

**TOWSON UNIVERSITY  
COLLEGE OF GRADUATE STUDIES AND RESEARCH**

**PEDIATRICIANS' TREATMENT DECISIONS FOR CHILDREN WITH  
MENTAL HEALTH DISORDERS**

**by**

**Janna Bonesteel**

**A thesis**

**Presented to the faculty of**

**Towson University**

**in partial fulfillment**

**of the requirements for the degree**

**Master of Arts**

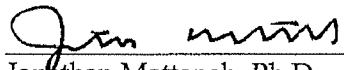
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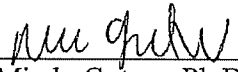
This is to certify that the thesis prepared by Janna Bonesteel entitled Pediatricians' Treatment Decisions for Children with Mental Health Disorders has been approved by the thesis committee as satisfactorily completing the thesis requirements for the degree Master of Arts.

  
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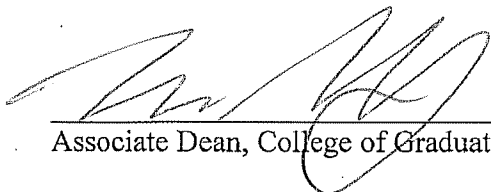
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ABSTRACT

Pediatricians' Treatment Decisions for Children with Mental Health Disorders

Janna Bonesteel

Pediatricians are being called upon to take a more active role in the treatment of mental health problems among their patients. The aims of this study were to examine pediatricians' treatment decisions for patients presenting with symptoms of attention-deficit hyperactivity disorder or depression and examine the effect of parental pressure to prescribe medication. Exploratory analyses were conducted to examine if pediatricians' attachment styles impacted their treatment decisions. An online survey was completed by 97 pediatricians in Maryland. Pediatricians reported being more likely to treat ADHD on their own than depression and were more likely to prescribe medication for ADHD than depression. Parental pressure to prescribe medication was not a significant predictor for managing the case on their own, prescribing medication, or managing the case in conjunction with a referral to a mental health provider. Exploratory analyses testing the effect of pediatricians' attachment were non-significant for all three variables of interest.

TABLE OF CONTENTS

|                                    |     |
|------------------------------------|-----|
| List of Tables.....                | vi  |
| List of Figures.....               | vii |
| Introduction.....                  | 1   |
| Literature Review.....             | 3   |
| Method.....                        | 11  |
| Results.....                       | 19  |
| Discussion.....                    | 23  |
| Appendices.....                    | 28  |
| Appendix A – Vignettes.....        | 29  |
| Appendix B – IRB Approval.....     | 31  |
| Appendix C – Informed Consent..... | 32  |
| References.....                    | 41  |
| Curriculum Vita.....               | 45  |

LIST OF TABLES

|  |    |
|--|----|
| Physician and Practice Characteristics (N = 97)..... | 34 |
| Physician Attachment Status (N = 97).....            | 36 |
| Summary of Attachment Analyses.....                  | 37 |
| Likelihood of Utilizing Other Interventions.....     | 40 |

LIST OF FIGURES

Estimated Marginal Means of Managing the Case Themselves – Respondents with  
Secure Attachment.....38

Estimated Marginal Means of Managing the Case Themselves – Respondents with  
Insecure Attachment.....39

## Introduction

Although the prevalence and impact of child mental health problems are well studied, most children with such concerns go undiagnosed or untreated (Stein et al., 2009). This is concerning problem, given that a significant proportion of adult psychopathology is first evident before the onset of adulthood (Stein, et al., 2009). The primary care sector has long been viewed as the de facto mental health system, and pediatricians are being called upon to take a more active role in the treatment of psychosocial problems among their patients (Olson et al., 2001). As attention has been brought to the missed opportunities to treat children with mental health problems (Stein et al., 2009), the American Academy of Pediatrics has published a number of policy statements regarding the profession's role regarding the management and identification of psychosocial issues and has issued a practice guide for the diagnosis and treatment of attention-deficit hyperactivity disorder (ADHD).

With increased pressure being placed on pediatricians to recognize and treat mental health disorders, it is important to follow changes in pediatric practices. In general, studies show variability in the level of involvement of pediatricians in treating mental health disorders. Therefore, the purpose of this study was to examine pediatricians' treatment decisions when presented with hypothetical cases depicting school-aged children with mental health concerns. Vignettes were written to depict a child presenting with either symptoms of ADHD or depression. A second aim was to explore the potential impact of parental pressure to prescribe a medication. Dependent variables included the likelihood that the pediatricians would manage the case themselves without a referral to a mental health professional, manage the case in conjunction with a



referral to a mental health professional, and prescribe medication. Lastly, exploratory analyses were conducted to examine the impact of pediatricians' attachment status on the three variables of interest.

## Literature Review

The impact and prevalence of mental health problems among children and adolescents are well studied. According to a report released by the Surgeon General in January 2001, one in ten children experience a mental health problem, and among them, only an estimated 20% receive specialty mental health care (Department of Health and Human Services, 2000). Data collected from the National Health and Nutrition Examination Survey (NHANES) estimated that 13.1% of children ages 8 to 15 met 12-month diagnostic criteria for at least one *Diagnostic and Statistical Manual, Fourth Edition* (DSM-IV) disorder (Merikangas, He, Brody, Fisher, Bourdon, & Koretz, 2009). The Diagnostic Interview for Children (DISC), Version IV, was utilized to assess for the presence of ADHD, mood disorders (including major depressive disorder and dysthymic disorder), conduct disorder, panic disorder, generalized anxiety disorder (GAD), and eating disorders (including anorexia nervosa and bulimia nervosa) (Merikangas et al., 2009). Among this sample, ADHD and mood disorders were the most prevalent, at 8.6% and 3.7% respectively (Merikangas et al., 2009).

In addition to the impact on individuals with mental health problems and their families, the economic costs of such problems among children and adolescents are great. In a report compiled by RAND Health researchers, an estimated \$12 billion dollars are spent annually to treat children and adolescents (RAND, 2001). An estimated 9% of youth need help with psychosocial problems; however, about three-fourths of them do not get the care they need (RAND, 2001). Over the past 15 years there has been a shift away from receiving care in inpatient settings to obtaining care in outpatient clinics, which has been estimated to total nearly 60% of all expenditures for mental health

services (RAND, 2001). Additionally, there has been a dramatic increase in the use of psychotropic medications by children and adolescents, with more than \$1 billion being spent in 1998 (RAND, 2001).

With the primary care sector depicted as the de facto mental health system for decades (Olson, Kelleher, Kemper, Zuckerman, Hammond, & Dietrich, 2001), physicians in primary care settings have been relied upon to address mental health problems among their patients. A recent study demonstrated that among adults who sought treatment over a 12-month period, 22.8% were treated by a general medical provider (Wang et al., 2005). This trend is apparent for children as well, with studies estimating that up to 75% of children with a mental health condition are seen in primary care settings (Williams, Klinpeter, Palmes, Pully, & Foy, 2004). These findings do not come as a surprise given the shortage of psychiatrists, especially child psychiatrists, in the United States (Harpaz-Rotem & Rosenheck, 2006). An estimated 75% of counties in the United States have a significant shortage of mental health professionals (Thomas, Ellis, Konrad, Holzer, & Morrissey, 2009). Data compiled by RAND researchers estimated that annually, only 5-7% of youth are treated by mental health providers (RAND, 2001).

As attention has been brought to the missed opportunities to treat children with mental health problems (Stein, et al., 2009), pediatricians have been called upon to take a more active role in the identification and management of such conditions (Olson et al., 2001). The American Academy of Pediatrics (AAP) wrote a policy statement in 1993, which was endorsed again in 2001, that highlighted the profession's dedication to the psychosocial care of children and adolescents (Williams et al., 2004). In 1996, the *Diagnostic and Statistical Manual for Primary Care, Child and Adolescent Version* was

published to assist physicians in addressing behavioral and emotional problems among children (Williams et al., 2004). In addition, a practice guide for the diagnosis and treatment of ADHD was created for pediatricians in 2000 by the AAP (Williams et al., 2004).

With increasing pressure for pediatricians to treat a variety of mental health disorders, it is important to follow changes in pediatric practices. Studies show variability in the level of involvement of pediatricians in treating mental health disorders. Findings support that pediatricians generally believe it is their responsibility to identify, but not to treat, most mental health disorders (Stein et al., 2009). However, 70% of the sample reported that pediatricians should be responsible to treat ADHD (Stein et al., 2009). In a study asking primary care physicians to recall their last case of child or adolescent depression, 79% referred their patient to a mental health professional and 77% also chose to utilize a brief intervention, such as counseling, advice about lifestyle change, or referral to a self-help or support group (Olson et al., 2001). Among the same sample, 20% of physicians prescribed a medication (Olson et al., 2001).

A variety of reasons have been explored as to why physicians may not become involved in the management and treatment of mental health disorders among children and adolescents. Lack of training or experience in handling behavioral and emotional health diagnoses is frequently cited (Williams et al., 2004; Miller, Johnston, Klassen, Fine, & Papsdorf, 2005; Oakley Browne, Lee, & Prabhu, 2007; Olson et al., 2001). Literature also suggests that physicians may be hesitant to make a diagnosis when the youths' parents are not ready to accept a diagnosis (Williams et al., 2004). In a study examining physicians' decisions to counsel, refer, or prescribe medication, the physicians'

perceptions of whether a family was in agreement about a treatment or assessment impacted whether the physician utilized that method (Gardner et al., 2000). For example, physicians were more likely to prescribe medication when they perceived that the family was in agreement with the treatment method (Gardner et al., 2000). In a study of general and family practitioners in Canada, self-reported comfort/skill with diagnosis and evaluation was related to taking the primary responsibility of a case (Miller et al., 2005).

Another way to think about a physician's comfort in treating patients is to consider the physician's attachment style. Patterns of attachment develop in infancy through interactions between the primary caregiver and child (Crowell, Fraley, & Shaver, 2008). Over time, expectations about the child's own behavior and that of a parent are developed, leading to the creation of working models or representations. These representations of interactions persist throughout the lifespan, influencing not only romantic relationships but also those with peers (Crowell et al., 2008).

Patterns of adult attachment are distinguished into four styles or types: secure (positive self-model, positive other model), fearful (negative self-model, negative other model), preoccupied (negative self-model, positive other model), and dismissing (positive self-model, negative other-model) (Bartholomew & Horowitz, 1991). These patterns can be conceptualized by thinking about the level of dependency (low or high) and the avoidance of close relationships (low or high). Key features of a secure attachment include a sense of self-confidence and a warm and positive approach towards others (Bartholomew & Horowitz, 1991). Individuals with a fearful attachment may avoid intimacy and may have difficulty developing trust. They tend to avoid conflict and may be self-conscious in social relations (Bartholomew & Horowitz, 1991). Preoccupied

individuals are emotionally reactive and seek self-acceptance by gaining approval and acceptance from other individuals. Those with a dismissing attachment may appear aloof and uninterested in others and have a moderate to high sense of self-confidence. They tend to avoid interpersonal conflict and close relationships in an effort to protect against disappointment (Bartholomew & Horowitz, 1991).

Although the attachment theory framework has been utilized to emphasize key features of physician-patient relationships, the majority of research has focused on the impact of the patients' attachment style in clinical encounters. However, in one study assessing physician attachment, researchers found that among patients with medically unexplained symptoms who described psychosocial distress, physicians who were least positive about self and most positive about others were more likely to recommend a somatic intervention (Salmon et al., 2008). The authors concluded that perhaps physicians value their patients but perceive themselves as lacking the tools to handle the patients' psychosocial distress, therefore proposing a somatic intervention as something of worth that they could offer (Salmon et al., 2008). In the present study, exploratory analyses were conducted to examine if pediatricians' attachment styles impacted their treatment decisions.

With the high proportion of children being seen by primary care providers and pediatricians for psychosocial concerns, it is also important to examine physicians' prescribing practices for psychotropic medications. This is especially important due to the dramatic growth in the number of children being prescribed psychotropic medications in recent years (RAND, 2001). In understanding the factors associated with prescribing psychotropic medications, parental pressure to prescribe may be one component

impacting prescribing practices. A number of studies have explored parental expectations and demands for antibiotics with varying results (Stivers, 2002). In one study examining prescribing practices, physicians' perceptions of the parent expecting an antimicrobial was the only significant predictor of prescribing for viral infections (Mangione-Smith, McGlynn, Elliott, Krogstad, & Brook, 1999). Actual parental expectation for receiving an antimicrobial, as assessed by a questionnaire before the visit, was not associated with physicians prescribing an antimicrobial (Mangione-Smith et al., 1999). In a study examining children presenting to a physician with a cough, parental expectation for an antibiotic increased the likelihood of the child being diagnosed with bronchitis and receiving an antibiotic (Vinson & Lutz, 1993). In a study conducted in Australia of patients with a newly diagnosed medical condition, patients who expected to receive a medication were three times more likely to get a prescription (Cockburn & Pit, 1997). Additionally, when physicians perceived that the patient expected a medication, patients were more than ten times as likely to receive one (Cockburn & Pit, 1997).

With data suggesting that parental expectation or pressure for antibiotics may influence physicians' decisions to prescribe medication, Stivers (2002) examined how this pressure is communicated in physician-patient encounters. Acute pediatric encounters were audio and videotaped, and through conversation analysis it was possible to identify how pressure was communicated and how treatment decisions were negotiated between parent and physician. From examining these interactions, parental pressure for an antibiotic was found to influence pediatricians to prescribe even when the appropriateness of such a medication was questionable for the presenting complaints. For example, in one interaction a parent pressure the pediatrician to prescribe an antibiotic for

a child with an ear ache. After discussing back and forth, the pediatrician decided to call the child's primary provider. After not reaching the primary provider, the pediatrician ultimately prescribed an antibiotic despite saying that he did not want to prescribe one and for a diagnosis that did not call for a medication. However, the parent insisted and swayed the pediatrician to prescribe.

With this research in mind, parental pressure to prescribe a psychotropic medication may be one factor to examine when considering pediatricians' prescribing practices for psychosocial concerns. The author is unaware of any prior research examining this concept. However, at least one investigation has been conducted examining whether patients were actively involved with the initiating the prescribing of psychotropic medications from their primary care provider and what variables influence the initiation of medications (Sleath, Svarstad, & Roter, 1997). Patients were more likely to initiate prescribing for repeat medications than new prescriptions (Sleath et al., 1997). In addition, patients with higher incomes were more likely to initiate prescribing than the primary care providers (Sleath et al., 1997). Primary care providers were more likely to initiate prescribing for low-income patients (Sleath et al., 1997).

As new practice guidelines are being integrated into primary care settings, there is a need to further explore trends in pediatric practice regarding the management of mental health conditions. The purpose of this study was to examine treatment decisions of pediatricians when presented with hypothetical cases depicting school-aged children with psychosocial concerns. This novel approach allowed for continuity in case presentations in an effort to assess variation in treatment choices. The aims of this study were to 1) investigate pediatricians' treatment decisions and involvement in managing cases of



patients presenting with symptoms consistent with ADHD or depression, and 2) investigate how the parents' thoughts about treatment, either desiring a medication or being open to treatment options, impacts the pediatricians' treatment decisions.

As prior research has indicated that pediatricians feel more responsible and comfortable with managing patients with ADHD than depression, it was hypothesized that pediatricians would be more likely to manage ADHD on their own than depression and more likely to prescribe medication in ADHD scenarios. Although research efforts have focused primarily on the influence of parental pressure to prescribe antibiotics, it was hypothesized that pediatricians would be more likely to prescribe medication in situations in which the parent pressured them to write a prescription. Attachment analyses were largely exploratory; however, following prior research regarding physician attachment and patients with medically unexplained symptoms, it was hypothesized that pediatricians with an insecure attachment would be less likely to manage the case on their own.

## Method

### Participants

Pediatricians working in the state of Maryland were recruited for this study. Those practicing in general pediatrics and/or a specialty field were eligible to participate. In order to join the study, participants had to be able to read English and had to provide consent before starting the questionnaire.

Although the mass email containing the survey information and link was distributed to 746 recipients, there were only 156 clicks on the survey link as recorded by StudentVoice. Of these, 59 surveys were blank; thus the remaining 97 surveys formed the study dataset. There were five cases with incomplete data which were excluded from analyses.

Table 1 represents the physician and practice characteristics of the sample. The sample was primarily Caucasian (79.1%) and 62.6% were female. The majority of respondents (67.0%) worked exclusively in general pediatrics. Nearly 84% of the sample reported receiving continuing education related to mental health in children within the past five years. In addition, almost 84% of respondents reported the quality of their graduate training in mental health disorders in children as excellent, above average, or average. Over half (51.1%) of practice locations were in suburban areas. Among urban areas, 26.7% of respondents characterized their practice location as inner-city and 13.3% as non-inner city. Thirty-seven percent of the sample reported working in a pediatric group practice. Only 35.9% of the sample indicated having a mental health professional onsite at their practice.

Physician attachment status is presented in Table 2. Nearly 70% of the sample reported a secure attachment (68.1%). Due to the small sample size, attachment data was collapsed into two categories, secure and insecure, with dismissing, fearful, and preoccupied statuses falling into the insecure category.

### **Procedures**

The content of the questionnaire was developed by reviewing other studies and surveys relevant to physicians and the management of mental health disorders (Khin, Arroll, & Oakley Browne, 2003; Miller et al., 2005; Olson et al., 2001; Stein et al., 2008; Williams et al., 2004). General themes related to physicians' treatment choices were included in this survey, including the physicians' level of involvement in the case, prescribing practices, and the utilization of non-medication interventions. A member of the Maryland Chapter of the American Academy of Pediatrics' (MDAAP) mental health task force and the president of the MDAAP recommended that the questionnaire be brief in an effort to maximize the number of completers. A draft of the questionnaire was piloted by a small group of physicians for initial feedback on content, clarity of questions, and length of time to complete the survey. The survey was also previewed by a member of the MDAAP's mental health task force, the president of the MDAAP, and two pediatricians. Key changes to the questionnaires based upon these reviews included the elimination of a third vignette and the inclusion of a shorter attachment measures. In addition, a question regarding how realistic the scenarios were to the pediatricians was edited for clarification. Taking their feedback into account, these minor adjustments were made and the surveys were uploaded online through the StudentVoice assessment platform.

Prior to beginning this investigation, the author contacted the president of the MDAAP and obtained a letter of support from the organization. The MDAAP agreed to distribute the survey link on behalf of the author through their member listserv. An introductory email was sent on December 2, 2010 to 746 pediatricians. This email contained a brief description of the study and an endorsement from the MDAAP, along with the link to the web-based survey. Upon opening the link, a cover page appeared with information describing the study, inclusion and exclusion criteria, confidentiality, risks and benefits, and contact information for the investigator, faculty advisor, and Towson University's Institutional Review Board. Consent to participate in the study was confirmed by clicking a "Next" button. Reminders to complete the survey were sent by a MDAAP staff member on December 18, 2010 and January 26, 2011.

Upon completion of the questionnaire, participants had the option to enter a drawing for a \$100 prize to be donated to the winner's charity of choice. The participant's contact information was stored securely and separately from the questionnaire data and was only used for selecting the winner of the drawing.

Prior to beginning the investigation, the study protocol was approved by the Towson University Institutional Review Board and the appropriate review committee at the Maryland Chapter of the American Academy of Pediatrics.

## **Measures**

**Physician demographic and practice information.** Demographic information about the pediatrician and practice setting was collected. The pediatricians were asked to report their age, gender, ethnicity/race, practice specialty (i.e., general pediatrics or a specialty), practice location (i.e., urban, inner city, urban, non-inner city, rural, suburban),

and type of practice (i.e., solo, two-physician, pediatric group, multi-specialty group, university or medical school based, city/county/state hospital or clinic, government hospital or clinic, non-governmental hospital, or other). In addition, the pediatricians were asked to indicate if they had received any continuing education training related to mental health in children over the past five years. Lastly, pediatricians were asked to rate their graduate training related to mental health disorders in children (i.e., excellent, above average, below average, poor, or never received) and whether they had a mental health professional onsite at their practice.

**Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991).** The RQ is a single item self-report questionnaire designed to assess attachment styles. While a variety of self-report attachment measures exist, the RQ can be worded to assess orientation to close relationships in general, rather than specifically to romantic relationships. The RQ consists of four brief paragraphs depicting each type of attachment pattern that may be characteristic of close relationships. The vignettes depict each prototypic form of attachment: secure, preoccupied, dismissing, and fearful (Bartholomew & Horowitz, 1991). Respondents rate on a 7-point Likert scale the extent to which each vignette describes their general relationship style, from (1) *not at all like me* to (7) *very much like me*. The RQ can be utilized to obtain either a categorical or continuous rating of attachment. A categorical rating is attained by identifying the highest rating from the four vignettes. A continuous score, ranging from -12 to +12, can be determined for model of self and model of other, with higher scores representing more positive models. Model of self scores are derived by summing the responses to the secure and self-reliant vignettes and subtracting the scores from the support-seeking and

cautious vignettes. Model of other scores are acquired by summing the responses to the secure and support-seeking and subtracting the cautious and self-reliant vignettes.

Discriminate and construct validity of the four types of attachment has been demonstrated (Griffin & Bartholomew, 1994), and the RQ has shown moderate stability over a test re-test period (Scharfe & Bartholomew, 1994).

The RQ also contains a forced-choice paragraph asking participants to pick out which style best describes them. This forced-choice question is used as a counterbalancing effect in an effort to minimize order effects when participants rank the four vignettes. In this study, a categorical measure of attachment was used for analyses and was determined by the respondents' answer to this forced-choice question. Although this question is not part of the standardized measure, this method was used because the Likert scale for the RQ was incorrectly loaded online in this study as a 5-point scale rather than a 7-point scale.

**Vignettes.** Four vignettes were created for this study and were written utilizing DSM-IV-TR criteria to depict either a child with depression or ADHD symptoms. These mental health disorders were chosen because of their high prevalence rate in pediatric populations. Participants were asked to imagine a school-aged child presenting at their office for a checkup. In each vignette, the child's parent expressed some specific concerns about the child's well-being, describing either symptoms consistent with depression or ADHD. In addition, the vignettes included information alluding to the existence of a psychosocial problem, including parent separation or school refusal. To explore the possible impact of parental pressure to prescribe a medication on pediatricians' treatment decisions, a statement was included regarding the parent's

desired treatment method. At the end of the vignette, the parent was described as either being adamant about receiving a prescription or being open to treatment methods. In an effort to decrease bias within each vignette, the genders of the parent and child were not revealed. Additionally, the age of the child and type of psychosocial stressor were kept similar across each vignette. Vignettes are presented in Appendix A.

Based on the original design of the study, participants received two vignettes. The vignettes were paired together in such a way so each participant would receive an ADHD and depression case and a parental pressure and no parental pressure case (i.e., a participant would never receive two cases with the same diagnosis or same pressure condition). The original design also sought to control for order effects for the presentation of cases based on diagnosis; thus, four sets of vignette pairs were loaded on StudentVoice. Vignette sets were assigned in order once a participant clicked on the survey link.

**Treatment Decisions.** After reading each vignette, participants were presented with a variety of questions about possible treatment choices and were asked to rate the likelihood of applying those actions in an effort to handle the case. Participants were asked to rate, on a scale of (1) *not likely* to (5) *very likely*, the likelihood of them managing the case on their own, managing the case in conjunction with a referral to a mental health provider, scheduling a follow-up appointment while providing no treatment today, and not involving themselves and referring the case to a mental health professional. Participants were also asked to rate the likelihood that they would provide advice about lifestyle changes, provide counseling for less than five minutes, provide counseling for more than five minutes, prescribe a medication, and refer the child to a

support group or self-help. In the event that they would prescribe a medication, respondents were asked to indicate what class of medication they would prescribe. Lastly, the participants were asked to rate how realistic each scenario was on a scale of (1) *not at all* to (5) *very much*.

### **Plan of Analyses**

This study was originally designed to capture and analyze data both between and within subjects, thus involving a mixed effects model for statistical analyses. Prior to starting the analyses, the author sought consultation to assist with running this type of analysis and was unable to find someone with this expertise. Therefore, for the purposes of this investigation and in particular for the examination of the present hypotheses, a between-subjects model was adopted. Because each participant had received two case scenarios, one of them was randomly selected and deleted from the data set. Random selection of the case to be deleted was conducted by flipping a coin. Thus, the present dataset includes 45 depression cases and 47 ADHD cases, and 49 cases in which the parent pressures the pediatrician to write a prescription and 43 cases in which the parent is open to discussing treatment options. Future work will focus on obtaining the appropriate consultation in order to utilize a mixed effects model.

All statistical analyses were conducted using PASW Statistics 17.0. A 2x2 (diagnosis x pressure) analysis of variance (ANOVA) tested the effects of diagnosis and the presence of parental pressure to prescribe a medication on three variables of interest. These variables included the likelihood of pediatricians managing the case on their own, managing the case in conjunction with a referral to a mental health professional, and prescribing a medication.



Exploratory analyses were conducted to examine the impact of attachment status on treatment decisions. Lastly, the demographics of the sample were analyzed using descriptive statistics and t-tests. Significance tests were set at the  $p < .05$  level.

## Results

The study dataset included a total of 97 surveys. There were five cases with incomplete data which were excluded from analyses. Because the questions regarding treatment options relied on having a realistic case presentation, pediatricians were asked “From your professional viewpoint, how realistic is this scenario?” The average response across all scenarios was 4.4 on a scale of (1) *not at all* to (5) *very much*.

### **Likelihood of Pediatricians Managing the Case Themselves**

After reading the vignettes, pediatricians were asked to rate the likelihood of evaluating and managing the case themselves without a referral to a mental health professional. Results indicated a significant main effect for the diagnosis factor,  $F(1, 88) = 32.567, p < .001$ . As hypothesized, pediatricians reported being more likely to manage ADHD on their own ( $M = 3.235$ ) than depression ( $M = 1.775$ ). The main effect of parent pressure was not significant,  $F(1, 88) = 0.000, p = .990$ . In addition, the interaction between diagnosis and pressure was not significant,  $F(1, 88) = 1.142, p = .288$ . Pediatricians who reported receiving CME in the past five years related to child and adolescent mental health ( $M = 2.707$ ) were more likely to manage the case themselves than those who had not received CME ( $M = 1.733$ ),  $t(88) = 2.487, p < .05$ .

### **Likelihood of Pediatricians Managing the Case in Conjunction with a Referral to a Mental Health Professional**

Pediatricians were asked to rate the likelihood of evaluating and managing the case in conjunction with a referral to a mental health professional. Analyses indicated that the effects of diagnosis and the presence of pressure to prescribe a medication did not significantly affect the likelihood that pediatricians reported managing the case in

conjunction with a referral to a mental health professional. Although not statistically significant, female pediatricians ( $M = 3.983$ ) were more likely to manage the case in conjunction with a referral than male pediatricians ( $M = 3.529$ ),  $t(89) = -1.734$ ,  $p = .086$ .

### **Likelihood of Pediatricians Prescribing a Medication**

A main effect for the diagnosis factor was found for the likelihood of prescribing a medication,  $F(1, 88) = 4.565$ ,  $p < .05$ . As hypothesized, pediatricians reported being more likely to prescribe a medication for ADHD ( $M = 1.921$ ) than depression ( $M = 1.428$ ). The main effect of parental pressure to prescribe a medication was not significant,  $F(1, 88) = 0.252$ ,  $p = .617$ , which was contrary to the initial hypothesis. Additionally, the interaction between diagnosis and pressure to prescribe a medication was not significant,  $F(1, 88) = 3.414$ ,  $p = .068$ . Male physicians were more likely to prescribe medications ( $M = 2.182$ ) than female physicians ( $M = 1.411$ ),  $t(87) = 3.24$ ,  $p < .005$ . In addition, pediatricians who reported receiving CME in the past five years related to child and adolescent mental health ( $M = 1.813$ ) were more likely to prescribe medication ( $M = 1.067$ ),  $t(88) = 2.379$ ,  $p < .05$ .

Although the interaction between diagnosis and pressure to prescribe a medication was not significant, some interesting effects emerged. For depression scenarios, pediatricians were more likely ( $M = 1.583$ ) to prescribe medication with parental pressure to prescribe than in the absence of pressure ( $M = 1.273$ ). The exact opposite was evident for scenarios depicting children with symptoms of ADHD. Pediatricians were less likely ( $M = 1.650$ ) to prescribe with parental pressure to prescribe than in the absence of pressure ( $M = 2.192$ ).

### **Impact of Attachment Status on Treatment Decisions**

Exploratory analyses testing the effect of attachment status were non-significant for all three variables of interest (Table 3). However, some interesting trends emerged for the likelihood of managing the case themselves. In ADHD scenarios, individuals with a secure attachment were less likely ( $M = 2.800$ ) to manage the case themselves when parents pressured them to prescribe a medication than in situations with no pressure to prescribe ( $M = 3.563$ ). Individuals with an insecure attachment were more likely ( $M = 3.750$ ) to manage the case themselves when parents pressured them to prescribe a medication than in situations with no pressure to prescribe ( $M = 3.200$ ).

Conversely, in depression scenarios, individuals with a secure attachment were more likely ( $M = 2.071$ ) to manage the case themselves when parents pressured them to prescribe a medication than in situations with no pressure to prescribe ( $M = 1.467$ ). However, individuals with an insecure attachment were less likely ( $M = 1.667$ ) to manage the case themselves when parents pressured them to prescribe than in situations with no pressure to prescribe ( $M = 1.833$ ). These trends are illustrated in Figure 1 for respondents with a secure attachment and Figure 2 for those with an insecure attachment.

### **Other Interventions**

Pediatricians were asked to indicate the likelihood of utilizing a variety of other interventions in addition to the likelihood of managing the case on their own, managing in conjunction with a mental health referral, and prescribing medication. Data is summarized in Table 4. The majority of respondents (88.1%) indicated that they were somewhat to very likely to provide advice about helpful lifestyle changes. Half of the participants reported they would be very likely to provide counseling for greater than five minutes. There was a varied response for the likelihood of referring the patient to a

support group or self-help; however, 33% of respondents reported they were somewhat likely to take this action. Interestingly, only 11.1% of respondents indicated being very likely to schedule a follow-up without providing treatment today (“watchful waiting”), and 38.9% reported that this was not likely. Just over a quarter of respondents (27.4%) indicated that they were somewhat to very likely to not involve themselves in the case and refer the patient to a mental health professional.

## Discussion

As pediatricians are being called upon to take a more active role in the management of mental health disorders among children and adolescents, it is important to study trends in pediatric practices. In this study, pediatricians reported being more likely to evaluate and manage ADHD on their own without a referral to a mental health provider compared to depression cases. They also reported being more likely to prescribe a medication for ADHD than depression. Taken together, these results suggest that pediatricians feel more comfortable in providing care themselves for patients presenting with ADHD than depression. These findings are consistent with prior research in which 70% of pediatricians reported being responsible for treating and managing ADHD, compared to 25% of pediatricians for depression.

Although the majority of pediatricians reported involving themselves in some way, it is unclear from this study what variables impact pediatricians' decisions to recommend a referral to a mental health provider. The effects of diagnosis and the presence of pressure to prescribe a medication did not significantly affect the likelihood of pediatricians' reporting the management of the case in conjunction with a mental health provider. In addition, only 6.6% of respondents reported that they would be very likely to not involve themselves and refer the patient to a mental health professional. However, across all scenarios, 81.9% of respondents reported being somewhat likely to very likely to manage the case in conjunction with a referral to a mental health provider. What is left unknown is the extent of their involvement with the case, including whether they would be involved with the initiation and/or maintenance of a medication.

Contrary to hypothesis, pediatricians did not report being more likely to prescribe a medication in scenarios in which the parent pressured the pediatrician to write a prescription. This finding can be viewed from a couple of perspectives. Perhaps pediatricians did not feel comfortable with prescribing the medication to begin with, and the presence of pressure to prescribe did not change their decision. On the other hand, if parents presented this type of concern, it would be alarming if pediatricians did not do anything. Although most respondents indicated that the scenarios were realistic, perhaps few parents request medication in this way in actual patient encounters, thus affecting the conceptualization and validity of the pressure variable. However, feedback was collected before initiation of the study, and no one indicated that the pressure condition was unrealistic.

In this sample, male physicians were more likely to prescribe medication. Prior research investigating physicians' approaches to case involvement have included gender as an independent variable with mixed findings. In one study, there were no significant associations between the physicians' gender and case involvement (Miller et al., 2005). Among a sample of general practitioners in Australia, female physicians had higher odds of being less confident in identifying, diagnosing, and initiating antipsychotic medications (Oakley Browne, Lee, & Prabhu, 2007). In a randomized controlled trial using standardized patients, male physicians were significantly more likely to make a mental health referral (Kravitz et al., 2006). In the present study, while not statistically significant, female pediatricians were more likely to manage the case in conjunction with a mental health provider than male pediatricians.

Analyses also indicated that pediatricians with CME within the past five years in child and adolescent mental health were more likely to manage the case themselves and to prescribe medication. Previous research has linked physician comfort/skill in involvement with children with psychosocial concerns to exposure to CME (Miller et al., 2005). According to Miller and colleagues (2005), physician comfort/skill was related to taking the primary responsibility for the case. Because this study is cross-sectional, it is not possible to conclude a direct link between CME and pediatricians' practice with children with mental health concerns. Future studies may want to examine the type of CME that was completed and examine practices in a longitudinal design.

In this study, exploratory analyses testing the effects of pediatrician's attachment status were non-significant for all three variables of interest. Perhaps more explicit questions pertaining to the pediatricians' level of involvement in the case would have been more appropriate. For example, a question asking about the pediatrician's comfort level in discussing the presenting problem with the patient and patient's family may have provided a better account of their willingness to further engage in the case. In addition, perhaps there were too few participants in the study to observe an effect, in particular with the group identifying as having an insecure attachment ( $n = 30$ ). Lastly, although an attempt was made to utilize a standardized measure of attachment in adults, the Likert scale used in this study was inadvertently loaded incorrectly online, ranging from 1 to 5, rather than 1 to 7. Future investigations may be strengthened by the use of a more thorough attachment measure, such as the Adult Attachment Interview (AAI).

One of the strengths of this study is that it is one of, if not the only, examination of parental pressure to prescribe psychotropic medications. Although the variables



included in the analyses were not affected by the presence of pressure to prescribe, it remains an interesting component in the treatment of mental health disorders among children. With the growth in the number of children being prescribed psychotropic medications, understanding the factors associated with their initiation and maintenance should be examined. Parental pressure to prescribe may be one component of these studies, especially in light of research showing that parental pressure to prescribe antibiotics played a role in situations when the appropriateness of such medications was questionable (Stivers, 2002).

The results of this study must take into consideration a number of limitations. This survey was only distributed to members on the Maryland Chapter of the American Academy of Pediatrics' listserv, thus excluding those physicians who are not part of the email list. Because only pediatricians in the state of Maryland were recruited, results may not generalize to other physicians in the United States. This survey technique could only describe self-reported behaviors given a particular scenario and may not generalize to an actual patient encounter. There was also the possibility of a response bias, with those pediatricians who were more interested in mental health being more likely to have participated in the study. This study did not have guards in place to account for individuals who may have filled out the survey more than once. This study also had a small sample size and low response rate, and its cross-sectional design did not allow for assessing causality (i.e., the relationship between continuing education and the likelihood of being involved with the case).

Two participants contacted the author regarding potential shortcomings. One indicated that he had not been in practice for many years, thus potentially limiting how he

envisioned the case scenario. Another participant indicated that she would have included screening measures as part of her assessment while making treatment decisions. Both of these are important variables and should be taken into consideration in future studies. This could be done by adding inclusion criteria to specify that physicians should be actively seeing patients. The insertion of a question regarding the use of screening measures should also be considered and may help explain how and when such measures are used by physicians.

Past studies have indicated variability in the level of involvement of pediatricians in treating mental health disorders. In this investigation, pediatricians reported that they would use a number of strategies for working with patients with ADHD or depression, with only 6.6% of respondents indicating that they would not involve themselves and refer to a mental health provider. This study supports prior research suggesting that pediatricians are more comfortable with managing and prescribing medication of children with ADHD than depression. Pediatricians are in a unique position to identify mental health concerns among their patients. As national guidelines and organizational bodies encourage their involvement in meeting patients' mental health concerns, continued research efforts should examine trends in pediatric practices. In addition, future studies may expand existing literature on physician-patient relationships by adopting an attachment theory perspective. Lastly, efforts should continue to explore new approaches for managing and treating mental health disorders in pediatric practices that are both appealing to physicians and appropriate for the patient.

APPENDICES

## Appendix A

### Vignettes

Please read the following scenario and imagine that this patient is presenting in your office. A school-aged child comes into your office for an annual check-up. The child's parent expresses some concerns about the child's well-being. In particular, the child has been experiencing fatigue, doesn't seem interested in hobbies and activities that were once fun, and seems sad much of the time. According to the parent, the child is often irritable and on edge, frequently yelling and slamming doors. The child used to spend a lot of time outside playing with friends, but now prefers to stay indoors and plays alone. In addition to these issues, the child's parent informs you that the child has been refusing to go to school and that the parents have recently divorced. The parent is convinced that a medication can help alleviate the child's symptoms and pressures you to write a prescription.

Please read the following scenario and imagine that this patient is presenting in your office. A school-aged child is seeing you for a check-up. The child's parent reports that the child has been experiencing fatigue, doesn't seem interested in hobbies and activities that were once fun, and seems sad much of the time. According to the parent, the child is often irritable and on edge, frequently yelling and slamming doors. The child used to spend a lot of time outside playing with friends, but now prefers to stay indoors and plays alone. The child's parents are currently undergoing a separation; thus, the child has been staying at a grandparent's house. The parent is frustrated and is interested in exploring treatment options with you.

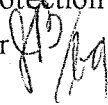
Please read the following scenario and imagine that this patient is presenting in your office. A school-aged child is seeing you for a check-up. The child's parent reports that the child has increasingly had difficulties paying attention in school and frequently loses or misplaces personal belongings, such as school materials, money, and toys. The child often interrupts others' conversations, forgets to bring home school assignments, and constantly has to be reminded to do household chores. In addition, the child's teacher called the week prior to report that the child had been disruptive during class and had received detention for not following instructions. The child's parents are currently undergoing a separation; thus, the child has been staying at a grandparent's house. The parent is frustrated and is interested in exploring treatment options with you.

Please read the following scenario and imagine that this patient is presenting in your office. A school-aged child comes into your office for an annual check-up. The child's parent expresses some concerns about the child's well-being. The child has increasingly had difficulties paying attention in school and frequently loses or misplaces personal belongings, such as school materials, money, and toys. The child often interrupts others' conversations, forgets to bring home school assignments, and constantly has to be reminded to do household chores. In addition, the child's teacher called the week prior to report that the child had been disruptive during class and had received detention for not following instructions. In addition to these issues, the child's parent informs you that the child has been refusing to go to school and that the parents have recently divorced. The parent is convinced that a medication can help alleviate the child's symptoms and pressures you to write a prescription.

## Appendix B



### EXEMPTION NUMBER: 11-0X41

To: Janna Bonesteel  
 From: Institutional Review Board for the Protection of Human  
 Subjects, Justin Buckingham, Member   
 Date: Wednesday, November 10, 2010  
 RE: Application for Approval of Research Involving the Use of  
 Human Participants

Office of University  
 Research Services

Towson University  
 8000 York Road  
 Towson, MD 21252-0001

t. 410 704-2236  
 f. 410 704-4494

Thank you for submitting an application for approval of the research titled,  
*Pediatricians' Treatment Decisions for Patients with Mental Health  
 Disorders*

to the Institutional Review Board for the Protection of Human Participants  
 (IRB) at Towson University.

Your research is exempt from general Human Participants requirements  
 according to 45 CFR 46.101(b)(2). No further review of this project is  
 required from year to year provided it does not deviate from the submitted  
 research design.

If you substantially change your research project or your survey  
 instrument, please notify the Board immediately.

We wish you every success in your research project.

CC: Jonathan Mattanah  
 File

## **Appendix C**

### Informed Consent

Dear Participant,

My name is Janna Bonesteel and I am a graduate student in the Department of Psychology at Towson University. As part of the research for my master's thesis, I am conducting a survey to examine pediatricians' treatment decisions for patients with mental health disorders. This survey will include two hypothetical cases of patients presenting with a mental health issue and will ask you questions about how you would approach each case. In addition, the survey will also ask you questions about your style of relating to others.

Participation in this study is voluntary. If you choose to participate in my project, you will be asked to complete a questionnaire. While this survey does require a little reading and thinking, it should take no more than 5-7 minutes to complete. You do not have to answer every question, and you may discontinue your participation in the project at any time. Your decision whether or not to participate in the project or to withdraw from the project at any time will in no way affect your employment status.

I do not know of any risks to you if you decide to participate in this survey, and your responses will be kept confidential. No identifying information will be collected with your survey responses. However, at the end of the questionnaire you will have the opportunity to enter a drawing for a prize. A prize of \$100 will be donated to the winner's favorite charity. Your contact information will be stored securely and separately from your questionnaire data, will only be used as part of the random drawing, and will be destroyed once a winner is selected.

If you have any questions about the project, you may contact me at (810) 441-8360, my faculty advisor, Dr. Jonathan Mattanah at (410) 704-3208, or the Chairperson of Towson University's Institutional Review Board for the Protection of Human Participants, Dr. Debi Gartland, at (410) 704-2236. Regardless of whether you choose to participate, please let me know if you would like a summary of my findings. To receive a summary, please contact me by email [jbones1@students.towson.edu](mailto:jbones1@students.towson.edu).

Thank you for your time.

Sincerely,

Janna Bonesteel

Clinical Psychology Graduate Student



Table 1

*Physician and Practice Characteristics (N=97)*

| Characteristic  | <i>n</i> | %    |
|---|----------|------|
| <b>Physician Characteristics</b>                                  |          |      |
| Gender, Female  | 57       | 62.6 |
| Ethnicity/race  |          |      |
| African American  | 13       | 14.3 |
| Asian   | 3        | 3.3  |
| Caucasian   | 72       | 79.1 |
| Hispanic  | 1        | 1.1  |
| Other   | 2        | 2.2  |
| Age category, y   |          |      |
| <40   | 17       | 18.7 |
| 40-49   | 21       | 23.1 |
| 50-59   | 27       | 29.7 |
| 60+   | 26       | 28.6 |
| Area of practice  |          |      |
| General pediatrics 100% of time                                   | 65       | 67.0 |
| Specialty 100% of time  | 15       | 15.5 |
| General pediatrics and specialty area                             | 11       | 11.3 |
| Continuing education in mental health past 5 years, Yes           | 77       | 83.7 |
| Rating of graduate training – mental health disorders in children |          |      |
| Excellent   | 10       | 10.9 |
| Above average   | 24       | 26.1 |

|  |    |      |
|--|----|------|
| Average                                | 43 | 46.7 |
| Below average                          | 4  | 4.3  |
| Poor                                   | 9  | 9.8  |
| Never received                         | 2  | 2.2  |
| <b>Practice Characteristics</b>        |    |      |
| Practice Setting                       |    |      |
| Urban, inner city                      | 24 | 26.7 |
| Urban, non-inner city                  | 12 | 13.3 |
| Suburban                               | 46 | 51.1 |
| Rural                                  | 8  | 8.9  |
| Practice Type                          |    |      |
| Solo practice                          | 6  | 6.5  |
| Two-physician practice                 | 8  | 8.7  |
| Pediatric group practice               | 34 | 37.0 |
| Multispecialty group                   | 11 | 12.0 |
| University or medical school based     | 13 | 14.1 |
| City/county/state hospital or clinic   | 3  | 3.3  |
| Government hospital or clinic          | 1  | 1.1  |
| Non-government hospital                | 7  | 7.6  |
| Other                                  | 9  | 9.8  |
| Mental health professional onsite, Yes | 33 | 35.9 |

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*Note.* Numbers may not total to 97 as a result of missing data.

Table 2

*Physician Attachment Status (N=97)*

| Attachment category | <i>n</i> | %    |
|---------------------|----------|------|
| Secure              | 64       | 68.1 |
| Fearful             | 8        | 8.5  |
| Preoccupied         | 5        | 5.3  |
| Dismissing          | 17       | 18.1 |

*Note.* Numbers may not total to 97 as a result of missing data.

Table 3

*Summary of Attachment Analyses*

| Variable                      | Manage Self |      | Manage with<br>referral to mental<br>health provider |      | Prescribe<br>Medication |      |
|-------------------------------|-------------|------|--|------|-------------------------|------|
|                               | <i>F</i>    | Sig. | <i>F</i>   | Sig  | <i>F</i>                | Sig  |
| Diagnosis*Attachment          | .300        | .586 | .384   | .537 | .006                    | .937 |
| Pressure*Attachment           | .224        | .637 | .435   | .511 | .043                    | .836 |
| Diagnosis*Pressure*Attachment | 3.325       | .072 | .740   | .392 | 2.745                   | .101 |

Figure 1

*Estimated Marginal Means of Managing the Case Themselves – Respondents with Secure Attachment*

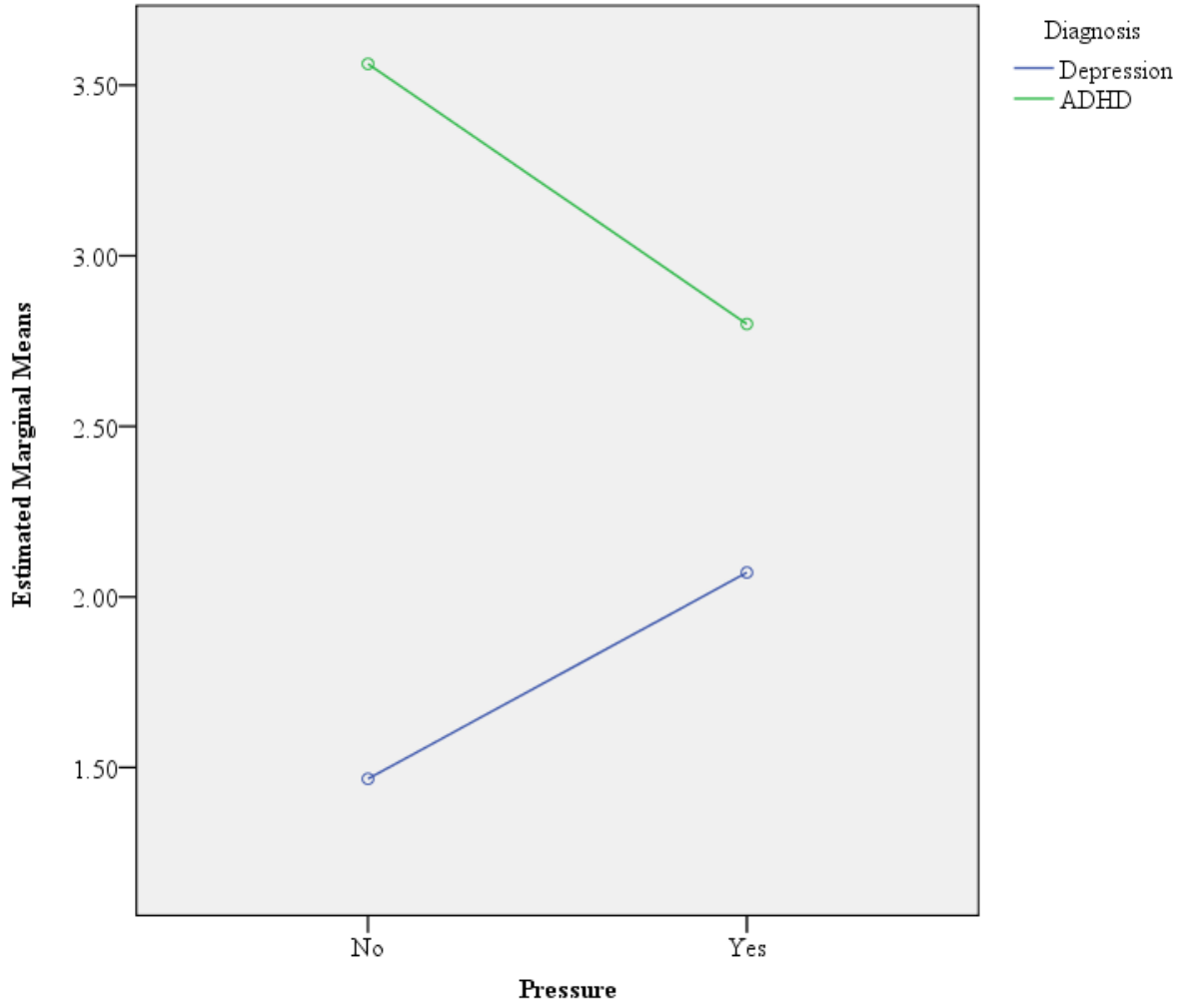


Figure 2

*Estimated Marginal Means of Managing the Case Themselves – Respondents with Insecure Attachment*

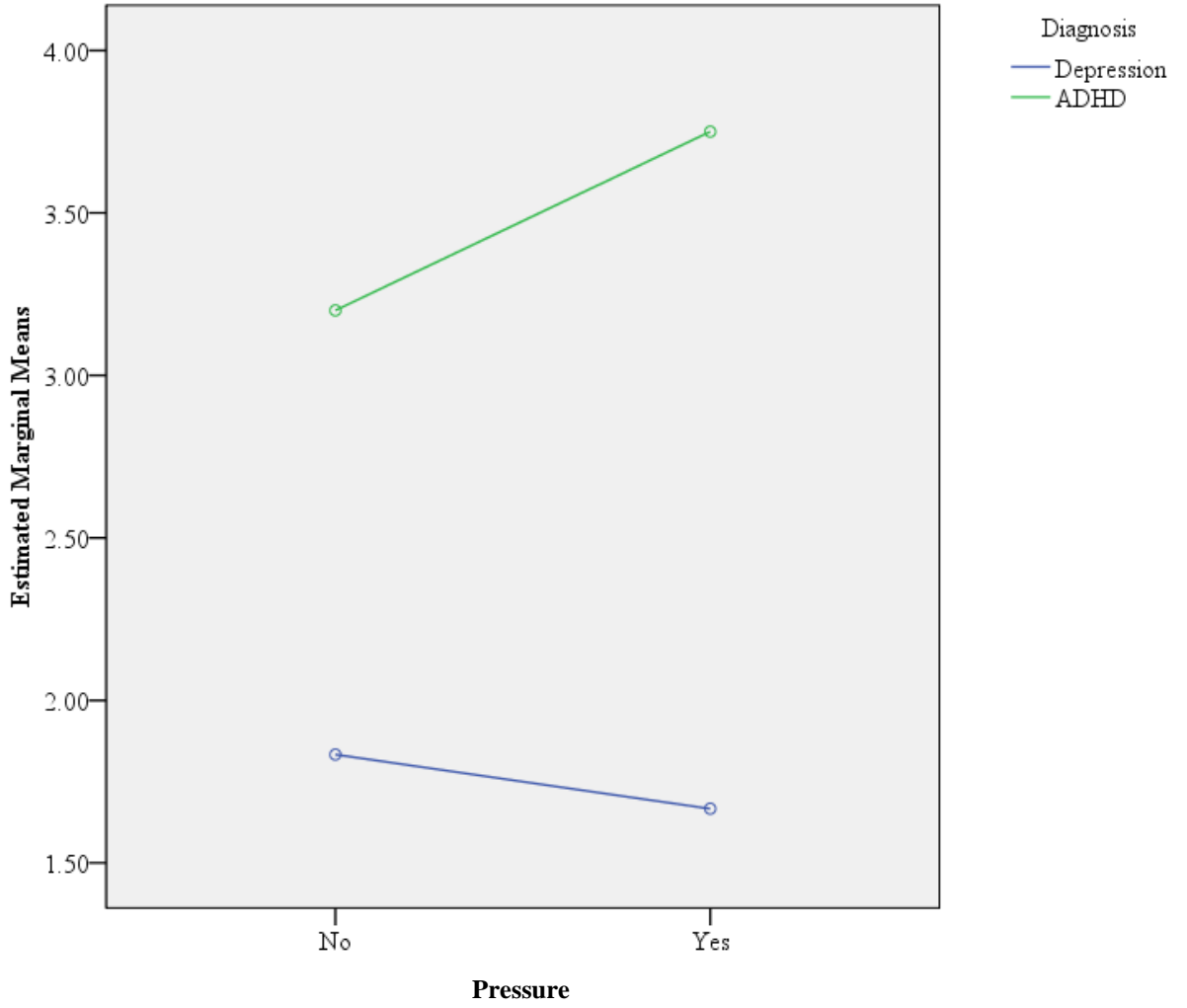


Table 4

*Likelihood of Utilizing Other Interventions*

|                    | Provide<br>Advice | Counsel <<br>5 minutes | Counsel ><br>5 minutes | Refer to<br>support<br>group/self-<br>help | Follow-up,<br>no<br>treatment<br>now | Not involve<br>self, refer to<br>mental health<br>professional |
|--------------------|-------------------|------------------------|------------------------|--|--------------------------------------|--|
| Not likely         | 6.5               | 50.0                   | 4.3                    | 18.9                                       | 38.9                                 | 52.7   |
|                    | 5.4               | 22.8                   | 4.3                    | 17.8                                       | 17.8                                 | 19.8   |
| Somewhat<br>likely | 16.3              | 18.5                   | 9.8                    | 33.3                                       | 16.7                                 | 16.5   |
|                    | 35.9              | 5.4                    | 31.5                   | 13.3                                       | 15.6                                 | 4.4  |
| Very likely        | 35.9              | 3.3                    | 50.0                   | 16.7                                       | 11.1                                 | 6.6  |
| Mean               | 3.9               | 1.9                    | 4.2                    | 2.9  | 2.4                                  | 1.9  |

*Note.* Reported means are on a scale of 1 (not likely) to 5 (very likely).

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## EDUCATION

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**Master of Arts, Clinical Psychology, Thesis Track**      Expected Graduation: 05/2011

- Towson University, Towson, MD
- Cumulative G.P.A.: 4.0/4.0

**Bachelor of Arts**      Graduation: 05/2008

- Michigan State University, East Lansing, MI
- Cumulative G.P.A.: 3.8/4.0

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## EXPERIENCE

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**Intern**      10/2010 – Present

Johns Hopkins Hospital, Harriet Lane Clinic, Baltimore, MD

- Observe mental health consultant interview patients in pediatric primary care setting.

**Graduate Research Assistant**      09/2009-Present

Marcie Weinstein, Ph.D., Towson University, Towson, MD

- Function in administrative role: track expenses, prepare reimbursements, personnel paperwork.

**Research and Data Assistant**      08/2008-08/2009

Roland Griffiths, Ph.D., Johns Hopkins University, Baltimore, MD

- Ran experimental research sessions for pharmacological study protocols.

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## POSTERS AND PRESENTATIONS

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Mader Blust, K., Gottheimer, A., Gutow, M.R., **Bonesteel, J.**, Katz, E.C. (February, 2011). Teen dating violence: What school psychologists need to know. Poster presented at the National Association of School Psychologists (NASP) Convention, San Francisco, CA.

**Bonesteel, J.** (April 2010). Pediatricians' confidence in identification and management of mental health disorders. Poster presented at the annual Towson University Student Research and Scholarship Expo, Towson, MD.

**Bonesteel, J.**, Gottheimer, A., & Mader Blust, K. (March, 2010). Teen dating violence: A public health concern. Poster presented at the annual William & Mary Graduate Research Symposium, Williamsburg, VA.

