THE PERSONALITY ASSESSMENT INVENTORY-ADOLESCENT:

DETECTION OF ADHD FEIGNING FACILITATED BY

COACHING AND NON-COACHING INSTRUCTIONS

An Honors Fellow Thesis

by

JESSICA DIAZ DE TUESTA

Submitted to Honors and Undergraduate Research
Texas A&M University
in partial fulfillment of the requirements for the designation as

HONORS UNDERGRADUATE RESEARCH FELLOW

May 2012

Major: Psychology

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Associate Director for Honors and Undergraduate Research: Duncan MacKenzie

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ABSTRACT

The Personality Assessment Inventory-Adolescent: Detection of ADHD Feigning
Facilitated by Coaching and Non-Coaching Instructions. (May 2012)

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The effectiveness and validity of three indicators of response distortion on the

Personality Assessment Inventory-Adolescent (PAI-A; Morey, 2007), potentially useful

to detect malingering, were evaluated by having college students complete the PAI-A

under coached or non-coached conditions of faking Attention-Deficit/Hyperactivity

Disorder (ADHD). The three indicators were the Negative Impression (NIM) scale, the

Malingering (MAL) Index, and the Rogers discriminant function (RDF). To validate the

effectiveness of the indicators, the college students' responses on the Conner's Adult

ADHD Rating Scale (CAARS) was also evaluated; to determine who successfully

simulated having ADHD. The effectiveness of providing information through visual and

written means when coaching the participants in how to most accurately feign ADHD

was also evaluated. The participants' responses from both the coached and non-coached

conditions were compared with the responses of clinically diagnosed ADHD patients.

The results showed that all three indicators demonstrated the ability to distinguish

between actual and feigned responses. The NIM scale was more effective in identifying

malingering responses in the coached condition, and the Malingering Index was more effective in identifying malingering responses in the non-coached condition. The RDF was effective in identifying malingering responses in both the coached and non-coached conditions fairly the same.

DEDICATION

This thesis is in dedication to all young; Hispanic/Latino women who desire to pursue a higher education in any field, as well as wish to leave a legacy in their community. I offer this thesis as support and encouragement and as a reminder that age, gender, socioeconomic status, or race should ever impede anyone to follow their dreams and to make a difference in their community and the world.

ACKNOWLEDGMENTS

NOMENCLATURE

ADHD	Attention-Deficit/Hyperactivity Disorder
ANT	Antisocial Scale
ANX	Anxiety Scale
APS	Adolescent Psychopathology Scales
ARD	Anxiety-Related Disorders Scale
CAARS	Conners' ADHD Rating Scale
CAARS-S:S	Conners' ADHD Rating Scale, Self Report-Short Version
DRG	Drug Problems Scale
DSM-IV-TR	Diagnostic Statistical Manual of Mental Disorders (Fourth Edition, Text Revision)
INC	Inconsistency Scale
INF	Infrequency Scale
MAL	Malingering Index
MAN	Mania Scale
MAN-A	Mania-Activity Level Subscale
NIM	Negative Impression Management Scale
PAI	Personality Assessment Inventory
PAI-A	Personality Assessment Inventory-Adolescent
RDF	Rogers Discriminant Function
SCZ	Schizophrenia Scale

SCZ-T   Schizophrenia-Thought Disorder Subscale

SOM   Somatic Complaints Scale

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

PAI-A

A personality assessment can be used to accurately measure personality characteristics in an individual. A problem with accurately assessing an individual, however, is making sure the individual responds as honestly as possible. The distortion of a response may lead to misinformation and inaccurate results. The Personality Assessment Inventory-Adolescent (PAI-A; Morey, 2007) contains validity scales used to detect and measure the amount of response distortion presented by each individual taking the assessment. This personality assessment was designed to assess the adolescent population, ages 12 to 18 years, in the same way its parent instrument, the Personality Assessment Inventory (PAI; Morey, 1991), assesses the adult population in the clinical setting. The three response distortion indicators on the PAI-A used to detect malingering are the Negative Impression (NIM) scale (Morey, 1991), the Malingering (MAL) Index (Morey, 1993, 1996), and a discriminant function (RDF) developed by Rogers, Sewell, Morey, and Ustad (1996). This study evaluated these indices' ability to detect participants' feigning ADHD. ADHD was selected as the disorder participants were asked to fake because it is an important disorder to evaluate considering the fact that it is a persistent and growing

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This thesis follows the style of *Journal of Personality Assessment*.

disorder in the adolescent population.

Currently there are no published studies that have examined the validity of any of the PAI-A's three response distortion indicators. Therefore, the following literature review analyzes studies that were conducted on the PAI's response distortion indicators' validity.

The Negative Impression (NIM) scale on the PAI was not designed to detect malingering responses, but to detect exaggerated, negative impression responses. In analyzing the responses of patients with mental disorders and research participants, it was noted that the majority of the research participants scored considerably higher on NIM than the patients, suggesting that NIM was a valid tool to detect simulated responses. Rogers, Ornduff, and Sewell (1993) conducted a study that examined the NIM scale's ability to distinguish between naïve and sophisticated simulators who attempted to feign specific disorders. The results showed that the NIM scale was able to successfully detect and identify the feigned disorders. Similarly, Morey and Lanier (1998) found that the NIM scale was most successful in detecting more severely simulated mental disorders, yet equally useful in detecting malingering from naïve and sophisticated simulators alike. Although malingering responses are evidently shown on the NIM scale as highly elevated responses, in particular for disorders such as depression, NIM was not intended to function alone when attempting to detect malingering. The Malingering (MAL) Index was designed specifically to, as its name suggests, detect exaggerated malingering

responses (Morey, 1991; Morey, 2007). Very few studies have examined the MAL index's usefulness in detail; yet, some studies have found the MAL index as a useful tool in detecting malingering responses (More & Lanier, 1998; Wang, Rogers, Giles, Diamon, Herrington-Wang, & Taylor, 1997). A more widely studied index, however, is the Rogers Discriminant Function (RDF) index. Bagby and colleagues (2002) found the RDF index more effective in detecting malingering responses compared to NIM and MAL. Likewise, Morey and Lanier (1998) found the RDF to outperform the other PAI faking-bad indicators in effectiveness.

It is important to keep in mind that these response distortion indicators work best in conjunction with one another. For example, in Morey and Lanier's (1998) study the results of the multiple regression indicated that NIM explained some information that RDF did not. Thus, a great benefit was found in using the multiple tools together, to account for as much variance as possible in predicting which responses were malingered. Although NIM, MAL, and RDF appear to be valid and useful in detecting malingering responses, they do not possess the ability to identify how *well* the participants actually simulated a particular disorder. These indicators can only assess how *much* individuals are faking. That is why it is necessary to use other measures (e.g., CAARS) that do assess accuracy of simulation (e.g., faking ADHD).

The PAI-A includes other validity scales, such as the Inconsistency (INC) and Infrequency (INF) scales, which assess deviation from conscientious responding, along

with 11 basic clinical scales that assess specific clinical disorders, some of which

are Somatic Complaints (SOM), Anxiety (ANX), Anxiety-Related Disorders (ARD),

Mania (MAN), Schizophrenia (SCZ), and Drug Problems (DRG) (Morey, 2007).

Interestingly enough, although the PAI-A was not built with a scale to detect ADHD,

research has shown certain patterns across other clinical scales that help identify an

adolescent as exhibiting ADHD-like symptoms. For example, the MAN scale is a

moderately, positively correlation ($r = .44$) with the Adolescent Psychopathology Scales'

(APS) ADHD scale (Reynolds, 1998). More specifically, the MAN-A subscale, which

measures the activity level component of Mania, also reflects a moderately, positive

correlation with the hyperactivity indicators of ADHD (Morey, 2007). Another clinical

scale that is correlated with ADHD-related indicators is SCZ, more specifically the

subscale SCZ-T. The SCZ scale on the PAI-A is highly, positively correlated with the

ADHD scale on the APS ($r = .63$), as well as with the ADHD Index on the CAARS ($r = .59$). With regards to its subscales, SCZ-T is more highly, positively correlated with the

ADHD scale on the APS ($r = .69$), as well as with the ADHD Index on the CAARS ($r = .67$). Billingsley-Jackson (2008) examined the clinical scales on PAI and found that

along with the MAN scale, the ANT scale also reflected significantly elevated scores

among adults with ADHD. Moreover, he concluded that the combination of scores on

several scales on the PAI were useful in identifying adults with ADHD.

CAARS

The Conners Adult Attention Rating Scale (CAARS; Conners, Erhardt, & Sparrow,

1999) is a self-report instrument that is used to identify ADHD symptoms of attention deficit, hyperactivity, and impulsivity in adults, 18-years-old or older, on all the 12 DSM-IV-TR ADHD criteria. No research exists examining the validity of the CAARS' and PAI-A's validity indicators simultaneously.

ADHD malingering

Several studies conducted on ADHD have found that among the college population, in particular, adolescents feign ADHD-like symptoms quite easily and frequently, considering there are more incentives for them to do so (Alfano & Boone, 2007; Frazier, Frazier, Busch, Kerwood, & Demareed, 2008; Sollman, Ranseen, & Berry, 2010). Research indicates that college students feign ADHD in order to receive additional time on exams and assignments, tape recordings of lectures, less homework, professor's notes, stimulant medications, and/or other special accommodations as mandated by the Americans with Disabilities Act (Sollman et al., 2010). Moreover, Sollman and colleagues (2010) found that a contributing factor to the frequency of ADHD feigning among college students is the readily available information of ADHD-related symptoms on the internet. Likewise, Alfano and Boone (2007) pointed out that students have resources readily available that enable them to fabricate ADHD-related symptoms. For example, by merely directly observing peers who actually have ADHD, college students can acquire the necessary information to accurately feign ADHD. There are several consequences to feigning ADHD, besides the obvious lack of honesty it reveals about the student's character. By doing this, students selfishly hinder their peers who are

clinically diagnosed with ADHD, by taking away resources that are intended to benefit them. Taking medication that is designated to correct certain chemical imbalances when no chemical imbalances are present is wrong and can potentially cause problems such as dependency and other side effects that, due to ethical principles and limited research, have not yet been thoroughly investigated. Consequently, it is critical to accurately assess students that claim to possess true ADHD-related deficits.

Despite the prevalent rate of college students feigning ADHD, there are a limited amount of studies that have examined college students' ability to *accurately* feign ADHD. Sollman and colleagues (2010) used several tests, such as neurocognitive tests and symptom validity tests, to detect ADHD malingering. After analyzing their results, they pointed out that the symptom validity tests showed high specificity for the ADHD condition, but only showed a moderate sensitivity to feigning. The results also showed that the CAARS' Inconsistency index did not accurately discriminate between the true ADHD and ADHD feigning group. This suggests that not only were the students able to effectively feign ADHD, but also that the CAARS was not a useful tool in detecting malingered responses; it is simply a measure to detect ADHD simulation. Frazier and colleagues (2008) also examined the ability of certain symptom validity measures to accurately detect ADHD malingering. Their results showed large differences among the ADHD and non-ADHD control groups and the feigning ADHD group. They concluded that these large differences greatly limited the effectiveness of their measures in accurately detecting faking ADHD. They also asked participants several questions on the

strategies used to simulate ADHD. Based on the results of these self-reports, 87% of the

participants said they did respond inconsistently, 90% reported they attempted to appear

less intelligent, 87% reported they attempted to miss difficult items, 90% reported they

attempted to show difficulty paying attention, and 74% reported they pretended having

difficulty remembering things. Responding inconsistently might suggest a characteristic

of inattention, which is a component of ADHD. However, certain measures might

identify these responses as simply random responding, instead of associating random

responding to ADHD-related symptoms. The results of both Sollman's and colleagues'

(2010) and Frazier's and colleagues' (2008) studies emphasize the need for both

simulation measures (e.g., CAARS) and malingering measures (e.g., NIM, MAL, RDF)

to more accurately distinguish between an individual who is diagnosed with ADHD and

an individual who is feigning ADHD.

Instructions

When participants are asked to feign a particular disorder, it is important to know

beforehand the extent or degree of information the participants have regarding the

disorder. A few studies have investigated the effects of "coaching" participants on the

disorders they are asked to simulate (e.g., Alfano & Boone, 2007; Sollman, Ranseen, &

Berry, 2010). Research suggests that coaching participants on the disorder can reduce

the effectiveness of response distortion indicators (e.g., Bagby, Nicholson, Bacchiochi,

Ryder, & Bury, 2002; Cashel, Rogers, Sewell, & Marin-Cannici, 1995). Morey and

Lanier (1998) suggested that there are many factors that can influence a simulator's

effectiveness, such as being coached on specific disorders or on the validity scales' detectability. Both Rose and colleagues (1998) and Suhr and Gunstad (2000) examined how well participants, asked to simulate head injury-related symptoms, were able to effectively escape the detection of certain response distortion measures. The simulators in both studies were not provided with any instructions regarding how to avoid detection. Instead, they were only provided basic information regarding the effects of head injury. The results of both studies showed that coached subjects were better able to avoid detection on all measures than non-coached subjects. On the other hand, Bagby and colleagues (2002) conducted a study examining the effects of coaching simulators on the presence and detectability of validity scales. Their results showed that subjects who were coached on the presence and detectability of validity scales did not feign more successfully than subjects that did not receive instructions. These studies suggest that coaching participants on the disorder they are asked to simulate has the potential to produce more effective simulators.

This study examined whether providing a video clip of what an adolescent with ADHD experiences, along with a written detailed description of ADHD symptoms, leads to an increased ability to successfully feign ADHD as well as increased success in avoiding detection by various response distortion indicators. More specifically, no studies were found on the effects of coached "video" instructions on feigning effectiveness of any disorder. A unique aspect of this study is that the participants learned directly about the experience of having the disorder, rather than simply reading "about" it.

Specific aims

After conducting an extensive literature review, I found little to no previous research evaluating the following areas: the accuracy of the validity scales and indices of the PAI-A, the detection of feigning ADHD on PAI-A, and the use of video coached feigning. This is a pioneering study that has conducted an evaluation of the PAI-A's malingering indicators' ability to detect ADHD feigning; as well as examined the differences between video coached feigning instructions accompanied by written coached feigning instructions versus non-coaching feigning instructions (i.e. asking the participants to respond to this personality test as if they a person who had, without providing additional information of the mental disorder). Specific aims of the project include:

Aim 1: To evaluate the PAI-A's malingering indicators accuracy in detecting ADHD feigning

As seen in previous research conducted on the PAI, it can be expected that the three indicators of response distortion on the PAI-A used to detect malingering will demonstrate a significant ability to differentiate between actual and feigned responses. More specifically, a pattern of cutoff scores on the INC and INF scales, as well the SCZ, SCZ-T, MAN, and MAN-A clinical scales can be determined in order to create an ADHD indicator for the PAI-A. The INC scale was created to measure careless or random responding (Morey, 2007). However, as seen in Billingsley-Jackson's (2008) study, the majority of participants reported purposefully responding in an inconsistent manner, which is related to the inattention symptoms of ADHD. The SCZ-T clinical

subscale was created to measure thought-related symptoms of schizophrenia. However, research shows that the SCZ-T clinical subscale is one of the PAI-A's subscales that is most highly, positively correlated to inattention-related symptoms of ADHD. Thus, a combination of scores on several scales on the PAI-A would serve as a useful tool in identifying adolescents with ADHD. Moreover, if a pattern of scores could be established among the sample size of this study, coupled with the results of future studies, it would help clinicians better diagnose college students that claim having ADHD. Thus, using these measures, fewer students who do not have ADHD will be given special accommodations and prescription drugs, and there will be more resources available for the students who truly have a disability.

Aim 2: To compare between the effectiveness of coached ADHD feigning instructions and non-coached ADHD feigning instructions

Since previous research suggests that coaching participants on specific disorders helps the participants better simulate, it can be expected that the video coaching information accompanied by written information will be more effective than the non-coached feigning instructions. As previously mentioned, by simply observing individuals who actually have ADHD, many students can acquire the necessary information to accurately feign ADHD. Therefore, providing subjects with video instructions of what an adolescent with ADHD looks, acts, and talks like, then subjects will be able to accurately feign ADHD as if they truly have the disorder.

CHAPTER II

METHODS

Participants

The participants were undergraduate students at Texas A&M University fulfilling an introduction to psychology course requirement (n=100), and a clinical sample of ADHD adolescents ($n = 37$) gathered during the standardization of the PAI-A (Morey, 2007). Upon completing the experiment, each undergraduate student participant at Texas A&M University received research credit. The mean age of the undergraduate students at Texas A&M University was 17.9 years ($SD = 0.1$ years). The majority of the undergraduates in the study were Caucasian (78%) and slightly more than half were male (52%). The mean age of the clinical sample of ADHD adolescents was 17.1 years ($SD = 0.3$ years). The majority of the adolescents with ADHD were Caucasian (81%) and male (83.8%).

Measures

PAI-A

Each participant was first given the PAI-A, and each of their responses were recorded, analyzed, and compared to the responses of the patients in the clinical sample of ADHD adolescents. The data was then analyzed through several statistical tests.

CAARS

This study used the short version (CAARS-S:S) of the CAARS. The students were

instructed to complete the CAARS immediately after completing the PAI-A. The short

version consists of 26 items. The purpose of using the CAARS was to check how well

the students actually simulated ADHD. Each participant's CAARS responses were

recorded, analyzed, and compared between the coached and non-coached condition. The

data was then analyzed through several statistical tests.

Procedures and design

The experiment was conducted in a vacant classroom in the psychology building on

campus. All participants came in the classroom at the designated research study time

they signed up for. The undergraduate students were randomly assigned to 1 of 2

conditions: a "coached" condition ($n = 48$) or a "non-coached" condition ($n = 52$). All

participants completed the self-administered version of the PAI-A and the short self-

report version of the CAARS. Upon completing the assessments, each participant was

given a debriefing form.

Coached condition

Participants in the coached condition were presented a 7 minute video clip of an

interview displaying an adolescent with ADHD answering questions with regards to how

the adolescent lives with their disorder. After the video, the experimenter instructed the

participants to respond to every question on the personality test as would a person with

ADHD (i.e. "*Imagine you* [the participant] *needed to convince a psychiatrist that you*

had ADHD. Your task is to simulate someone with ADHD in order to make sure the

psychiatrist diagnoses you correctly."). The experimenter also provided the participants

a written detailed description of symptoms and experiences an adolescent with ADHD

would come across during their lifetime. These symptoms are the exact symptoms used

to describe a person with ADHD in the DSM-IV-TR. To access the video and view the

complete set of instructions provided to the participants in the coached condition, please

see the APPENDIX A.

Non-coached condition

Participants in the non-coached condition were asked to respond to every question on the

personality test as would a person with ADHD. No other additional information on

ADHD was provided. The participants in the non-coached condition were simply

instructed to answer in a way that would look "believable." To view the complete set of

instructions provided to the participants in the non-coached condition, please see the

APPENDIX B.

CHAPTER III

RESULTS

Before evaluating whether the validity scales within the PAI-A were able to detect

ADHD feigned responses, the proportion of the sample size that successfully simulated

ADHD was first determined. The scores of the ADHD index found in the CAARS that

were examined began at 2 standard deviations (70t) above the general population mean

($M = 50$, $SD = 10$). This was done to ensure the scores that the results reflected were of

those who successfully simulated ADHD. Table 1 shows that only 45% of the

participants who took the CAARS successfully simulated ADHD and 55% did not

successfully simulate ADHD.

TABLE 1.—ADHD simulating success.

	Percent
Unsuccessful ADHD simulating	55%
Successful ADHD simulating	45%

There were slightly more coached participants ($n = 24$) that successfully simulated

ADHD than there were non-coached participants ($n = 21$), as shown in Table 2. Within

the non-coached condition, only 40% of the participants successfully simulated ADHD

and 60% did not successfully simulate ADHD.

TABLE 2.—ADHD simulating success between conditions.

	Unsuccessful ADHD simulators	Successful ADHD simulators	Total
Non-coached condition	31 (60%)	21 (40%)	52
Coached condition	24 (50%)	24 (50%)	48
Total	55	45	100

The results of a follow up independent *t*-test show that although the participants in the

coached condition (*M* = 23.71, *SD* = 4.99) scored higher on the CAARS' ADHD index

compared to the participants in the non-coached condition (*M* = 22.19, *SD* = 6.43), the

difference between the two conditions was not significant (see Table 3).

TABLE 3.—Independent *t*-test of ADHD simulating success between conditions.

	Mean	Standard deviation	t-score	df	Significance	Mean difference
Non-coached condition	22.19	6.43	-1.31	98	.19	-1.52
Coached condition	23.71	4.99				

Statistical comparisons for the 3 PAI-A malingering indicators are presented in Table 4.

This table includes the F-test results from a one-way analysis of variance among the 3

groups (non-coached condition, coached condition, and ADHD clinical sample), the

results of Bonferroni post hoc comparisons among the groups; and finally, the effect sizes for the comparison of the 2 coaching conditions versus the clinical sample. The results in Table 4 show that NIM and RDF were significantly able to detect malingering. The RDF index detected the participants' malingering responses more effectively than the other 2 measures. The NIM scale more effectively detected participants in the coached condition, and the MAL index more effectively detected participants in the non-coached condition. The RDF index demonstrates elevated effectiveness in detecting feigned responses overall. The effectiveness of each index in their respective condition is also supported by the large effect sizes.

TABLE 4.—Comparison of groups on Personality Assessment Inventory (PAI-A) measures of malingering.

	Non-coached condition (N)	Coached condition (C)	Clinical sample (CS)	F value	Bonferroni comparison	Effect size N vs. CS	Effect size C vs. CS
NIM score							
M	59.88	65.13	55.49	4.97**	C > CS	0.31	0.66
SD	13.26	14.19	15.09				
Malingering index							
M	60.68	57.02	55.11	1.97	N > CS	0.41	0.14
SD	13.87	13.51	13.33				
Rogers' index							
M	58.99	56.10	49.22	8.42**	N, C > CS	0.92	0.63
SD	11.45	11.85	9.83				

Note. NIM = Negative Impression scale of the PAI-A.
**$p < .01$.

Table 5 shows that all 3 measures were significantly able to detect malingering among the participants that successfully simulated ADHD. In comparison to Table 4, Table 5 shows that successful ADHD simulators scored higher on the malingering measures compared to all participants combined. The RDF index again demonstrates elevated effectiveness in detecting feigned ADHD responses overall. The Bonferroni comparison shows that the NIM scale and the RDF index was significantly more effective in detecting malingering responses among the successful ADHD simulators in both conditions compared to the clinical sample. Similar to Table 4, the effectiveness of each index in their respective condition is also supported by the large effect sizes.

TABLE 5.—Comparison of successful ADHD simulators within conditions on Personality Assessment Inventory (PAI-A) measures of malingering.

	Non-coached condition (SN)[a]	Coached condition (SC)[b]	Clinical sample (CS)	F value	Bonferroni comparison	Effect size SN vs. CS	Effect size SC vs. CS
NIM score							
M	66.67	70.52	55.49	8.17**	SC, SN > CS	0.75	0.98
SD	14.76	15.44	15.09				
Malingering index							
M	66.95	60.11	55.11	4.29*	SN > CS	0.82	0.33
SD	15.49	16.42	13.33				
Rogers' index							
M	62.26	61.03	49.22	16.61**	SN, SC > CS	1.34	1.22
SD	9.67	9.55	9.83				

Note. NIM = Negative Impression scale of the PAI-A.
[a] scores are derived from the sample of successful ADHD simulators within the non-coached condition.
[b] scores are derived from the sample of successful ADHD simulators within the coached condition.
**$p < .01$.
*$p < .05$.

Table 6 shows that the unsuccessful ADHD simulators scored higher on all the

malingering indices compared to the clinical sample.

TABLE 6.—Comparison of unsuccessful ADHD simulators with ADHD clinical sample on Personality Assessment Inventory (PAI-A) measures of malingering.

	Unsuccessful ADHD simulators (U)	Clinical sample (CS)
NIM score		
M	57.22	55.49
SD	10.29	15.09
Malingering index		
M	55.33	55.11
SD	10.21	13.33
Rogers' index		
M	54.33	49.22
SD	12.32	9.83

Table 7 shows the scores from the 3 groups on each of the clinical scales on the PAI-A,

as well as the results of the successful ADHD simulators within each of the 3 groups.

The SOM, ANX, MAN, SCZ, BOR, ANT, and ALC clinical scales showed significant

results both when looking at all participants and when isolating only the successful

ADHD simulators within each of the 3 groups.

TABLE 7.—Comparison of groups on Personality Assessment Inventory (PAI-A) clinical scales.

	Non-coached condition (N)	Coached condition (C)	Clinical sample (CS)	F value	Non-coached condition (SN)[a]	Coached condition (SC)[b]	Clinical sample (CS)	F value
Somatic complaints scale								
M	66.50	64.31	53.00	10.83**	74.81	70.13	53.00	17.81**
SD	13.58	16.02	11.97		13.28	19.41	11.97	
Anxiety scale								
M	68.77	63.27	53.84	17.42**	76.62	68.54	53.84	28.27**
SD	11.41	12.99	10.57		10.14	14.18	10.57	
Anxiety-related disorders scale								
M	56.08	51.40	54.11	2.26	60.43	55.79	54.11	2.19
SD	10.40	11.80	10.88		9.91	12.43	10.88	
Depression scale								
M	59.37	58.94	57.43	0.45	63.62	61.83	57.43	2.81
SD	9.30	8.99	11.17		8.10	10.46	11.17	
Mania scale								
M	66.92	58.19	53.16	20.11**	70.76	60.88	53.16	17.72**
SD	8.61	11.09	11.81		8.48	11.14	11.81	
Paranoia scale								
M	55.87	51.56	53.08	2.35	58.81	56.38	53.08	2.50
SD	9.97	10.39	9.78		7.12	11.20	9.78	
Schizophrenia scale								
M	66.54	68.19	54.57	17.45**	70.90	72.46	54.57	22.11**
SD	9.86	10.99	13.45		6.56	12.09	13.45	

TABLE 7.—Continued.

	Non-coached condition (N)	Coached condition (C)	Clinical sample (CS)	F value	Non-coached condition (SN)[a]	Coached condition (SC)[b]	Clinical sample (CS)	F value
Borderline features scale								
M	62.13	57.88	56.62	3.53*	68.24	62.38	56.62	9.57**
SD	10.51	10.10	10.99		7.50	9.67	10.99	
Antisocial features scale scale								
M	64.48	57.90	53.24	14.50**	69.62	63.50	53.24	25.26**
SD	10.77	10.51	7.53		10.78	8.72	7.53	
Alcohol problems scale								
M	60.87	56.92	53.35	3.39*	66.10	63.46	53.35	6.76**
SD	14.77	13.53	11.54		15.81	16.05	11.54	
Drug problems scale								
M	58.06	60.00	58.65	0.23	59.24	65.08	58.65	1.38
SD	14.56	12.96	16.53		13.85	15.09	16.53	

[a] scores are derived from the sample of successful ADHD simulators within the non-coached condition.
[b] scores are derived from the sample of successful ADHD simulators within the coached condition.
**$p < .01$.
*$p < .05$.

Table 8 shows the scores from the participants in the coached condition and the successful ADHD simulators within the coached condition on 2 of the clinical subscales (MAN-A and SCZ-T) on the PAI-A. Participants in the coached condition scored higher

on the SCZ-T subscale compared to the MAN-A subscale. The scores for SCZ-T were higher than MAN-A even when the data was restricted to only successful ADHD simulators within the coached condition.

TABLE 8.—Comparison of coached condition on Personality Assessment Inventory (PAI-A) clinical subscales.

	Coached condition	Successful ADHD simulators in coached condition
Mania-Activity Level subscale		
M	67.69	71.75
SD	10.98	10.98
Schizophrenia-Thought Disorder subscale		
M	76.27	77.75
SD	8.05	8.48

Table 9 shows the scores from the coached condition and the successful ADHD simulators within the coached condition exclusively, on two of the indices on the CAARS, namely, the inattentive/memory problems and hyperactivity/restlessness indices. The results show that more participants within the coached condition were successfully detected by the CAARS as having inattentive/memory problems compared to hyperactivity/restlessness. Also, 58.3% of all the participants in the coached condition simulated inattentive/memory problems, and out of the successful ADHD simulators within the coached condition 87.5% simulated inattentive/memory problems.

TABLE 9.—Detection of inattention and hyperactivity within coached conditi\on.

	Coached condition [a]	Successful ADHD simulators in coached condition [b]
Inattentive/memory problems	58.3%	87.5%
Hyperactivity/restlessness	50.0%	70.8%

[a]$n = 48$. [b]$n = 24$.

Table 10 shows a comparison of how the unsuccessful versus successful ADHD simulators scored on the INC and INF scales of the PAI-A. The results show that the successful ADHD simulators scored higher on both the INC and INF scales compared to the participants that did not successfully simulate ADHD.

TABLE 10.—Comparison of INC and INF scales among unsuccessful and successful ADHD simulators.

	Unsuccessful ADHD simulators	*Successful ADHD simulators*
Inconsistency scale		
M	51.45	56.60
SD	9.01	11.15
Infrequency scale		
M	59.18	65.73
SD	10.59	11.76

CHAPTER IV

SUMMARY AND CONCLUSIONS

This study examined adolescents' ability to simulate ADHD on a test that does not have built-in ADHD clinical scales, and whether the participants were influenced by the coaching instructions. In studying simulation, researchers do not take the time to carefully evaluate whether their participants actually resemble clinical patients. This study underscores the importance of checking simulation accuracy, since the results indicated that only half of all participants managed to resemble the clinical patients. Similar to Morey's and Lanier's (1998) study, the results in this study showed that the 3 indicators of response distortion (NIM, MAL index, and RDF index) worked with greater effectiveness among the 45% that accurately simulated ADHD. Validity scales measuring response distortion will not report participants as malingering if the participants are not faking a specific disorder.

The CAARS' ADHD index showed that only about half reported clinical significant levels of ADHD. There was a small tendency for participants in the coached condition to more successfully simulate having ADHD, compared to the participants in the non-coached condition. Coaching participants on ADHD symptoms appeared to slightly improve their ability to simulate ADHD, but the results were not significant. Neither condition yielded a 100% success rate of participants simulating ADHD symptoms. Success rates in accurately simulating ADHD were not very high. However, it is

interesting to note that without instructions, less than half of the participants were able to successfully simulate ADHD. This might suggest that when instructions are provided, a trend will show that participants will more successfully feign ADHD. The trend might lead to significance, but in the case of this study the trend was not significant. Likewise, this does not mean that providing extra material might not work for other disorders, but for the purpose of this study, it cannot be concluded that providing extra material on ADHD significantly increases the ability to accurately simulate ADHD.

Upon taking a closer look at the individual malingering indicators, the results showed a difference in effectiveness of detecting malingering responses between NIM, MAL index, and the RDF index. Similar to Morey's and Lanier's (1998) study, NIM was more elevated in the malingering groups than in the clinical sample. More specifically, NIM appeared to work more effectively in the coached condition compared to the non-coached condition and the clinical sample when all the participants were examined collectively. However, when restricting the results to only successful ADHD simulators, NIM worked more effectively in both the coached and non-coached conditions than it did in the clinical sample. The MAL index appeared to only work well in detecting malingering responses in the non-coached condition in both instances where the results were restricted to only successful ADHD simulators and when they were not restricted. Likewise, the RDF index appeared to work more effectively in both the coached and non-coached conditions compared to the clinical sample when the results were both restricted and not restricted to only successful ADHD simulators. This might suggest

that some indicators (i.e., MAL and RDF) are more effective in detecting more naïve

simulators (i.e., non-coached participants) and other indicators (i.e., NIM and RDF) are

more effective in detecting more sophisticated simulators (i.e., coached participants).

The results demonstrate that if participants appear to successfully simulate ADHD on the

CAARS, then the probability of the PAI-A validity indicators detecting response

distortion will increase. This is crucial considering the PAI-A does not have built-in

ADHD scales. Therefore, without possessing any validity scales to detect ADHD, the

PAI-A can detect 45% of malingered responses. The results in Table 7 and 10 suggest

that certain response trends can be found in a number of PAI-A scales which indicate

ADHD simulating. More specifically, the results in Table 10 that participants that

successfully simulated ADHD responded higher on the INC and INF scales compared to

unsuccessful ADHD simulators. These scales might be useful in detecting ADHD-

related symptoms, as suggested by the results found in Frazier's and colleagues' (2008)

study. Furthermore, upon creating and incorporating ADHD validity scales into the PAI-

A, it could be hypothesized that the percentage of successfully detecting malingering

responses will increase. Based on this study alone, however, cut-off scores of several

PAI-A validity indicators cannot be determined. The participants identified as successful

ADHD simulators are not actually diagnosed as having ADHD. Also, in order to

determine cut off scores or a scale for ADHD on the PAI-A, it would be required to

examine the CAARS and PAI-A scores of several adolescents that have been accurately

diagnosed by trustworthy clinicians as having ADHD.

This last point brings up a crucial aspect of research dealing with diagnoses. It is extremely important to not only have trustworthy clinicians, but also accurate diagnoses so that groups may be compared as accurately as possible. A possible limitation to this study is the accuracy of ADHD diagnoses. The results showed that the unsuccessful ADHD simulators scored higher on all the malingering indexes compared to the clinical sample (see Table 6). It can be speculated that if the patients in the clinical sample would have taken the CAARS, they would not have been detected as successfully simulating ADHD. Yet, each patient in the clinical sample was diagnosed as having ADHD. This might suggest that the patients were not accurately diagnosed. Further research is needed to determine specific items on the PAI-A which will assist in differentiating between true and feigned ADHD responses.

Out of all the PAI-A clinical scales that showed significance, as depicted by Table 7, the ANX, MAN, SCZ, and ANT scales had the most elevated scores. This might suggest that these clinical scales reflect certain symptoms that are related to ADHD. More specifically, some of the subscales found in the PAI-A (i.e., MAN-A and SCZ-T) reflect the ADHD symptoms of inattention and hyperactivity described in the DSM-IV-TR. The results in Table 8 show that all participants in the coached condition and the participants that were successful ADHD simulators, within the coached condition, scored higher on the SCZ-T subscale, which represents thought disorders, subscale compared to the MAN-A subscale, which represents hyperactivity symptoms. Likewise, more

participants simulated problems with inattention than with hyperactivity, as seen in

Table 9. Interestingly enough, upon further examining the adolescent in the video clip

that was presented, it is clear that more symptoms of inattention were shown compared

to symptoms related to hyperactivity. The participants in the coached condition appeared

to simulate ADHD related symptoms of inattention and memory problems more clearly

than symptoms of hyperactivity. This might suggest that coaching students with visual

material might be effective, although not significantly different than not coaching the

participants.

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APPENDIX A

COACHED INSTRUCTIONS

Instructions

I would like you to try to respond to this personality test as if you were trying to respond like a person who had Attention-Deficit/Hyperactivity Disorder (ADHD); for example, imagine you needed to convince a psychiatrist that you had **ADHD**. Your task is to **simulate someone with ADHD** in order to make sure the psychiatrist diagnoses you correctly. But remember, you want them to *BELIEVE* you. So, answer the following questions *BELIEVABLY*, but in a way that makes you look like you have **ADHD**.

Here are the diagnostic criteria, or symptoms that someone with ADHD may experience:

Inattention
(a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
(b) often has difficulty sustaining attention in tasks or play activities
(c) often does not seem to listen when spoken to directly
(d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
(e) often has difficulty organizing tasks and activities
(f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
(g) often loses things necessary for tasks and activities (e.g. toys, school assignments, pencils, books, or tools)
(h) is often easily distracted by extraneous stimuli

(i) is often forgetful in daily activities

Hyperactivity

(j) often fidgets with hands or feet or squirms in seat

(k) often leaves seat in classroom or in other situations in which remaining seated is expected

(l) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings or restlessness)

(m) often has difficulty playing or engaging in leisure activities quietly

(n) is often "on the go" or often acts as if "driven by a motor"

(o) often talks excessively

Impulsivity

(p) often blurts out answers before questions have been completed

(q) often has difficulty waiting turn

(r) often interrupts or intrudes on others (e.g., butts into conversations or games)

Once you have looked over these symptoms, answer this personality measure as an adolescent with ADHD that is experiencing these symptoms.

Now, please read each of the numbered statements in the booklet. Mark your answer by circling the best choice that corresponds to your answer on the booklet.

If the statement is FALSE, NOT AT ALL TRUE, circle the F.

If the statement is SLIGHTLY TRUE, circle the ST.

If the statement is MAINLY TRUE, circle the MT.

If the statement is VERY TRUE, circle the VT.

If you need to change your answer, erase cleanly or make an "X" through the incorrect answer and then circle the correct answer. Please complete all of the information on the first page of the testing booklet (e.g., age, gender, ethnicity) AND write your BIRTHDATE in the blue box after the "gender" question.

Video link

http://www.youtube.com/watch?v=sDaefoDW0Ko&list=UUaI1eQSvhTXefG3PKRZpI AQ&index=3&feature=plcp

APPENDIX B

NON-COACHED INSTRUCTIONS

I would like you to try to respond to this personality test as if you were trying to respond like a person who had Attention-Deficit/Hyperactivity Disorder (ADHD); for example, imagine you needed to convince a psychiatrist that you had **ADHD**. Your task is to **simulate someone with ADHD** in order to make sure the psychiatrist diagnoses you correctly. But remember, you want them to *BELIEVE* you. So, answer the following questions *BELIEVABLY*, but in a way that makes you look like you have **ADHD**.

Now, please read each of the numbered statements in the booklet. Mark your answer by circling the best choice that corresponds to your answer on the booklet.

If the statement is FALSE, NOT AT ALL TRUE, circle the F.

      If the statement is SLIGHTLY TRUE, circle the ST.

      If the statement is MAINLY TRUE, circle the MT.

      If the statement is VERY TRUE, circle the VT.

If you need to change your answer, erase cleanly or make an "X" through the incorrect answer and then circle the correct answer. Please complete all of the information on the first page of the testing booklet (e.g., age, gender, ethnicity) AND write your BIRTHDATE in the blue box after the "gender" question.

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