physical growth rate (i.e., height) of students.
- _____ 7. Stimulant medication use may produce tics in students.
- _____ 8. Adderall, Ritalin, and Dexedrine have abuse potential similar to Demerol, cocaine, and morphine.
- _____ 9. The long-term side effects of stimulant medication are well understood.
- _____ 10. Over time, stimulant medication loses its effectiveness.
- _____ 11. While on stimulant medication, students exhibit similar amounts of problem behaviors as their normally developing peers.
- _____ 12. Short-term studies show that stimulant medication improves the behaviors associated with ADHD.
- _____ 13. Studies show that stimulant medication has a possible effect on academic achievement in the long run.

APPENDIX G
OPINIONS REGARDING ADHD

Opinions Regarding ADHD

Instructions: Indicate on the line provided a **1** for strongly disagree, **2** for disagree, **3** for I don't know, **4** for agree, and **5** for strongly agree.

- _____ 1. Taking stimulant medication helps students diagnosed with ADHD behave better in the classroom.
- _____ 2. Taking stimulant medication helps students diagnosed with ADHD do better on seatwork and homework assignments.
- _____ 3. Taking stimulant medication help students diagnosed with ADHD improve their cognitive and language functioning in the long run.
- _____ 4. Taking stimulant medication helps students diagnosed with ADHD improve their grades.
- _____ 5. Taking stimulant medication helps students diagnosed with ADHD improve their test performance.
- _____ 6. Taking stimulant medication helps students diagnosed with ADHD improve their organizational skills.
- _____ 7. Taking stimulant medication helps students diagnosed with ADHD improve their relationships with their peers.
- _____ 8. Taking stimulant medication helps students diagnosed with ADHD improve their relationships with their parents.
- _____ 9. Taking stimulant medication helps students diagnosed with ADHD improve their relationships with their teachers.
- _____ 10. Taking stimulant medication helps students diagnosed with ADHD improve their attention at school.
- _____ 11. Taking stimulant medication helps students diagnosed with ADHD learn more in school.
- _____ 12. Too many students receive stimulant medication for ADHD.
- _____ 13. Abuse of stimulant medication in schools is common.

- _____ 14. If a student is receiving stimulant medication, other methods of interventions are unnecessary.
- _____ 15. Students on stimulant medication should remain on medication into adulthood.
- _____ 16. Most students with ADHD want to continue taking their stimulant medication.
- _____ 17. ADHD is underdiagnosed in the school-age population.
- _____ 18. Professionals(school psychologists, speech-language pathologists, school nurses, teachers, etc.) need more information about stimulant medications and their side effects.
- _____ 19. I can accurately identify students with ADHD prior to formal assessment.
- _____ 20. I can tell the difference between ADHD hyperactive-impulsive and inattentive types.
- _____ 21. Stimulant medication works equally well for ADHD hyperactive-impulsive and inattentive types.
- _____ 22. High doses of stimulant medication can improve behavior but may impair creative thinking or learning.
- _____ 23. High doses of stimulant medication can improve both behavior and creative thinking or learning.

APPENDIX H
VIDEOS

Videos

Video 1 – “Diagnosis and Management of Childhood ADHD in the Family Practice Setting”

<http://www.aafp.org/online/en/home/cme/selfstudy/videocme/childhoodadhd/cmecredit.html>

Video 2 - “ADHD: 100% Total Fraud”

<http://www.adhdfraud.org/> OR

<http://www.adhdfraud.org/frameit.asp?src=http://www.adhdvideo.org>

APPENDIX I
VIDEO QUIZZES

Video Quizzes

Video 1 Quiz - "Diagnosis and Management of Childhood ADHD in the Family Practice Setting"

1. A common belief about the prevalence of attention deficit/hyperactivity disorder (ADHD) among boys and girls is:
 - A. Girls are about as likely as boys to have ADHD, but boys may be more likely to be diagnosed.
 - B. Boys are about as likely as girls to have ADHD, but girls may be more likely to be diagnosed.
 - C. Boys are significantly more likely than girls to have ADHD.
 - D. Girls are significantly more likely than boys to have ADHD.

3. According to DSM-IV diagnostic criteria, a pattern of deliberately annoying people is symptomatic of:
 - A. Hyperactivity.
 - B. Impulsivity.
 - C. Oppositional-defiant disorder.
 - D. Anxiety Disorder.

5. Which of the following nonpharmacotherapeutic interventions is NOT effective in the treatment of ADHD?
 - A. Play therapy.
 - B. Positive Reinforcement.
 - C. Parent Training.
 - D. Classroom Management

6. Learning disorder is diagnosed in a child who:
 - A. Performs below the level expected for his or her age on intelligence quotient tests.
 - B. On achievement tests, performs substantially below the expected level given measured intelligence.
 - C. Does both of the above.
 - D. Does neither of the above.

7. Mike, a 13-year-old boy whom you have previously diagnosed with ADHD, has recently vandalized a car and shoplifted a pair of sneakers from a local store. Which common comorbidity of ADHD does this behavior suggest?
- A. Oppositional-defiant disorder.
 - B. Conduct Disorder.
 - C. Hyperactivity.
 - D. Anxiety Disorder.
8. During the initial stimulant titration period, whose observations of behavior should the family physician generally consider most instructive?
- A. The classroom teacher's.
 - B. The parent's.
 - C. The child's.
 - D. The school principal's.
9. Children with comorbid ADHD and anxiety are more likely than those without anxiety to:
- A. Refuse to comply with classroom rules.
 - B. Appear inefficient or lethargic.
 - C. Have a significant weight loss or gain.
 - D. All of the above.
10. Stimulants are among the most effective psychotropic medications in use today for treating ADHD.
- A. True.
 - B. False.

Video 2 Quiz - 100% Total Fraud

1. Attention Deficit Disorder was said to affect _____ *thousand* children in 1970 and _____ *million* today.
 - A. 150 & 5
 - B. 5 & 150
 - C. 200 & 10
 - D. 10 & 200

2. The Drug Enforcement Administration and International Narcotics Control Board state that the addictive potential of Ritalin is
 - A. Low
 - B. High
 - C. Moderate
 - D. There are no addictive potentials

3. William B. Carrey challenges four current basic assumptions of ADHD. Which one of these is NOT an assumption he challenges?
 - A. It is a distinguishable abnormality
 - B. It is a brain disease
 - C. Environment is not a factor
 - D. If the parents have ADHD so will the child

4. Steven E. Hyman, NIMH, states that one reason the consensus conference is important is due to rates of diagnosis. He states that in rate of prescription of Ritalin ranges from _____ to _____ % in some school systems and well above 40 % in other school systems.
 - A. 0 to 3
 - B. 10 to 20
 - C. 25 to 30
 - D. Greater than 30

5. Dr. Baughman states that DSM IV (Diagnostic and Statistical Methods 4th edition) ADHD fails to distinguish normal behaviors from ADHD behaviors and ignores:
 - A. child's past medical history
 - B. environmental factors such as from home and community
 - C. DNA research
 - D. medication research

6. William B. Carrey states in his presentation that there can be possible harm from the ADHD label in that it offers no articulation of the child's problems and strengths and no:
- A. indication for management except medication
 - B. course of action for parents
 - C. course of action for teachers
 - D. help to physicians
7. David J. Kupfer, M.D, states that at this time:
- A. there are many diagnostic tests available to test for ADHD
 - B. there are few diagnostic tests for ADHD
 - C. there are no diagnostic tests to test for ADHD
 - D. there are few diagnostic tests for ADHD but are not currently being used
8. Shelia Anderson, from CHADD, was concerned that the consensus panel's final report questioned the _____ of the ADHD diagnosis.
- A. reliability
 - B. cost
 - C. moderation
 - D. validity
9. David J. Kupfer, M.D, states that after years of clinical research and experience with ADHD our knowledge about the cause or causes of ADHD remains:
- A. hopeful
 - B. speculative
 - C. discouraging
 - D. advanced
10. A panel member states, when asked if ADHD medications are overprescribed or underprescribed, that :
- A. it is difficult to answer since there is no golden standard from which to judge prescription rates
 - B. yes it is overprescribed
 - C. yes it is underprescribed
 - D. it is neither overprescribed or underprescribed

APPENDIX J

VIGNETTES

Rick Vignette - ADHD Predominately Hyperactive-Impulsive subtype (417 words)

Rick Jacobs is a seven year old in a first grade class. During class time, Rick is often on the go, has a tendency to be moody when asked to complete assignments, is aggressive towards his classmates, and has exhibited multiple discipline issues. During Rick's daily activities, which often result in reports to the parents, he is often leaving his seat, seldom sits still, that is, he is constantly squirming around, does not complete his assignments, and has poor relationships with the other children in the classroom. He is also experiencing difficulties in Math and Reading and, by looking at his reports from kindergarten, it appears that he was having these difficulties last year as well. Any attempt to discipline Rick seems not to work and his behavior seems to be getting worse.

Rick's parents were sent a record of what a typical morning's activities with their son is like. On a recording form it was noted that Rick often left his seat in the classroom or in other situations in which remaining seated is expected. On one occasion he jumped up to look out of a window when a noise, probably a garbage truck backing up, was heard outside. He walked over to other children often talking excessively to the point of interrupting or intruding on others, that is, "butting into their conversations". When the teacher was asking the class a question, Rick would often blurt out the answer before the question was completed. Rick often fidgeted with his hands and feet in class or squirmed in his seat, acting as if "driven by a motor". When he was seated, he often was not working, but was fidgeting or attempting to talk to the other children around him doing their work. Any noise, even a pencil dropping, distracted him from his work. Rick often had difficulty playing or engaging in leisure activities quietly. Upon conclusion of this report, Rick's parents were asked to have a meeting with his teacher at the school to discuss his behavior.

While talking to Rick's parents, the teacher described Rick's typical behavior at school. Rick's parents, Mr. and Mrs. Jacobs, described that these problems seemed to start in kindergarten, and they received many notes the previous year regarding discipline problems. Rick's parents also added that they were having many difficulties with him at home including temper tantrums, not eating and sleeping well, and trouble with his neighborhood peers such as, fighting and complaints from parents about Rick picking on their child.

Rick Vignette - ADHD Predominately Inattentive subtype (411 words)

Rick Smith, a seven year old second grader, has been having difficulties in his classroom. He is extremely inattentive and often does not follow through on instructions and fails to finish schoolwork. In addition, he is averaging about three severe temper tantrums a week, each followed by a thirty minute rant about his classmates who constantly pick on him. His academic performance is below average, but not failing. He often appears to understand his assignments, but his inattention leads to sporadic results with his work because he often has difficulty organizing his tasks. When spoken to, Rick often does not seem to listen when spoken to directly. He often avoids or is reluctant to engage in tasks that require sustained mental effort such as his schoolwork. Rick often fails to give close attention to details or makes careless mistakes in his schoolwork or other activities. It seems that he pays closer attention when the material is new; however, he often has difficulty sustaining attention in his tasks or play activities. Also, he often loses things necessary for tasks such as, his pencil or paper. Although withdrawn from his peers at times, he does appear to have friends, and is most well adjusted in his gym class.

In particular, Rick is having problems with following rules. He is frequently “on red” in the classroom’s discipline system, where student name cards change from green to yellow to orange to red for each time a rule is broken. A red card also means that the child’s parents are to be automatically contacted. In the past month, Rick has been “on red” five times and “on orange” seven times. After several notes home to Rick’s mother with no improvement in his behavior, the teacher requested a meeting at school to discuss his behavior.

After describing behavior seen in a typical school day to Rick’s mother, the teacher inquired about his behavior at home. Mrs. Smith explains that Rick has always been a “fussy” child, but since her separation with her husband a year ago things have become even worse. She goes on to mention that he is frequently “out of control” at home, and tends to run around the house until he gets what he wants. She mentions that he often does not seem to be listening to her. He has been sent home in the past for fighting, and has been disciplined for taunting other children. They often argue about homework, chores, and misbehavior.

APPENDIX K
VIGNETTE EVALUATION FORM

Vignette Evaluation Form

1. The child in this vignette was a boy/girl (circle one).
2. The child was _____ years old.
A. 5 B. 7 C. 9 D. 11
3. The child was receiving schooling from
A. home B. traditional classroom C. inpatient setting D. correctional facility
4. The child is in _____ grade
A. 1st B. 2nd C. 3rd D. 4th
5. Indicate symptoms this child is having significant difficulties with. Check all that apply:
 - _____ Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
 - _____ Often has difficulty sustaining attention in tasks or play activities
 - _____ Often does not seem to listen when spoken to directly
 - _____ Often does not follow through on instructions or fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
 - _____ Often has difficulty organizing tasks and activities
 - _____ Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
 - _____ Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
 - _____ Is often easily distracted by extraneous stimuli
 - _____ Is often forgetful in daily activities
 - _____ Often fidgets with hands or feet or squirms in seat
 - _____ Often leaves seat in classroom or in other situations in which remaining seated is expected
 - _____ Often runs about excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
 - _____ Often has difficulty playing or engaging in leisure activities quietly
 - _____ Is often “on the go” or often acts as if “driven by a motor”
 - _____ Often talks excessively
 - _____ Often blurts out answers before questions have been completed
 - _____ Often has difficulty awaiting turn
 - _____ Often interrupts or intrudes on others (e.g., butts into conversations or games)

6. Do you feel as though this child has ADHD? Please circle one:

1 2 3 4 5 6 7
(1 Definitely doesn't have it 4 Not sure/Don't know 7 Definitely has it)

7. Would you suggest the parents seek a referral for a formal ADHD evaluation?

1 2 3 4 5 6 7
1 Definitely NO 4 Not sure/Don't know 7 Definitely YES

8. Would you suggest a referral for a formal psychoeducational evaluation for possible learning disabilities?

1 2 3 4 5 6 7
1 Definitely NO 4 Not sure/Don't know 7 Definitely YES

9. How strongly would you suggest the parents seek evaluation from a physician who might prescribe stimulant medications for the child?

1 2 3 4 5 6 7
1 Definitely NO 4 Not sure/Don't know 7 Definitely YES

10. How strongly would you suggest the parents seek evaluation from a psychologist who might suggest classroom changes or individual/family therapy for the child?

1 2 3 4 5 6 7
1 Definitely NO 4 Not sure/Don't know 7 Definitely YES

11. How strongly would you suggest the parents seek evaluation from a physician AND a psychologist?

1 2 3 4 5 6 7
1 Definitely NO 4 Not sure/Don't know 7 Definitely YES

12. If you think the child may have ADHD, what subtype do you think is most appropriate? (Check only one)
- ADHD would NOT be an appropriate diagnosis to consider for the child
 - Predominantly Inattentive
 - Predominantly Hyperactive/Impulsive
 - Combined Type (Features of both Inattentive and Hyperactive/Impulsive)

APPENDIX L
DEBRIEFING SCRIPT

Debriefing Script

The purpose of the study you just completed is to examine the effects of educational videos on participants' knowledge and opinions concerning Attention Deficit/Hyperactivity Disorder. Others participating in this study may have seen a different video than the one presented to your group.

If you are concerned about ADHD symptoms in either yourself or someone you know, please contact Student Counseling Services at 662-325-2091 for advice about pursuing further assessment or possible treatment. Student Counseling Services is located in room 100 in Lee Hall.

Thank you for your participation. If you have any questions about this research, you may contact Brandon "Shane" Davis at 662-325-3682 or Dr. Kevin Armstrong at 662-325-7657.

APPENDIX M
PRETEST AND POSTTEST MEAN RATINGS FOR SPECIFIC KNOWLEDGE AND
OPINIONS REGARDING ADHD

Pretest and Posttest Mean Ratings for Specific Knowledge and Opinions Regarding

ADHD

Category	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
Specific Knowledge				
Section A (Pretest)	<i>M</i> = 18.72 <i>SD</i> = 3.07	18.81 2.47	18.41 1.97	17.73 2.88
Specific Knowledge				
Section A (Posttest)	<i>M</i> = 17.21 <i>SD</i> = 3.33	17.26 2.46	18.26 2.33	17.97 2.66
Specific Knowledge				
Section B (Pretest)	<i>M</i> = 4.07 <i>SD</i> = 2.30	4.35 2.36	4.33 2.32	4.63 2.06
Specific Knowledge				
Section B (Posttest)	<i>M</i> = 4.62 <i>SD</i> = 2.10	4.97 2.04	6.00 2.15	5.83 2.10
Opinions Regarding				
ADHD items 1-11 (Pretest)	<i>M</i> = 48.38 <i>SD</i> = 7.66	45.13 7.90	45.52 5.85	48.24 8.55
Opinions Regarding				
ADHD items 1-11 (Posttest)	<i>M</i> = 43.76 <i>SD</i> = 8.55	41.52 8.10	34.37 9.03	38.67 8.99

APPENDIX N
PRETEST AND POSTTEST MEAN RATINGS FOR VIGNETTE EVALUATION
FORM ITEMS 6-11

Pretest and Posttest Mean Ratings for Vignette Evaluation items 6-11

Item	Pro-ADHD		Anti-ADHD	
	Hyp/Imp	Inattentive	Hyp/Imp	Inattentive
VEF Item 6 (Pretest)	<i>M</i> = 5.83 <i>SD</i> = 1.04	4.94 1.50	5.48 1.42	4.90 1.35
VEF Item 6 (Posttest)	<i>M</i> = 5.76 <i>SD</i> = 1.38	5.16 1.49	4.96 1.51	4.63 1.52
VEF Item 7 (Pretest)	<i>M</i> = 6.38 <i>SD</i> = .78	5.81 1.17	5.44 1.72	5.57 1.33
VEF Item 7 (Posttest)	<i>M</i> = 6.10 <i>SD</i> = .98	5.74 1.37	4.74 1.85	5.07 1.70
VEF Item 8 (Pretest)	<i>M</i> = 5.48 <i>SD</i> = 1.35	4.90 1.54	5.11 1.70	5.37 1.59
VEF Item 8 (Posttest)	<i>M</i> = 5.31 <i>SD</i> = 1.47	5.48 1.55	5.07 1.69	4.83 1.78
VEF Item 9 (Pretest)	<i>M</i> = 5.62 <i>SD</i> = 1.05	4.90 1.51	4.67 1.86	4.73 1.55
VEF Item 9 (Posttest)	<i>M</i> = 5.93 <i>SD</i> = 1.03	5.58 1.54	4.00 1.98	4.63 1.54
VEF Item 10 (Pretest)	<i>M</i> = 5.66 <i>SD</i> = 1.207	5.55 1.18	5.11 1.72	5.90 1.03
VEF Item 10 (Posttest)	<i>M</i> = 5.24 <i>SD</i> = 1.38	6.00 .97	5.07 1.829	5.57 1.65
VEF Item 11 (Pretest)	<i>M</i> = 5.83 <i>SD</i> = 1.00	5.39 1.33	4.67 1.82	5.67 1.35
VEF Item 11 (Posttest)	<i>M</i> = 5.59 <i>SD</i> = 1.18	5.84 1.19	4.48 1.89	5.33 1.52

APPENDIX O
IRB APPROVAL LETTER



October 17, 2007

Brandon Shane Davis
138 Cooper Lane
Starkville, MS 39759

RE: IRB Study #07-284: Educational Video Impact on Preservice Teacher Knowledge, Opinions, and Referral Attitudes Regarding Attention-Deficit/Hyperactivity Disorder

Dear Mr. Davis:

The above referenced project was reviewed and approved via expedited review for a period of 10/17/2007 through 10/15/2008 in accordance with 45 CFR 46.110 #7. Please note the expiration date for approval of this project is 10/15/2008. If additional time is needed to complete the project, you will need to submit a Continuing Review Request form 30 days prior to the date of expiration. Any modifications made to this project must be submitted for approval prior to implementation. Forms for both Continuing Review and Modifications are located on our website at <http://www.msstate.edu/dept/compliance>.

Any failure to adhere to the approved protocol could result in suspension or termination of your project. Please note that the IRB reserves the right, at anytime, to observe you and any associated researchers as they conduct the project and audit research records associated with this project.

Please refer to your docket number (#07-284) when contacting our office regarding this project.

We wish you the very best of luck in your research and look forward to working with you again. If you have questions or concerns, please contact Christine Williams at cwilliams@research.msstate.edu or by phone at 662-325-5220.

Sincerely,

[Unsigned – for use with electronic submission]

Christine Williams
IRB Compliance Administrator

cc: Kevin Armstrong

Office for Regulatory Compliance

P. O. Box 6224 • 3rd Mangum Street • Marking 9703 • Mississippi State, MS 39762 • (662) 325-5394 • FAX (662) 325-8776