Self-Handicapping Strategies in Emerging Adults Concerned about Attention-Deficit/Hyperactivity Disorder

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Abstract

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Self-Handicapping Strategies in Emerging Adults Concerned about Attention-Deficit/Hyperactivity Disorder

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Self-handicapping is the process by which an individual reports or actively creates impediments to success on an approaching evaluative task in an attempt to preserve self-esteem. Over time, the use of self-handicapping strategies is associated with poor outcomes, including adjustment problems and lower academic performance. Unfortunately, little is known about the immediate performance outcomes associated with self-handicapping. Previous research suggests some individuals are at greater risk for demonstrating self-handicapping behaviors than others. Specifically, individuals who have experienced failure or perceive they experience a high level of problematic symptoms, and attribute these difficulties to Attention-Deficit/Hyperactivity Disorder may be susceptible to demonstrating self-handicapping in evaluative settings. The present study examined whether cuing self-handicapping resulted in increased use of self-handicapping strategies (both self-reported and behavioral) in emerging adults who are concerned about ADHD. Participants were 103 emerging adults (ages 18 to 24) who completed a neuropsychological task designed to measure working memory. Prior to completing the task, participants were randomly assigned to receive one of two sets of instructions. 51 were told the task was a measure of intelligence, while 52 were told the task was a prototype for a Smartphone application. All participants then completed self-report measures of ADHD symptoms as well as a self-handicapping checklist. They were

then allowed to practice the task as many times as they wished before starting the test trial. Results showed that participants did not differ in the amount of time they spent practicing the task based upon evaluative threat. Similarly, groups were not different on their report of general barriers to performance or ADHD-specific symptoms. Evidence was found to support the role of individual differences in self-reported symptoms, such that individuals with higher trait self-handicapping, neuroticism, and depressive symptoms were more likely to report more general barriers to performance, regardless of evaluative threat group. Trait self-handicapping and depressive symptoms accounted for significant variance in symptoms of ADHD, regardless of evaluative threat group. Given the previous research that identifies these as risk factors for somatization and illness identity development, individuals high in these dimensions may represent a group susceptible to the development of an ADHD illness identity. In addition, the present study found evidence to suggest that high risk factors and self-handicapping behavior can have a negative influence on task performance in an evaluative threat context.

Dedication

To my parents, Gregg and Donell Dykstra, the greatest educators I will ever have.

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Introduction

Several studies have documented the increase in attention-deficit/hyperactivity disorder (ADHD) referrals for individuals who have little evidence of the disorder, but who have strong beliefs regarding the consistency of their presentation with ADHD (e.g., Davidson, 2008; Sullivan, May, & Galbally, 2007). While assessment of ADHD in children and adolescents has a strong evidence base for utilizing parent/caregiver and teacher report of symptoms and impairment (Pelham, Fabiano, & Massetti, 2005), assessment of ADHD in adults is less established and relies heavily upon the self-report of the individual (Sibley et al., 2012; Weisler & Goodman, 2008). This presents a unique challenge for diagnosing ADHD in adulthood, given the research demonstrating that these measures are susceptible to a number of biases, including over-reporting the presence of ADHD symptoms (Sibley et al., 2012; Suhr, Buelow, & Riddle, 2011), as well as intentional malingering and noncredible responding (Alfano & Boone, 2007; Musso & Gouvier, 2014). Further, self-report measures of ADHD demonstrate a lack of specificity to ADHD, as individuals with common psychological disorders report the same symptoms (Mackin & Horner, 2005; Van Voorhees, Hardy, & Kollins, 2011). For these reasons, over-reliance on self-report measures in the evaluation of adult ADHD may reduce the validity of the assessment.

In addition to self-report, evaluation of adult ADHD often includes neuropsychological assessment. A large proportion of individuals presenting for first-time diagnoses are college students seeking accommodations (Diller, 2010; Sullivan et al., 2007), and many academic institutions require neuropsychological evaluations to confirm a diagnosis and make relevant recommendations. Though researchers have not

fully agreed on a neuropsychological profile characteristic of ADHD (Wasserstein, 2005), meta-analytic studies have documented moderate effect sizes for impaired performance on various measures of executive functioning (Boonstra, Oosterlaan, Sergeant, & Buitelaar, 2005; Schoechlin & Engel, 2005). Unfortunately, many of these measures are also susceptible to the various factors that impact self-report validity (Musso & Gouvier, 2014), and few tests that are typically used to measure the hallmark symptoms of ADHD are suited to detect noncredible performance. For example, Suhr, Sullivan, and Rodriguez (2011) demonstrated that individuals who failed the Word Memory Test (WMT), an established measure of malingering and poor effort, were not distinguishable on measures of sustained attention and response inhibition (i.e., Continuous Performance Test) from individuals with an established diagnosis of ADHD or from individuals with psychological diagnoses who passed the WMT. In these ways, individual behavior and performance on neuropsychological tests have been shown to be susceptible to factors that reduce evaluation accuracy.

Yet another factor that may have an impact on the results of ADHD assessment is *self-handicapping* (Jones & Berglas, 1978). Individuals differ in the way they approach performance situations that involve evaluation. While some may view them as opportunities to gain a realistic perception of their functioning and ability (Festinger, 1954; Kelley, 1971; Weiner, 1985), others may avoid accurate evaluative feedback in order to maintain self-esteem (Greenberg, Pyszczynski, & Solomon, 1986; Steele, 1988). Berglas and Jones (1978) further suggested that some individuals might be expected to actively create impediments to success or report the presence of debilitating factors in order to preserve self-esteem in the event of failure on evaluative tasks. Jones and

Berglas (1978) termed this pattern of behavior *self-handicapping*. Given the nature of neuropsychological assessment as an inherently evaluative process, this is an important phenomenon to consider with regard to the impact it can have on assessment outcome.

The types of behaviors that can be used for the purposes of self-handicapping are quite varied, but can broadly be categorized as those efforts that involve actively acquiring impediments (termed *behavioral self-handicapping*) and those that involve claiming impediments (termed *self-reported handicapping*) (Arkin & Baumgardner, 1985; Leary & Shepperd, 1986). It is important to note that the behaviors which could potentially serve a self-handicapping purpose are not always reflective of self-handicapping efforts. It is only when they are used for the purposes of diluting negative attributions that they are considered to be self-handicapping in function. To determine this, researchers have relied upon a particular type of methodology to investigate self-handicapping. In these studies, individuals are assigned to complete tasks that have an evaluative threat component, such as a specific test of skill (i.e., Finez & Sherman, 2012; Ryska, Yin, & Cooley, 1998), or a more globally-valued test of intelligence (i.e., Berglas & Jones, 1978; Snyder & Smith, 1986). One group is provided with information that a given behavior reduces task success while the other group is informed the given behavior has no impact on task performance. Another common design includes informing all participants that a given behavior reduces success or the accuracy of an evaluative task. Then one group is instructed they will complete a threatening task (i.e., intelligence measure) and the other group is instructed they will complete a benign task. In both paradigms, the goal is to determine how a behavior may be used for the purposes of self-

handicapping by comparing groups on their endorsement or exhibition of the behavior (Hirt, Deppe, & Gordon, 1991).

Using this methodology, researchers have been able to show that, when faced with potential failure on an evaluative, performance-based task, and informed about the negative effects of a given behavior on performance, participants have chosen to ingest alcohol or performance-inhibiting drugs prior to engaging in the task (Berglas & Jones, 1978; Gibbons & Gaeddert, 1984; Higgins & Harris, 1988; Kolditz & Arkin, 1982; Tucker, Vuchinich, & Sobell, 1981), have set unattainable goals for completion of the task (Greenberg, 1985), have selected unfavorable and distracting performance settings in which to complete the task (Rhodewalt & Davison, 1986; Shepperd & Arkin, 1989; Waschbusch, Craig, Pelham, & King, 2007), and have decreased practice effort prior to task performance (Baumeister, Hamilton, & Tice, 1985; Harris & Snyder, 1986; Hirt et al., 1991; McCrea, Hirt, & Milner, 2008; Pyszczynski & Greenberg, 1983; Rhodewalt, Saltzman, & Wittmer, 1984; Snyder, Smoller, Strenta, & Frankel, 1981). One interesting study showed that participants could be manipulated to actually exert *more* practice effort when told that extra practice could impede performance on an evaluative measure (Smith, Hardy, & Arkin, 2009). In addition to these behavioral self-handicapping findings, participants have reported the presence of higher levels of debilitating health symptoms (Mayerson & Rhodewalt, 1988; Rhodewalt et al, 1984; Smith, Snyder, & Perkins, 1983) and psychological symptoms, including test anxiety (Smith, Snyder, & Handelsman, 1982), social anxiety (Snyder & Smith, 1986; Snyder, Smith, Augelli, & Ingram, 1985), and depressed mood (Baumgardner, Lake, & Arkin, 1985) when faced with an evaluative situation, consistent with self-reported handicapping. Given the wide range of behaviors

and symptoms that can be used for self-handicapping purposes, it is reasonable to consider the ways in which self-handicapping efforts may undermine the accuracy of diagnostic evaluations.

Self-handicapping behavior has been demonstrated in populations with a wide spectrum of psychological symptoms and complaints. Individuals who have depressive affect (Greaven, Santor, Thompson, & Zuroff, 2000), are high in anxiety symptoms (Ryska, 1998; Thompson & Hepburn, 2003), and who have alcohol abuse problems (Berglas, 1990; Berglas & Jones, 1978) demonstrate self-handicapping behavior to a greater extent than healthy controls. While well-documented in these domains, little research has reviewed the correlates and consequences of self-handicapping in other potentially relevant disorders, such as ADHD. To date, the only study that has investigated self-handicapping in ADHD examined children (ages 6 to 13), finding that those diagnosed with ADHD were more likely to engage in behavioral self-handicapping (practiced less and chose distracting music to play while completing a task) when faced with an evaluative task compared to normal controls (Waschbusch et al., 2007). However, it is important to note that the study design did not include measures of self-reported handicapping, nor did authors report the impact of self-handicapping on task performance, which limits the applicability of the findings to broader evaluative contexts.

While self-handicapping provides immediate benefit to the individual (preserved self-esteem), the long-term use of self-handicapping strategies is associated with detrimental outcomes. These include eventual decreases in self-esteem (Zuckerman & Tsai, 2005), the development of poor coping strategies (Parkes, 1986; Zuckerman, Kieffer, & Knee, 1998), future reliance upon self-handicapping techniques in the face of

evaluative threat (Zuckerman et al., 1998; Zuckerman & Tsai, 2005), and poorer overall adjustment, well-being, and physical health (Zuckerman et al., 1998). One particularly damaging domain impacted by self-handicapping is academic functioning. Academic self-handicapping is related to poor academic achievement, as measured by concurrent grade point average and performance on standardized measures of academic achievement (Leondari & Gonida, 2007; Midgley, Arunkumar, & Urdan, 1996; Midgley & Urdan, 1995; Urdan, 2004). While negative attitudes toward school have consistently been shown to predict grade point average, additional research has demonstrated that this relationship is mediated by self-handicapping (Gadbois & Sturgeon, 2011). Indeed, claimed poor preparatory behaviors (i.e., behavioral self-handicapping) and increased report of stress (i.e., self-reported handicapping) immediately prior to an exam mediated the effects of trait self-handicapping on performance, even after controlling for previous exam performance. Despite this evidence to suggest that self-handicapping has a direct impact upon task performance, little research has examined the relationship empirically. Indeed, a significant limitation to the current self-handicapping literature is reflected in the failure to consistently report the effects of self-handicapping on subsequent performance. This knowledge has implications for a number of individuals with disorders that are known to impact school functioning, including ADHD.

Some individuals are more susceptible to relying on self-handicapping than others. Previous research highlights the importance of several factors, including routine use of self-handicapping behaviors in day-to-day functioning (hereafter termed *trait self-handicapping*). Existing research also identifies the need to protect self-esteem as another factor consistently related to the display of self-handicapping behaviors, with individuals

both high (Lupien, Seery, & Almonte, 2010; Tice, 1991) and low (Coudevylle, Martin Ginis, & Famose, 2008; Finez, Beriot, Rosnet, Cleveland, & Tice, 2012; Uysal & Knee, 2012) in self-esteem showing a tendency to engage in self-handicapping. In addition, self-handicapping is demonstrated in response to noncontingent feedback regarding performance (Thompson & Richardson, 2001; Kim, Chiu, & Zou, 2010), as this causes the individual to be uncertain of core abilities and places self-esteem at risk for future threat (Rhodewalt & Tragakis, 2003; Thompson, 2004). Finally, personality dimensions, such as neuroticism, represent strong predisposing factors for an individual to engage in self-handicapping behaviors. Individuals high in neuroticism tend to have negative affect and heightened anxiety (Costa & McCrae, 1980; Tamir, Robinson, & Solberg, 2006), are highly sensitive to perceived threat (Bolger & Schilling, 1991; Drabant et al., 2011; Haas, Omura, Constable, & Canli, 2007), and tend to respond with avoidant coping strategies, which include self-handicapping (Bobo, Whitaker, & Strunk, 2013; Ross, Canada, & Rausch, 2002).

Other factors that may moderate self-handicapping behavior include somatization tendencies and the development of illness identities. Illness identities develop when individuals experience distressing outcomes and search for explanations, often within the medical realm (Condrad, 1992; Zola, 1983), in an attempt to identify the cause of the perceived problem (Boone, 2009). As the individual continues to experience distressing outcomes, either through repeated failures or by perceiving high base rate difficulties as significantly problematic, the individual begins to attribute these problems to an illness, and label them “symptoms” of that illness (Leventhal, Meyer, & Nerenz, 1980). Over

time, the “symptoms” can serve as both a post-hoc explanation for poor performance, and as a pre-emptive excuse for potential failure (Suhr & Wei, in press).

Initial support for the notion of illness identities functioning as a form of self-handicapping dates back to Adler (1929),who was the first to suggest that when one endorses symptomatic complaints, the negative attributions that can be made about poor performance are minimized. Empirical support for this has been provided through a series of studies that investigated the strategic use of symptom report in college students with high baseline levels of a given collection of symptoms. Across studies, when primed with a threatening evaluative task, participants endorsed higher symptom levels. Some of this literature has focused on participants‟ endorsement of somewhat temporary and transient impediments to success (Baumgardner et al., 1985; DeGree & Snyder, 1985; Mayerson & Rhodewalt, 1988). However, others have focused on ongoing claims of illness that more closely reflect identification with a chronic and stable barrier to success (Smith et al., 1982; Snyder & Smith, 1986; Snyder et al., 1985), including various anxiety disorders such as social anxiety, generalized anxiety, and hypochondriasis.

To date, there is no study on the use of ADHD illness identity or ADHD symptom report as a preemptive self-handicapping strategy. In the closest approximation to this line of research, Suhr and Wei (2013) investigated retroactive excuse-making using ADHD symptoms. In their study, participants provided ratings of ADHD symptoms after estimating the number of errors they made on a computer task. When participants estimated they made a higher number of errors, post-task ADHD symptom ratings increased, but only when participants thought they had just completed an intelligence measure. There was no relationship between ADHD symptom rating and perceived errors

when participants thought they completed a computer game. In other words, ADHD symptoms were used as a post-task excuse for perceived poor performance on an evaluative task. These findings raise questions regarding the vulnerability of self-report measures to self-handicapping efforts in assessments for ADHD.

Present Study

The purpose of the present study was to examine the use of self-handicapping in a group of emerging adults concerned about ADHD. Specifically, the study intended to (a) examine the impact of evaluative threat on behavioral and self-reported handicapping, and (b) examine the impact of self-handicapping upon subsequent performance on a neuropsychological measure. It was hypothesized that individuals concerned about ADHD and exposed to evaluative threat would be more likely to engage in behavioral and self-reported handicapping than those who were not exposed to evaluative threat. It was also hypothesized that greater use of behavioral and self-reported handicapping would correspond to lower performance on a neuropsychological measure of working memory, but only within the context of evaluative threat. Given the impact of personality and psychosocial factors on self-handicapping behavior, baseline variables trait self-handicapping, neuroticism, and depressive symptoms were entered into analyses to examine whether these factors moderated the effect of evaluative threat on self-handicapping as well as the relationship between self-handicapping and task performance.

Method

Participants

Participants were recruited through the use of an electronic sign-up system. To be considered eligible for the present study, participants were first required to complete a prescreen measure consisting of the six items from the Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist (Kessler et al., 2007) that were found to be the most predictive of symptoms consistent with ADHD (Adler et al., 2012). Participants were considered eligible for the present study if their total score on the ASRS-v.1 fell between the 40^{th}-90^{th} percentiles for all individuals who completed the prescreen, and if they answered "yes" to the question "Do you sometimes think you might have ADHD?"

Participants were 103 undergraduates (59 female), with an average age of 19 (range 18-24 years) attending a large Midwestern university. Of the sample, 92.2% self-identified as Caucasian (3.9% Hispanic, 1.9% African American, 1% multiracial, 1% Persian). With regard to health history, 21 participants (20.4%) reported a previous ADHD diagnosis, while 7 (6.8%) reported a diagnosis of depression, and 3 (2.9%) reported a diagnosis of anxiety based on a pre-experimental screening questionnaire.

Measures

Copies of all non-copyrighted measures and more detailed psychometrics are provided in Appendix A.

Self-handicapping scale (SHS).

The SHS (Jones & Rhodewalt, 1982) is a 25-item questionnaire that assesses the degree to which an individual engages in self-handicapping behaviors for evaluative performances. The individual indicates agreement with each statement on a 6-point scale

ranging from 0 (*disagree very much*) to 5 (*agree very much*), with higher scores representing greater self-handicapping tendencies. The original scale has demonstrated good internal consistency (.78) and temporal stability (.74 across one month) in samples of professional and college student athletes (Rhodewalt et al., 1984). Internal consistency for the present study was acceptable, $\alpha = .64$. In addition, the SHS has demonstrated good construct and predictive validity (Rhodewalt et al., 1984; Hirt et al., 1991; Strube & Roemmele, 1985) in samples consisting primarily of college-age individuals. Participants also completed a shorter 5-item scale (SHS 5-item) of academic self-handicapping. This scale was developed by Midgley and colleagues (1996), and assesses for self-handicapping behaviors young adults may use in an academic setting. Construct validity and internal consistency for this modified scale are strong (Midgley et al., 1996). Internal consistency of the SHS 5-item was good in the present study, $\alpha = .79$. In the present study, total score on the SHS 25-item was used as the primary trait self-handicapping moderator variable, while total score on the SHS 5-item was explored as a secondary measure of trait self-handicapping.

NEO five-factor inventory (NEO-FFI) neuroticism scale.

The NEO-FFI (Costa & McCrae, 1992) is a 60-item self-report measure designed to assess the big five personality factors by providing scores on each of the following scales: neuroticism, extraversion, openness, conscientiousness and agreeableness. The present study used the neuroticism scale, which consists of 12 items that are endorsed on a five-point scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). In a sample of 1,492 adults (ages 19-93), the NEO-FFI Neuroticism subscale (NEO-FFI-N) correlated highly with the original NEO-PI-R Neuroticism scale ($r = .83$) and demonstrated good

internal consistency at .86 (McCrae & Costa, 2004). Two-week test-retest reliability has been shown to be strong, at .80 (Murray, Rawlings, Allen, & Trinder, 2003). Internal consistency for the present study was good, $\alpha = .82$. In the present study, total score on the NEO-FFI was used as the neuroticism moderator variable.

Beck depression inventory-II (BDI-II).

The BDI-II (Beck, Steer & Brown, 1996) is a self-report questionnaire which assesses for symptoms commonly seen in depression. Individuals circle the numerical value (0-3) that corresponds to the statement that best describes them. The BDI-II has excellent internal consistency (.93; Beck et al., 1996). It has also demonstrated strong construct validity, as it is highly correlated with other measures of depression, including the nonspecific depression subscale of the Mood and Anxiety Symptom Questionnaire (.71), the depression subscale of the Depression Anxiety Stress Scale (.77) and the depression subscale of the Symptom Checklist-90 Revised Version (.89) (Osman et al., 1997; Steer, Ball, Ranieri, & Beck, 1997). Internal consistency for the present study was excellent, $\alpha = .92$. In the present study, total score on the BDI-II was used as the depressive symptom moderator variable.

Dual 2-back.

The Dual 2-Back (Kirchner, 1958; Kane & Engle, 2003; Owen, McMillan, Laird, & Bullmore, 2005) is a computerized version of a classic working memory task that involves both an auditory and visual component. A series of letters are spoken and the participant is required to press a specific key when the letter spoken matches the one that was spoken 2 letters back. At the same time, a series of blocks in a grid pattern light up one at a time. Participants are required to press a specific key when the block that lights

up is the same one that lit up two blocks back (see Figure 1). This task was selected because it could feasibly be introduced as a prototype for a computer/phone game that is similar to many of the popular brain-based games that are already available to the public on these devices. Additionally, it could be introduced as a measure of intellectual capacity, as research has demonstrated the task is strongly related to other tasks of working memory as well as fluid intelligence more generally (Jaeggi, Buschkuehl, Perrig, & Meier, 2010; Kane, Conway, Miura, & Coleflesh, 2007). Neuroimaging studies also show that the task activates areas of the frontal lobe associated with working memory, including dorsolateral and ventrolateral prefrontal cortex and frontal poles (Owen et al., 2005). Prior to completing the test trial, participants were given time to practice the task (up to 100 practice trials). Participants chose the number of practice trials they completed and that number served as the primary behavioral self-handicapping variable. For each trial, the Dual 2-Back yields an overall accuracy percentage as well as 4 test scores: 1) auditory hits, 2) auditory errors, 3) visual hits, and 4) visual errors. The overall accuracy percentage is a summary indicator of performance for the test trial. In the present study, the total number of hits, or correctly identified targets for both auditory and visual stimuli was combined into one correct composite for the test trial. The total number of errors for both auditory and visual stimuli was combined into one errors composite for the test trial. The accuracy percentage, correct composite, and errors composite for the test trial served as the primary task performance outcome variables.

Self-handicapping checklist.

This form provides various excuses for poor performance that an individual can endorse prior to completing a task. Participants were instructed to place a mark next to all

the factors they thought would have a negative impact on the upcoming performance. The checklist was designed to be consistent with previous studies (Strube, 1986), but was modified to match the present sample and circumstances of the proposed study (i.e., emerging adults and type of tasks to be completed). As the content of this measure is often modified to suit various research paradigms, there is little psychometric validation in the research base. However, construct validity of self-handicapping checklists has been demonstrated in research illustrating that individuals with higher self-handicapping tendencies (as measured by the Self-Handicapping Scale 25-item; Jones & Rhodewalt, 1982), claim the presence of more general barriers on self-handicapping checklists compared to individuals who are lower in self-handicapping tendencies (Strube, 1986). For the present study, total number of excuses endorsed was used as the primary measure of general barrier self-reported handicapping.

Conners adult ADHD rating scale: self-report-long form (CAARS:S-L).

The CAARS:S-L (Conners, Erhardt, & Sparrow, 1998) is a self-report measure of ADHD symptoms in adulthood. The measure consists of 66 items that are endorsed on a 4-point scale ranging from 0 (*not at all*) to 4 (*very much*), with higher scores reflecting higher levels of ADHD-related symptomatology. The measure yields eight clinical scales (Inattention/Memory Problems, Hyperactivity/Restlessness, Impulsivity/Emotional Lability, Problems with Self-Concept, DSM-IV Inattentive Symptoms, DSM-IV Hyperactive-Impulsive symptoms, DSM-IV ADHD Symptoms Total, ADHD Index), with T-scores of 65 or greater representing a clinical elevation. Internal consistency is strong (α = .86-.90), as is one month test-retest reliability (r = .80-.91) for each of the eight CAARS:S-L clinical scales (Erhardt, Epstein, Conners, Parker, & Sitarenios, 1999).

In addition, the measure demonstrates high correlation with other self-report ADHD measures and has good sensitivity and specificity for diagnostic accuracy of adult ADHD (Erhardt et al., 1999). For the present study, the DSM-IV ADHD Symptoms Total (Scale G) T-score was used as the primary measure of ADHD self-reported handicapping. Internal consistency of this scale for the present study was good, $\alpha = .81$. Of note, the present study procedures include directions for the CAARS:S-L that differ from standardized administration. While the standardized administration asks for respondents to consider the degree to which symptoms have been problematic for a period of time, the current administration encourages respondents to rate whether each symptom is present and may cause problems for performance in the present moment.

Procedure

Each participant completed the study in an individual session that lasted approximately 40 minutes. Prior to arrival, they were assigned to an experimental group using block randomization. After providing informed consent, participants completed a brief history questionnaire as well as baseline measures of self-handicapping, neuroticism, and depressive symptoms.

After completing these measures, all participants were informed they were about to complete a computer task. The explanation of the task differed based upon experimental group assignment. Individuals assigned to the neutral group were provided with a cover story explaining that the computer task was a prototype of a Smartphone application game. They were asked to put forth their best effort in order to help the application developers evaluate the design of the game. Individuals in the evaluative threat group were informed that they were about to complete a computer task that was an

abbreviated intelligence test. They were asked to put forth their best effort in order to provide an accurate estimate of their intelligence. They were told that their score would be calculated and plotted on a graph for comparison to the performances of other individuals their same age. For each group, participants were told that the computer task they were about to complete was new and that the test developers were interested in knowing what sorts of factors may influence an individual"s performance on it (see Appendix A). All participants were then asked to complete a checklist of variables that they believed may have a negative impact on their performance on the computer task as well as a self-report measure of symptoms typically associated with ADHD. Participants were instructed to consider the symptoms and factors that were present at that moment that may impact their performance.

Participants were then placed in front of a computer to complete the Dual 2-Back. They were provided with instructions on how to complete the task and then informed that they were allowed to practice the task as many times as they wished prior to completing the test trial. After practicing for the desired amount of time, participants then completed the test trial of the Dual 2-Back and their scores were recorded.

Following completion of the Dual 2-Back, participants completed a brief, open-ended set of questions designed to serve as a manipulation check for evaluative threat. They were then debriefed regarding the nature of the study.

Results

Exploration of the data revealed the distributions for the BDI-II, Self-handicapping Checklist, and total number of practices were positively skewed. To determine whether this had an impact on the analyses, square root transformations were performed on these variables to correct for non-normality. The transformed variables and interaction terms were then entered into the regression models and compared to models using the non-transformed variables. Results showed no difference in outcome using transformed variables. Exploration of the data also revealed twelve cases that were outliers on study variables (2 on BDI-II, 3 on Self-Handicapping Checklist, 6 on number of practices, 1 on Dual 2-Back Correct Composite). After removing all outliers, the analyses were re-run, with no change in results. Due to these findings, all participants were included in the analyses and variables in the results reported below are un-adjusted.

The experimental groups were not different in age, $t(101) = -1.17$, $p = .25$, gender, $\chi^2(1) = 1.64$, $p = .20$, racial/ethnic self-identification (minority/nonminority), $\chi^2(1) = .59$, $p = .44$, baseline depression, $t(101) = -.37$, $p = .71$, pre-study neuroticism, $t(101) = 1.14$, $p = .26$, or trait self-handicapping, $t(101) = .50$, $p = .62$. Groups were also not different on reported previous diagnoses of ADHD, $\chi^2(1) = .09$, $p = .77$ or pre-study ADHD symptom report, $t(101) = .41$, $p = .68$. See Table 1. As a manipulation check on evaluative threat, an independent samples t-test was conducted comparing participant ratings of task importance. Results showed participants in the evaluative threat group rated the task as more important than those in the neutral group, $t(101) = -1.90$, $p = .03$, suggesting the manipulation was successful.

Hypothesis 1

The first hypothesis was that behavioral and self-reported handicapping would be higher in the evaluative threat group. That is, individuals in the evaluative threat group were expected to provide themselves with more pre-emptive excuses for poor performance in the form of less preparatory behavior (behavioral self-handicapping) as well as higher reported general barriers and ADHD-specific symptoms (self-reported handicapping). An independent samples *t*-test showed that there was no difference in the number of practices completed prior to engaging in the test trial between participants in the threat group ($M = 7.51$, $SD = 4.68$) and those in the neutral group ($M = 6.85$, $SD = 3.83$), $t(101) = -.79$, $p = .43$. There was also no difference with regard to the number of general barriers to performance reported between the threat ($M = 3.88$, $SD = 2.17$) and the neutral group ($M = 3.88$, $SD = 2.84$), $t(101) = .01$, $p = .99$. Similarly, the groups were not different on total ADHD-specific symptom report, as measured by the ADHD Symptoms Total T-score on the CAARS:S-L (threat group $M = 58.22$, $SD = 10.80$; neutral group $M = 58.42$, $SD = 10.49$), $t(101) = .10$, $p = .92$.

Supplemental analyses were conducted for individual scale elevations on the CAARS:S-L. Specifically, a series of chi-square analyses were performed to determine whether groups differed with regard to proportion of participants who reported ADHD symptoms high enough to yield a clinical elevation on each scale of the CAARS:S-L. A chi-square analysis was also performed to determine whether groups differed with regard to proportion of individuals with at least one scale elevation on the CAARS:S-L. Results showed that all chi-square analyses were non-significant, all *p*s > .05. See Table 17 in Appendix B.

Hypothesis 2

The second hypothesis was that higher levels of self-handicapping behavior would be related to worse performance on the Dual 2-Back in individuals in the evaluative threat group. Simple correlations were conducted between each self-handicapping variable (number of practices, general barrier report, ADHD-specific symptom endorsement) and the three Dual 2-Back performance scores (total accuracy percentage, correct composite, errors composite) for the evaluative threat group. Results showed there was no significant relationship between total number of practices and overall accuracy percentage, $r(51) = .23$, $p = .10$, correct composite, $r(51) = .02$, $p = .87$, or errors composite, $r(51) = -.25$, $p = .08$. There was no significant relationship between general barrier report and accuracy percentage, $r(51) = .13$, $p = .36$, correct composite, $r(51) = -.03$, $p = .83$, or errors composite, $r(51) = -.19$, $p = .20$. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(51) = -.02$, $p = .90$, correct composite, $r(51) = -.02$, $p = .89$, or errors composite, $r(51) = -.06$, $p = .69$.

These correlations were also run in the neutral group. Results showed there was no significant relationship between total number of practices and overall accuracy percentage, $r(52) = -.06$, $p = .67$, correct composite $r(52) = .24$, $p = .09$, or errors composite $r(52) = .13$, $p = .37$. There was no significant relationship between general barrier report and accuracy percentage, $r(52) = -.04$, $p = .79$, correct composite, $r(52) = .10$, $p = .51$, or errors composite, $r(52) = .15$, $p = .29$. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(52) = .10$,

p = .49, correct composite, $r(52)$ = -.03, p =.82 , or errors composite, $r(52)$ = -.09, p = .53.

Comparisons of these correlations showed differences in the direction of the association between number of practices and accuracy percentage for evaluative threat (r = .23) and neutral group (r = -.06). In addition, number of practices and errors composite were negatively associated for the evaluative threat group (r = -.25) and positively associated for the neutral group (r = .13). Finally, general barrier report and errors composite were negatively associated for the evaluative threat group (r = -.19) and positively associated for the neutral group (r = .15). See Table 2. Follow up regression analyses were conducted to examine potential interactions between threat condition and self-handicapping behavior on task performance. Results showed there was no interaction of threat group and number of practices on accuracy percentage, β = .28, t = 1.39, p = .17. Similarly, the interaction of threat group and number of practices on errors composite was not significant, β = -.36, t = -1.81, p = .07. There was no interaction of threat group and general barrier report on errors composite, β = -.32, t = -1.66, p = .10.

A supplemental analysis was conducted to determine whether there was a simple effect of threat group on Dual 2-Back performance. Independent t-test analyses showed there was no difference in overall accuracy percentage between participants in the threat group (M = 56.02, SD = 18.12) and those in the neutral group (M = 52.79, SD = 17.81), $t(101)$ = .91, p = .36. There was also no difference with regard to correct composite between threat group (M = 14.36, SD = 4.15) and neutral group (M = 13.92, SD = 3.85), $t(101)$ = .55, p = .58. Similarly, the groups were not different on errors composite

(evaluative threat group $M = 12.42$, $SD = 6.92$; neutral group $M = 13.51$, $SD = 7.83$), $t(101) = -.74$, $p = .46$.

Exploratory Analyses

Self-handicapping outcomes moderator analyses.

Simple correlations between baseline variables and self-handicapping outcomes were calculated for each group. See Table 3. Results showed that higher trait self-handicapping was related to higher general barrier report for both groups, and to higher ADHD symptoms in the neutral group. Higher neuroticism was significantly related to higher general barrier report for the neutral group, while higher depressive symptoms were significantly related to higher general barrier report and higher ADHD symptoms for the evaluative threat group. No baseline variables were related to the total number of practice trials completed.

Although the pattern of these correlations suggested generally similar relationship strength between the two groups, potential moderators of the relationship between evaluative threat and self-handicapping behavior were examined using a series of regression analyses, with each potential moderator variable (trait self-handicapping, neuroticism, and depression) entered into separate models predicting the effect of evaluative threat on each self-handicapping outcome variable (practice trials, general barrier report, ADHD-specific symptom endorsement). Due to consistent findings of gender differences in behavioral self-handicapping, an exploratory analysis on the potential moderating role of gender was conducted for the number of practice outcome only. Results showed that, in models predicting the number of practices, none of the baseline variables or their interaction with evaluative threat emerged as significant. In

predicting general barrier report, all baseline variables showed a main effect, such that higher trait self-handicapping, neuroticism, and depressive symptoms corresponded to higher endorsement of general barriers, regardless of threat group. There were no significant interaction effects. Finally, in models predicting ADHD-specific symptoms, trait self-handicapping and depressive symptoms emerged as significant main effects, with higher scores corresponding to higher ADHD symptoms. There were no significant interaction effects. See Tables 4-6.

Task performance moderator analyses.

Simple correlations between baseline variables and task performance were calculated for each group. See Table 7. Results showed that none of the baseline variables were significantly related to any of the task performance variables for either experimental group. To examine potential moderators of the relationship between self-handicapping behavior and task performance, a series of regression analyses were conducted in the evaluative threat group, with each potential moderator variable (trait self-handicapping, neuroticism, and depression) entered into separate models predicting the effect of self-handicapping outcomes (practice trials, general barrier report, ADHD symptom endorsement) on task performance (accuracy percentage, correct composite, errors composite). Due to findings of gender differences in behavioral self-handicapping, gender was entered into models that included number of practice trials.

Results showed that in models predicting accuracy percentage, there was an interaction between trait self-handicapping and general barrier report, $\beta = -2.01$, $t = -2.07$, $p = .04$, such that for individuals with lower baseline trait self-handicapping, endorsing more general barriers was more strongly associated with higher accuracy on the test trial

(r = .35, p = .08) compared to those with higher baseline trait self-handicapping (r = .10, p = .64). The effect of trait self-handicapping was not significant, β = .41, t = 1.44, p = .16, though there was a main effect for general barrier report, β = 1.91, t = 2.23, p = .03. There was also an interaction between depressive symptoms and general barrier report, β = -.96, t = -2.44, p = .02, such that for those with lower baseline depression, endorsing more general barriers was associated with higher accuracy on the test trial (r = .34, p = .08), while for those with higher baseline depressive symptoms, endorsing more general barriers had lower accuracy on the test trial (r = -.23, p = .33). The main effect for general barrier report was also significant, β = .60, t = 2.57, p = .01, and the effect of depressive symptoms was marginal, β = .58, t = 1.92, p = .06. All other variables were not significant predictors of total accuracy percentage. See Tables 8-10.

In models predicting correct composite, there was an interaction between neuroticism and number of practices, β = 1.46, t = 2.09, p = .04, such that for those with lower baseline neuroticism, less practice corresponded to higher correct composite (r = -.30, p = .18), while for those with high neuroticism, less practice corresponded to a lower correct composite (r = .18, p = .36). There was a main effect of number of practices β = -1.27, t = -2.00, p = .05, and the effect of baseline neuroticism was marginal, β = -.56, t = -1.78, p = .08. There was also an interaction between baseline depression and number of practices, β = .91, t = 2.59, p = .01, such that for those with lower baseline depression, less practices corresponded to higher correct composite (r = -.33, p = .09), while for those with high baseline depression, less practice corresponded to lower correct composite (r = .29, p = .21). There was a significant main effect of number of practices, β = -.52, t = -2.06, p = .04, as well as a main effect of baseline depression, β = -.55, t = -2.11, p = .04.

There was an interaction between baseline trait self-handicapping and general barrier report, β =-2.79, t = -2.95, p = .005, such that for those with lower baseline trait self-handicapping, more general barrier report corresponded to higher correct composite (r = .22, p = .28), while for those with higher baseline trait self-handicapping, more general barrier report corresponded to lower correct composite (r = -.28, p = .19). The main effects of general barrier report (β = 2.37, t = 2.83, p = .007) and baseline trait self-handicapping (β = .79, t = 2.84, p = .007,) were also significant. There was an interaction between baseline neuroticism and general barrier report, β =-1.30, t = -2.22, p = .03, such that for those with lower baseline neuroticism, more general barrier report corresponded to higher correct composite, (r = .31, p = .17), while for those with higher baseline neuroticism, higher general barrier report was associated with lower correct composite scores (r = -.32, p = .09). The main effects of general barrier report (β = 1.00, t = 2.04, p = .04) and neuroticism (β = .56, t = 2.04, p = .04) were also significant. Finally, there was a significant interaction between baseline depressive symptoms and general barrier report, β = -1.12, t = -2.87, p = .006, such that among individuals with lower baseline depression, higher general barrier report was associated with higher correct composite scores (r = .30, p = .14), while for those with higher baseline depression, higher general barrier report was associated with lower correct composite scores (r = -.51, p = .02). The main effects of baseline depressive symptoms (β = .79, t = 2.64, p = .01,) and general barrier report were also significant (β = .49, t = 2.09, p = .04). All other variables were not significant predictors of correct composite. See Tables 11-13.

In predicting errors composite, there were no significant interactions between baseline variables and self-handicapping outcomes on task performance. See Tables 14-

16. For comparison, these moderator analyses were run in the neutral group as well. There were no significant interactions between baseline variables and self-handicapping outcomes on task performance for the neutral group. Main effects were also not significant.

Additional exploratory analyses.

Additional exploratory analyses are provided in Appendix B. Because some of the participants reported previous diagnosis of ADHD, the primary analyses were run in subsamples with and without self-reported previous diagnosis of ADHD. Among individuals with a previous diagnosis of ADHD ($N = 21$), a higher proportion of individuals in the threat group (63.6%) had a significant elevation on the CAARSLS-L ADHD Symptoms Total Scale that those in the neutral group (20%), $p = .04$. In the ADHD subsample, there was no difference between experimental groups with regard to all other self-handicapping outcomes, all ps > .05. There were no differences between experimental groups with regard to self-handicapping outcomes in the subsample without a previous ADHD diagnosis ($N = 82$), all ps > .05. With regard to the impact of self-handicapping behavior on task performance, in the ADHD group, moderate to large effect sizes suggest that higher reported general barriers and ADHD-specific symptoms were actually associated with better performance on the Dual 2-Back for individuals in the evaluative threat group. Similarly, for those in the neutral group, moderate to large effect sizes suggest endorsement of ADHD-specific symptoms was associated with better performance on the Dual 2-Back. In addition, small to moderate effect sizes suggested higher general barrier endorsement was associated with better performance on the correct composite, but worse performance on total accuracy and errors composite. In the

subsample without ADHD, more practice was associated with better accuracy and less errors on the Dual 2-Back for individuals in the evaluative threat group. Similarly, for those in the neutral group, more practice was associated with higher correct composite scores.

To explore whether individuals with more potential concern about ADHD might show the hypothesized effects, the primary analyses were re-run in a subsample of individuals with higher baseline symptoms of ADHD, as measured by a score of 13 or higher on the prescreen questionnaire ($N = 35$). Results showed no difference between experimental groups on self-handicapping outcomes, all ps > .05. Similarly, there were no significant relationships between self-handicapping behaviors and task performance, though small to moderate effect sizes suggest higher endorsement of general barriers as well as ADHD symptoms correspond to worse performance on the Dual 2-Back among individuals in the evaluative threat group. In contrast, among individuals in the neutral group, small effect sizes suggest more practice is associated with lower accuracy and more errors, while higher report of general barriers was associated with higher accuracy and correct composite scores.

The primary analyses were also run in a subsample of participants who endorsed ratings of task importance that were congruent with their experimental group. In this way, the experimental groups were comprised of individuals with successful experimental manipulation. Individuals in the evaluative threat group who rated the task as relatively more important (i.e., ratings of 5 or higher on a 7-piont scale) (N=36), and individuals in the neutral group who rated the task as relatively less important (i.e., ratings of 4 or lower on a 7-point scale) (N=24) were included in this exploratory analysis. Results showed no

difference between groups on self-handicapping outcomes, all *p*s > .05. Similarly, there were no significant relationships between self-handicapping behaviors and task performance, though small effect sizes suggest less practice was associated with less overall accuracy and more errors for the evaluative threat group. In contrast, within the neutral group, small to moderate effect sizes suggest less practice was associated with higher overall accuracy and less errors, endorsement of more general barriers was associated with more errors, and higher ADHD symptom report was associated with less overall accuracy and less correct hits on the Dual 2-Back.

Given that adults with ADHD tend to report more inattentive symptoms, the primary analyses were also re-run using the CAARS:S-L DSM-IV Inattentive Symptoms T-Score as the primary measure of ADHD-specific self-reported handicapping. Results showed no significant difference between experimental groups in their endorsement of ADHD symptoms on the CAARS:S-L Inattentive Symptoms scale, $p = .86$. There was also no relationship between T-scores on the Inattentive Symptoms scale and performance scores on the Dual 2-Back for individuals in the evaluative threat group as well as individuals in the neutral group, all *p*s > .05.

Discussion

The primary purpose of the present study was to investigate the notion that higher ADHD symptom report can be used as a pre-emptive excuse for poor performance on an evaluative task in emerging adults concerned about ADHD. Similarly, poorer preparation and higher report of general barriers were thought to be forms of self-handicapping that would be demonstrated to a higher degree in individuals exposed to evaluative threat. Overall, findings of the present study did not support these hypotheses. ADHD symptom report, general barrier report, and the number of practice trials completed prior to completing the Dual 2-Back were not exhibited differentially when participants were exposed to evaluative threat in the form of an intelligence test.

The most likely explanation for the non-significant impact of evaluative threat manipulation on subsequent self-handicapping behavior is that the present sample is not necessarily representative of a clinical, evaluation-seeking population. Participants were selected if they answered "yes" to a question asking "Do you sometimes think you might have ADHD?" While this criterion was supplemented by selecting individuals with scores ranging from the 40^{th}-90^{th} percentiles on an established screener for ADHD symptoms, the participants in the present study likely to do not have the same level of concern as those individuals who ultimately present for an evaluation of the disorder. In fact it should be noted that the screening question did not ask specifically about the degree to which participants are concerned they have ADHD. It is worth noting that the mean baseline ADHD symptom endorsement for the entire sample was 12.54 (range 10 to 16) on a screening measure with a suggested cut-off for concern of 14. Nevertheless, research has shown that even among community populations who are not seeking

treatment or evaluation, both present and retrospective ADHD symptoms are endorsed at a high base rate (DuPaul et al., 2001; Barkley, Knouse, & Murphy, 2011). Taken together, this suggests that higher symptom count, even within the context of endorsing "sometimes" contemplating that one may have ADHD, is likely not sufficient for identifying a sample with high clinical concern of ADHD. Indeed, supplemental analyses conducted in the present study examined the extent to which higher baseline report of ADHD symptoms influenced the effect of the manipulation, with all results showing no difference between experimental groups in use of behavioral and self-reported handicapping strategies. These findings suggest that future studies should consider whether the present study design, or a variant, can be implemented in a setting where personal concern for ADHD is more prominent. For example, the current study may be run in a clinic setting, where emerging adults are concerned about ADHD and present for a full evaluation. Alternatively, if a similar recruitment strategy to the present study is preferred, future studies may include more stringent criteria for determining concern for ADHD, such as asking directly about concern, requiring participants to rate their level of concern, or asking if participants would be likely to seek an evaluation.

It is also a possibility that the experimental manipulation did not elicit strong evaluative threat in the present sample. While groups reported significantly different ratings of the importance of the task, with the evaluative threat (i.e., intelligence test) group rating the task as more important than the neutral group (i.e., Smartphone app), it is not necessarily the case that the experimental group felt threatened by the task, per se. Indeed, qualitative review of participant responses to a post-study question "what do you think the task measures?" revealed that most participants across experimental groups

considered the task to be a measure of divided attention and memory. While these responses provide an accurate description of the task, they do not communicate perceived threat related to being evaluated for a broader cognitive ability, such as intelligence.

In considering how these results fit with the larger model of ADHD illness identity development, the present sample may represent individuals who have not yet started to internalize the disorder and use pre-emptive symptom report as an excuse for anticipated future failure. It may be that these individuals have not encountered repeated failure in their daily activities, or initiated the process of attributing high base-rate difficulties to a medical illness, which is a crucial aspect of forming an illness identity (Leventhal et al., 1980). The findings of Suhr and Wei (2013) suggest that even in a sample of individuals who are not concerned about ADHD at baseline, participants began to endorse higher symptoms when they perceived they had failed on an important task. It is reasonable to expect that individuals with higher baseline levels of personal concern for ADHD would be particularly susceptible to this effect; however this process was not incorporated into the present study. Therefore, though the present study sample endorsed higher baseline levels of ADHD symptoms, it is unclear the extent to which they have encountered distressing outcomes in their daily lives and started to consider ADHD as a potential reason for their difficulties. To build on these findings, future research may incorporate a study design in which participants fail, or are told that they failed, an evaluative task for an important domain (i.e., intelligence) and then examine the degree to which participants endorse symptoms or general barriers prior to completing another evaluative task. Alternatively, future studies could focus on populations who have already experienced negative outcomes or failure in valued life domains, such as

academics. Individuals who were rejected from college, chose to attend community college to boost grades prior to enrollment in traditional college, or were removed from traditional college due to poor grades may represent populations who may be more vulnerable to adopting illness identities in an effort to preserve self-esteem in the face of failure.

Despite the lack of evaluative threat on self-handicapping behavior, the present study highlighted intriguing findings that suggest a possible influence of self-handicapping behavior on task performance that differed by experimental group. Specifically, within the threat group, less practice was associated with less accuracy and more errors on the Dual 2-Back. This pattern was not found in the neutral group, and was actually in the opposite direction for the relationship between number of practices and errors, such that fewer practices were associated with *fewer* errors for the neutral group. While these interactions were non-significant (*p*s = .17 and .07, respectively), it is important to consider that small effect sizes suggest the possibility that there is an influence of evaluative threat on certain aspects of self-handicapping that can in turn impact performance on evaluative tasks. Thus, these findings should be replicated in future studies that address the present limitations and have a larger sample size.

With regard to the influence of individual differences, the findings of the present study provide further support for previous research identifying negative affectivity and other psychological symptoms as strongly related to ADHD symptom report, even among individuals without a clear history or presentation consistent with ADHD (Mackin & Horner, 2005; Van Voorhees et al., 2011). In addition, the present findings highlight the influence of neuroticism, depressive symptoms, and trait self-handicapping in higher

report of general barriers prior to completing a task. These findings reflect main effects of neuroticism, depressive symptoms, and trait self-handicapping on self-report of general barriers and ADHD symptoms in that they did not moderate the impact of evaluative threat on report of these symptoms. Thus, the present study identified that, for individuals with high baseline risk factors, there is a greater tendency to endorse barriers to performance, regardless of belief regarding what the task measures or its relative importance. In this way, the present study identifies an overlap of factors that have been found to predispose one to somatization tendencies, which may evolve into an ADHD illness identity over time. Particularly if individuals in this group encounter failure or continue to experience symptoms that are considered to be problematic, there may be an increased risk of misattributing the problems to ADHD and creating an illness identity. Another personality factor that may lend itself well to future study on this phenomenon is narcissistic personality trait. Previous research has demonstrated that narcissism is predictive of the tendency to blame and berate others in the face of poor personal performance (South, Oltmanns, & Turkheimer, 2003). These findings suggest that individual with narcissistic personality traits may be more likely to search for external excuses for poor performance. Further research with this construct may identify whether that extends to adopting self-handicapping strategies prior to completion of a valued task.

The present study did illustrate the potential moderating role of individual differences (i.e., baseline variables; trait self-handicapping, neuroticism, depressive symptoms) on the relationship between self-handicapping and task performance in individuals exposed to evaluative threat. Though there were some findings that suggested self-handicapping behaviors benefitted task performance in individuals with higher

baseline risk factors (i.e., higher barrier report associated with better accuracy for high and low trait self-handicapping), the remainder of the significant interactions illustrated that greater use of self-handicapping among individuals with high baseline risk factors was associated with poorer task performance in the evaluative threat group. Specifically, among individuals with high baseline trait self-handicapping, higher report of general barriers corresponded to lower correct composite scores on the Dual 2-Back. For individuals high in neuroticism, higher report of general barriers and fewer practices corresponded to lower correct composite scores. Among individuals with high levels of baseline depression, reporting more general barriers was associated with poorer accuracy and lower correct composite scores on the Dual 2-Back. Similarly, for those with higher baseline levels of depression, fewer practices was associated with lower correct composite scores. These interactions were only seen in individuals in the evaluative threat group, as all analyses in the neutral group were non-significant. While it is necessary to consider that the present study sample size did not support 3-way interaction analyses, these preliminary results may be taken to indicate that high risk factors and self-handicapping behavior can have a negative influence on task performance in an evaluative threat context. This further motivates the need for future studies with modified recruitment and larger sample sizes.

On a final note, with regard to the non-significance of behavioral self-handicapping, it may be the case that behavioral self-handicapping is not developmentally appealing or appropriate for this present sample of emerging adults (Midgley et al., 1996). Similarly, among those for whom and ADHD illness identity is forming, or among those who currently use ADHD symptoms as a pre-emptive excuse

for poor performance, self-reported handicapping is likely preferred over behavioral self-handicapping strategies. From a conceptual standpoint, deferring to self-reported symptoms rather than behavioral self-handicapping is more consistent with an illness identity that emphasizes impairment due to unchangeable symptoms (i.e., ADHD) rather than behaviors that can be modified.

Conclusions

In conclusion, while the results of the present study highlight the need for additional research in populations with identified concern for ADHD, the findings identify several important clinical factors to consider in the self-report of ADHD symptoms as well as general barriers to performance. The present study specifically identified high risk factors, such as trait self-handicapping, neuroticism, and depressive symptoms as strongly related to report of general barriers to performance and ADHD-specific symptoms, regardless of individual belief about the nature of the task to be performed. In addition, there is evidence to suggest that, in the context of evaluative threat, high baseline risk factors influence the impact of self-handicapping behavior on task performance, such that more self-handicapping is associated with poorer performance. Though the study limitations noted above should be considered when interpreting these results, the findings suggest that further research is needed in populations that may be more likely to demonstrate self-handicapping behaviors when task performance is used in high-stakes testing, such as clinical neuropsychological evaluations of ADHD.

References

Adler, A. A. (1929). Die Individualpsychologie in der Neurosenlehre. *Internationale Zeitschrift Für Individual-Psychologie*, 781-88.

Adler, L. A., Shaw, D. M., Spencer, T. J., Newcorn, J. H., Hammerness, P., Sitt, D. J., & ... Faraone, S. V. (2012). Preliminary examination of the reliability and concurrent validity of the attention-deficit/hyperactivity disorder Self-Report Scale v1.1 symptom checklist to rate symptoms of attention-deficit/hyperactivity disorder in adolescents. *Journal of Child And Adolescent Psychopharmacology*, *22(3),* 238-244. doi:10.1089/cap.2011.0062

Alfano, K., & Boone, B. K. (2007). The use of effort tests in the context of actual versus feigned attention-deficit/hyperactivity disorder and learning disability. In K. B. Boone (Ed.), *Assessment of feigned cognitive impairment: A neuropsychological perspective* (pp. 366-383). New York, NY: Guilford Press.

Arkin, R. M., & Baumgardner, A. H. (1985). Self-handicapping. In J. H. Harvey & G. W. Weary (Eds.), *Attribution: Basic issues and applications* (pp.169-202). San Diego, CA: Academic Press.

Barkley, R. A., Knouse, L. E., & Murphy, K.R. (2011). Correspondence and disparity in the self- and other ratings of current and childhood ADHD symptoms and impairment in adults with ADHD. *Psychological Assessment, 23(2),* 437-446. doi: 10.1037/a0022172

Baumeister, R. F., Hamilton, J. C., & Tice, D. M. (1985). Public versus private expectancy of success: Confidence booster or performance pressure? *Journal of*

Personality and Social Psychology, 48(6), 1447-1457. doi: 10.1037/0022-3514.48.6.1447

Baumgardner, A. H., Lake, E. A., & Arkin, R. M. (1985). Claiming mood as a self-handicap: The influence of spoiled and unspoiled public identities. *Personality and Social Psychology Bulletin, 11(4),* 349-357. doi: 10.1177/0146167285114001

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory, Second Edition.* San Antonio, TX: The Psychological Corporation.

Berglas, S. (1990). Self-handicapping: Etiological and diagnostic considerations. In R.L. Higgins (Ed.), *Self-handicapping: The paradox that isn't.* (pp. 151-186). New York, NY: Plenum.

Berglas, S., & Jones, E. E. (1978). Drug choice as a self-handicapping strategy in response to noncontingent success. *Journal of Personality and Social Psychology, 36(4)*, 405-417. doi: 10.1037/0022-3514.36.4.405

Bobo, J. L., Whitaker, K. C., & Strunk, K. K. (2013). Personality and student self-handicapping: A cross-validated regression approach. *Personality and Individual Differences, 55(5)*, 619-621. doi: 10.1016/j.paid.2013.04.010

Bolger, N., & Schilling, E. A. (1991). Personality and the problems of everyday life: The role of neuroticism in exposure and reactivity to daily stressors. *Journal of Personality, 59(3),* 355-386. doi: 10.1111/j.1467-6494.1991.tb00253.x

Boonstra, A. M., Oosterlaan, J., Sergeant, J. A., & Buitelaar, J. K.. (2005). Executive functioning in adults ADHD: A meta-analytic review. *Psychological Medicine, 35(8),* 1097-1108. doi: 10.1017/S003329170500499X

Conners, C. K., Erhardt, D., & Sparrow, E. P. (1998). *Conners Adult Attention Rating Scale – Self-Report: Long Version.* North Tonawanda, NY: Multi-Health Systems.

Costa Jr., P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual.* Odesa, FL: Psychological Assessment Resources.

Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality and Social Psychology, 38(4),* 668-678. doi: 10.1037/0022-3514.38.4.668

Coudevylle, G. R., Martin Ginis, K. A., & Famose, J. P. (2008). Determinants of self-handicapping strategies in sport and their effects on athletic performance. *Social Behavior and Personality, 36(3)*, 391-398. doi: 10.2224/sbp.2008.36.3.391

Davidson, M. A. (2008). ADHD in adults: A review of the literature. *Journal of Attention Disorders, 11(6),* 628-641. doi: 10.1177/1087054707310878

DeGree, C. E., & Snyder, C. R. (1985). Adler‟s, psychology (of use) today: Personal history of traumatic life events as a self-handicapping strategy. *Journal of Personality and Social Psychology, 48(6),* 1512-1519. doi: 10.1037/0022-3514.48.6.1512

Diller, L. (2010). Review of We‟ve got issues: Children and parents in the age of medication. *Journal of Attention Disorders, 15(2),* 174-175. doi: 10.1177/1087054710378230

Drabant, E. M., Kuo, J. R., Ramel, W., Blechert, J., Edge, M. D., Cooper, J. R.,…Gross, J.J. (2011). Experiential, autonomic, and neural responses during threat

anticipation vary as a function of threat intensity and neuroticism. *Neuroimage, 55(1),* 401-410. doi: 10.1016/j.neuroimage.2010.11.040

DuPaul, G. J., Schaughency, E. A., Weyandt, L. L., Tripp, G., Keisner, J., Ota, K., & Stanish, H. (2001). Self-report of ADHD symptoms in university students: Cross-gender and cross-national prevalence. *Journal of Learning Disabilities, 34(4),* 370-379. doi: 10.1177/002221940103400412

Erhardt, D., Epstein, J. N., Conners, C. K., Parker, J. D. A., & Sitarenios, G. (1999). Self-ratings of ADHD symptoms in adults II: Reliability, validity, and diagnostic sensitivity. *Journal of Attention Disorders, 3,* 153-158. doi: 10.1177/108705479900300304

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140. doi: 10.1177/001872675400700202

Finez, L., Beriot, S., Rosnet, E. L., Cleveland, C., & Tice, D. M. (2012). Trait self-esteem and claimed self-handicapping motive in sports situations. *Journal of Sports Sciences, 30(16)*, 1757-1765. doi: 10.1080/02640414.2012.718089

Finez, L., & Sherman, D. K. (2012). Train in vain: The role of the self in claimed self-handicapping strategies. *Journal of Sport & Exercise Psychology, 34(5),* 600-620.

Gadbois, S. A., & Sturgeon, R. D. (2011). Academic self-handicapping: Relationships with learning specific and general self-perceptions and academic performance over time. *British Journal of educational Psychology, 81(2),* 207-222. doi: 10.1348/000709910X522186

Gibbons, F. X., & Gaeddert, W. P. (1984). Focus of attention and placebo utility. *Journal of Experimental Social Psychology, 20(2)*, 159-176. doi:

10.1016/0022-1031(84)90018-0

Greaven, S. H., Santor, D. A., Thompson, R., & Zuroff, D. C. (2000). Adolescent self-handicapping, depressive affect, and maternal parenting style. *Journal of Youth and Adolescence, 29(6),* 631-646. doi:10.1023/A:1026499721533

Greenberg, J. (1985). Unattainable goal choice as a self-handicapping strategy. *Journal of Applied Social Psychology, 15(2)*, 140-152. doi: 10.1111/j.1559-1816.1985.tb02340.x

Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. In R.F. Baumeister (Ed.), *Public self and private self* (pp. 189-212). New York, NY: Springer-Verlag.

Haas, B. W., Omura, K., Constable, R. T., & Canli, T. (2007). Emotional conflict and neuroticism: Personality-dependent activation in the amygdala and subgenual anterior cingulate. *Behavioral Neuroscience, 121(6),* 249-256. doi: 10.1037/0735-7044.121.6.1173

Harris, R. N., & Snyder, C .R. (1986). The role of uncertain self-esteem in self-handicapping. *Journal of Personality and Social Psychology, 51(2)*, 451-458. doi: 10.1037/0022-3514.51.2.451

Higgins, R. L., & Harris, R. N. (1988). Strategic "alcohol" use: Drinking to self-handicap. *Journal of Social and Clinical Psychology, 6(2)*, 191-202. doi: 10.1521/jscp.1988.6.2.191

Hirt, E. R., Depee, R. K., & Gordon, L. J. (1991). Self-reported versus behavioral self-handicapping: Empirical evidence for a theoretical distinction. *Journal of*

Personality and Social Psychology, 61(6), 981-991. doi: 10.1037/0022-3514.61.6.981

Jaeggi, S. M., Buschkuehl, M., Perrig, W. J., & Meier, B. (2010). The concurrent validity of the N-back task as a working memory measure. *Memory, 18(4),* 394-412. doi:10.1080/09658211003702171

Jones, E. E., & Berglas, S. (1978). Control of attributions about the self through self-handicapping strategies: The appeal of alcohol and the role of underachievement. *Personality and Social Psychology Bulletin, 4(2),* 200-206. doi: 10.1177/014616727800400205

Jones, E. E., & Rhodewalt, F. (1982). *Self-Handicapping Scale*. Unpublished scale, Department of Psychology, Princeton University and University of Utah.

Kane, M. J., Conway, A. A., Miura, T. K., & Colflesh, G. H. (2007). Working memory, attention control, and the N-back task: A question of construct validity. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 33(3),* 615-622. doi:10.1037/0278-7393.33.3.615

Kane, M. J., & Engle, R. W. (2003). Working-memory capacity and the control of attention: The contributions of goal neglect, response competition, and task set to Stroop Interference. *Journal of Experimental Psychology: General, 132(1)*, 47-70. doi: 10.1037/0096-3445.132.1.47

Kelley, H. H. (1971). *Attribution in social interaction.* Morrisotwn, NJ: General Learning Press.

Kessler, R. C., Adler, L., Gruber, M. J., Sarawate, C. A., Spencer, T., & Van Brunt, D. L. (2007). Validity of the World Health Organization adult ADHD self-report scale

(ASRS) screener in a representative sample of health plan members. *International Journal of Methods in Psychiatric Research, 16(2),* 52-65. doi: 10.1002/mpr.208

Kim, Y., Chiu, C, & Zou, A. (2010). Know thyself: Misperceptions of actual performance undermine achievement motivation, future performance, and subjective well-being. *Attitudes and Social Cognition, 99(3),* 395-409. doi: 10.1037/a0020555

Kirchner, W. K. (1958). Age differences in short-term retention of rapidly changing information. *Journal of Experimental Psychology, 55(4),* 352-358. doi:10.1037/h0043688

Kolditz, T. A., & Arkin, R. M. (1982). An impression management interpretation of the self-handicapping strategy. *Journal of Personality and Social Psychology, 43(3),* 492-502. doi: 10.1037/0022-3514.43.3.492

Leary, M. R., & Shepperd, J. A. (1986). Behavioral self-handicaps versus self-reported self-handicaps: A conceptual note. *Journal of Personality and Social Psychology, 51(6)*, 1265-1268. doi: 10.1037/0022-3514.51.6.1265

Leondari, A., & Gonida, E. (2007). Prediting academic self-handicapping in different age groups: The role of personal achievement goals and social goals. *British Journal of Educational Psychology, 77(3),* 595-611. doi: 10.1348/000709906X128396

Lupien, S. P., Seery, M. D., & Almonte, J. L. (2010). Discrepant and congruent high self-esteem: Behavioral self-handicapping as a preemptive defensive strategy. *Journal of Experimental Social Psychology, 46(6),* 1105-1108. doi: 10.1016/j.jesp.2010.05.022

Mackin, R., & Horner, M. (2005). Relationship of the Wender Utah Rating Scale to objective measures of attention. *Comprehensive Psychiatry, 46(6),* 468-471. doi:10.1016/j.comppsych.2005.03.004

Mayerson, N. H., & Rhodewalt, F. (1988). The role of self-protective attributions in the experience of pain. *Journal of Social and Clinical Psychology, 6(2),* 203-218. doi: 10.1521/jscp.1988.6.2.203

McCrae, R. R., & Costa, P. T. (2004). A contemplated revision of the NEO Five-Factor Inventory. *Personality and Individual Differences, 36(3)*, 587-596. doi: 10.1016/S0191-8869(03)00118-1

McCrea, S. M., Hirt, E. R., & Milner, B. J. (2008). She works hard for the money: Valuing effort underlies gender differences in behavioral self-handicapping. *Journal of Experimental Social Psychology, 44(2)*, 292-311. doi: 10.1016/j.jesp.2007.05.006

Midgley, C., Arunkumar, R., & Urdan, T. (1996). "If I don"t do well tomorrow, there"s a reason": Predictors of adolescents" use of academic self-handicapping strategies. *Journal of Educational Psychology, 88(3)*, 423-434. doi: 10.1037/0022-0663.88.3.423

Midgley, C., & Urdan, T. (1995). Predictors of middle school students" use of self-handicapping strategies. *The Journal of Early Adolescence, 15(4),* 389-411. doi: 10.1177/0272431695015004001

Murray, G., Rawlings, D., Allen, N. B., & Trinder, J. (2003). NEO Five-Factor Inventory Scores: Psychometric Properties in a Community Sample. *Measurement and*

Evaluation In Counseling And Development, *36*(3), 140-149. doi: 10.1037/t03914-000

Musso, M. W., & Gouvier, W. (2014). „Why is this so hard?" A review of detection of malingered ADHD in college students. *Journal of Attention Disorders, 18(3),* 186-201. doi: 10.1177/1087054712441970

Osman, A., Downs, W. R., Barrios, F. X., Kopper, B. A., Gutierrez, P. M., & Chiros, C. E. (1997). Factor structure and psychometric characteristics of the Beck Depression Inventory-II. *Journal of Psychopathology and Behavioral Assessment, 19(4),* 359-376. doi:10.1007/BF02229026

Owen, A. M., McMillan, K. M., Laird, A. R., & Bullmore, E. (2005). N-back working memory paradigm: A meta-analysis of normative functional neuroimaging studies. *Human Brain Mapping, 25(1),* 46-69. doi: 10.1002/hbm.20131

Parkes, K. R. (1986). Coping in stressful episodes: The role of individual differences, environmental factors, and situational characteristics. *Journal of Personality and Social Psychology, 51(6),* 1277-1292. doi: 10.1037/0022-3514.51.6.1277

Pelham, W. E. Jr., Fabiano, G. A., & Massetti, G. M. (2005). Evidence-based assessment of attention deficit hyperactivity disorder in children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 34(3)*, 449-476. doi: 10.1207/s15374424jccp3403_5

Pyszczynski, T., & Greenberg, J. (1983). Determinants of reduction in intended effort as a strategy for coping with anticipated failure. *Journal of Research in Personality, 17(4),* 412-422. doi: 10.1016/0092-6566(83)90069-7

Rhodewalt, F., & Davison, J. (1986). Self-handicapping and subsequent performance: Role of outcome valence and attributional certainty. *Basic and Applied Social Psychology, 7(4)*, 307-323. doi: 10.1207/s15324834basp0704_5

Rhodewalt, F., Saltzman, A. T., & Wittmer, J. (1984). Self-handicapping among competitive athletes: The role of practice in self-esteem protection. *Basic and Applied Social Psychology, 5(3),* 197-209. doi: 10.1207/s15324834basp0503_3

Rhodewalt, F., & Tragakis, M. W. (2003). Self-esteem and self-regulation: Toward optimal studies of self-esteem: Comment. *Psychological Inquiry, 14(1),* 66-70.

Ross, S. R., Canada, K. E., & Rausch, M. K. (2002). Self-handicapping and the Five Factor Model of personality: Mediation between neuroticism and conscientiousness. *Personality and Individual Differences, 32(7)*, 1173-1184. doi: 10.1016/S0191-8869(01)00079-4

Ryska, T. A. (1998). Effects of trait and situational self-handicapping on competitive anxiety among athletes. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 17(1),* 48-56. doi: 10.1007/s12144-998-1020-9

Ryska, T. A., Yin, Z., & Cooley, D. (1998). Effects of trait and situational self-handicapping on competitive anxiety among athletes. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 17(1),* 48-56. doi:10.1007/s12144-998-1020-9

Schoechlin, C., & Engel, R. R. (2005). Neuropsychological performance in adult attention-deficit hyperactivity disorder: Meta-analysis of empirical data. *Archives of Clinical Neuropsychology, 20(6),* 727-744. doi: 10.1016/j.acn.2005.04.005

Shepperd, J. A., & Arkin, R. M. (1989). Self-handicapping: The moderating roles of public self-consciousness and task importance. *Personality and Social Psychology Bulletin, 15(2)*, 252-265. doi: 10.1177/0146167289152012

Sibley, M. H., Pelham Jr., W. E., Molina, B. S., Gnagy, E. M., Wymbs, B. T., Garefino,…Kuriyan, A. B. (2012). When diagnosing ADHD in young adults emphasize informant reports, DSM items, and impairment. *Journal of Consulting and Clinical Psychology, 80(6),* 1052-1061. doi: 10.1037/a0029098

Smith, J. L., Hardy, T., & Arkin, R. (2009). When practice doesn‟t make perfect: Effort expenditure as an active behavioral self-handicapping strategy. *Journal of Research in Personality, 43(1),* 95-98. doi: 10.1016/j.jrp.2008.10.004

Smith, T. W., Snyder, C. R., & Handelsman, M. M. (1982). On the self-serving function of an academic wooden leg: Test anxiety as a self-handicapping strategy. *Journal of Personality and Social Psychology, 42(2),* 314-321. doi: 10.1037/0022-3514.42.2.314

Smith, T. W., Snyder, C. R., & Perkins, S. (1983). On the self-serving function of hypochondriacal complaints: Physical symptoms as self-handicapping strategy. *Journal of Personality and Social Psychology, 44(4),* 787-797. doi: 10.1037/0022-3514.44.4.787

Snyder, C. R., & Smith, T. W. (1986). *On being "shy like a fox:" A self-handicapping analysis.* In W. E. Jones, J. M. Cheek, & S. R. Briggs (Eds.) *Shyness: Perspectives on research and treatment* (pp. 161-172). New York, NY: Plenum Press.

Snyder, C. R., Smith, T. W., Augelli, R. W., & Ingram, R. E. (1985). Shyness as a self-handicapping strategy. *Journal of Personality and Social Psychology, 48(4),* 970-980. doi: 10.1037/0022-3514.48.4.970

Snyder, M. L., Smoller, B., Strenta, A., & Frankel, A. (1981). A comparison of egotism, negativity, and learned helplessness as explanations for poor performance after unsolvable problems. *Journal of Personality and Social Psychology, 40(1),* 24-30. doi: 10.1037/0022-3514.40.1.24

South, S. C., Oltmanns, T. F., & Turkheimer, E. (2003). Personality and the derogation of others: Descriptions based on self- and peer report. *Journal of Research in Personality, 37,* 16-33. doi: 10.1016/S0092-6566(02)00526-3

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261-302). New York, NY: Academic Press.

Steer, R. A., Ball, R., Ranieri, W. F., & Beck, A. T. (1997). Further evidence for the construct validity of the Beck Depression Inventory-II with psychiatric outpatients. *Psychological Reports, 80(2),* 443-446. doi:10.2466/pr0.1997.80.2.443

Strube, M. J. (1986). An analysis of the self-handicapping scale. *Basic and Applied Social Psychology, 7(3)*, 211-224. doi: 10.1207/s15324834basp0703_4

Strube, M. J., & Roemmele, L. A. (1985). Self-enhancement, self-assessment, and self-evaluative task choice. *Journal of Personality and Social Psychology, 49(4)*, 981-993. doi: 10.1037/0022-3514.49.4.981

Suhr, J., Buelow, M., & Riddle, T. (2011). Development of an infrequency index for the CAARS. *Journal of Psychoeducational Assessment, 29,* 160-170. doi: 10.1177/0734282910380190

Suhr, J. A., Hammers, D., Dobbins-Buckland, K., Zimak, E., & Hughes, C. (2008). The relationship of malingering test failure to self-reported symptoms and neuropsychological findings in adults referred for ADHD evaluation. *Archives of Clinical Neuropsychology, 23(5),* 521-530. doi: 10.1016/j.acn.2008.05.003

Suhr, J. A., Sullivan, B. K., & Rodriguez, J. L. (2011). The relationship of noncredible performance to continuous performance test scores in adults referred for attention-eeficit/hyperactivity disorder evaluation. *Archives of Clinical Neuropsychology, 26(1),* 1-7. doi: 10.1093/arclin/acq094

Suhr, J.A., & Wei, C. (2013). Symptoms as an excuse: Attention deficit/hyperactivity disorder symptom reporting as an excuse for cognitive test performance in the context of evaluative threat. *Journal of Social and Clinical Psychology, 32(7),* 753-769. doi: 10.1521/jscp.2013.32.7.753

Suhr, J. A., & Wei, C. (in press). Attention deficit/hyperactivity disorder as an illness identity: Implications for neuropsychological practice. In K. Boone (Ed.), *Neuropsychological Evaluation of Medically Unexplained Symptoms: Assessment Primer*. New York, NY: Routledge Books.

Sullivan, B. K., May K., & Galbally, L. (2007). Symptom exaggeration by college adults in attention-deficit/hyperactivity disorder and learning disorder assessments. *Applied Neuropsychology, 14(3),* 189-207. doi: 10.1080/09084280701509083

Tamir, M., Robinson, M. D., & Solberg, E .C. (2006). You may worry, but can you recognize threats when you see them?: Neuroticism, threat identifications, and negative affect. *Journal of Personality, 74(5),* 1481-1506. doi: 10.1111/j.1467-6494.2006.00417.x

Thompson, T. (2004). Re-examining the effects of noncontingent success on self-handicapping behaviour. *British Journal of Educational Psychology, 74(4)*, 239-260. doi: 10.1348/000709904773839860

Thompson, T., & Hepburn, J. (2003). Causal uncertainty, claimed and behavioral self-handicapping. *British Journal of Educational Psychology, 73(2),* 247-266. doi: 10.1348/00070990360626967

Thompson, T., & Richardson, A. (2001). Self-handicapping status, claimed self-handicaps and reduced practice effort following success and failure feedback. *British Journal of Educational Psychology, 71(1),* 151-170. doi: 10.1348/000709901158442

Tice, D. M. (1991). Esteem protection or enhancement? Self-handicapping motive and attributions differ by trait self-esteem. *Journal of Personality and Social Psychology, 60(5)*, 711-725. doi: 10.1037/0022-3514.60.5.711

Tucker, J. A., Vuchinich, R. E., & Sobell, M. B. (1981). Alcohol consumption as a self-handicapping strategy. *Journal of Abnormal Psychology, 90(3),* 220-230. doi: 10.1037/0021-843X.90.3.220

Urdan, T. (2004). Predictors of academic self-handicapping and achievement: Examining achievement goals, classroom goals structures and culture. *Journal of Educational Psychology, 96(2),* 251-264. doi: 10.1037/0022-0663.96.2.251

Uysal, A., & Knee, C. R. (2012). Low trait self-control predicts self-handicapping. *Journal of Personality, 80(1),* 59-79. doi: 10.1111/j.1467-6494.2011.00715.x

Van Voorhees, E. E., Hardy, K. K., & Kollins, S. H. (2011). Reliability and validity of self- and other-ratings of symptoms in ADHD in adults. *Journal of Attention Disorders, 15(3),* 224-234. doi: 10.1177/1087054709356163

Waschbusch, D. A., Craig, R., Pelham, W. E., & King, S. (2007). Self-handicapping prior to academic-oriented tasks in children with attention-deficit/hyperactivity disorder (ADHD): Medication effects and comparisons with controls. *Journal of Abnormal Child Psychology, 35(2),* 275-286. doi: 10.1007/s10802-006-9085-0

Wasserstein, J. (2005). Diagnostic issues for adolescents and adults with ADHD. *Journal of Clinical Psychology, 61(5),* 535-547. doi: 10.1002/jclp.20118

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92(4),* 548-573. doi: 10.1037/0033-295X.92.4.548

Weisler, R. H., & Goodman, D. W. (2008). Assessment and diagnosis of adult ADHD: Clinical challenges and opportunities for improving patient care. *Primary Psychiatry, 15(11),* 53-64.

Zuckerman, M., Kieffer, S. C., & Knee, C. R. (1998). Consequences of self-handicapping: Effects on coping, academic performance, and adjustment. *Journal of Personality and Social Psychology, 74(6),* 1619-1628. doi: 10.1037/0022-3514.74.6.1619

Zuckerman, M., & Tsai, F. (2005). Costs of self-handicapping. *Journal of Personality, 73(2),* 411-442. doi: 10.1111/j.1467-6494.2005.00314.

Table 1
Comparison of Experimental Groups on Demographic and Study Variables

Variable	Evaluative Threat Group	Neutral Group
Demographic Characteristics		
Age (*M*, *SD*)	19.29 (1.33)	19.00 (1.22)
Gender (percent female)	51	63
Racial/ethnic self-identification (percent majority)	90	94
ADHD (percent with history of diagnosis)	22	19
Baseline Measures		
ADHD symptoms (*M*, *SD*)	12.46 (1.72)	12.63 (1.78)
Neuroticism (*M*, *SD*)	20.47 (7.26)	22.06 (6.93)
Depressive symptoms (*M*, *SD*)	12.39 (10.31)	11.71 (8.06)
Trait self-handicapping – 5-item (*M*, *SD*)	9.04 (3.42)	8.81 (3.50)
Trait self-handicapping – 25-item (*M*, *SD*)	61.80 (10.63)	62.81 (9.64)
Post-Manipulation Variables		
Number of practices on the dual 2-Back task (M, SD)	7.51 (4.68)	6.85 (3.83)
Items endorsed on Self-Handicapping Checklist (M, SD)	3.88 (2.17)	3.88 (2.84)
CAARS:S-L ADHD Symptoms Total T-score (*M*, *SD*)	58.22 (10.80)	58.42 (10.49)
Dual 2-Back Overall Accuracy Percentage (*M*, *SD*)	56.02 (18.12)	52.79 (17.81)
Dual 2-Back Correct Composite (*M*, *SD*)	14.36 (4.15)	13.92 (3.85)
Dual 2-Back Errors Composite (*M*, *SD*)	12.42 (6.92)	13.51 (7.83)

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; CAARS:S-L = Conners Adult ADHD Rating Scale: Self-Report – Long Version.

Table 2
Simple Correlations between Self-Handicapping Outcome, and Dual 2-Back Performance Variables

	Accuracy Percentage		Correct Composite		Errors Composite	
	Evaluative Threat	Neutral	Evaluative Threat	Neutral	Evaluative Threat	Neutral
Number of practice trials	.23	-.06	.02	.24	-.25	.13
General barrier report	.13	-.04	-.03	.10	-.19	.15
ADHD symptoms (T-score)	-.02	.10	-.02	-.03	-.06	-.09

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 3
Simple Correlations between Baseline and Self-Handicapping Outcome Variables

	Number of practices			General barrier report			ADHD symptoms (T-score)		
	Evaluative Threat	Neutral	Total	Evaluative Threat	Neutral	Total	Evaluative Threat	Neutral	Total
Trait Self-Handicapping	.07	.19	.12	.37**	.28*	.31***	.21	.30*	.25**
Neuroticism	.05	-.04	.001	.23	.35*	.29**	.16	.15	.15
Depressive symptoms	.15	.12	.14	.31*	.13	.21*	.28*	.20	.24*

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 4

Summary of Regressions Examining Moderators of Evaluative Threat Effect on Number of Practice Trials

		Model 1					Model 2					Model 3				
Moderator Analysis	Variables	*B*	*SE B*	*t*	*B*	R^2	*B*	SE B	*t*	*B*	R^2	B	*SE B*	*t*	*β*	R^2
	Evaluative Threat	.33	.42	.79	.08	.006	.36	.42	.85	.08	.02	1.74	2.66	.66	.41	.02
Trait Self-Handicapping	Trait Self-Handicapping						.05	.04	1.25	.12		.05	.04	1.29	.13	
	Evaluative Threat x Trait Self-handicapping											-.02	.04	-.53	-.33	
	Evaluative Threat	.33	.42	.79	.08	.01	.34	.43	.79	.08	.01	-.27	1.36	-.20	-.06	.01
Neuroticism	Neuroticism						.01	.06	.10	.01		.01	.06	.08	.01	
	Evaluative Threat x Neuroticism											.03	.06	.47	.15	
	Evaluative Threat	.33	.42	.79	.08	.01	.31	.42	.74	.07	.03	.24	.71	.34	.06	.03
Depressive symptoms	Depressive symptoms						.06	.05	1.40	.14		.06	.05	1.33	.14	
	Evaluative Threat x Depressive symptoms											.01	.05	.13	.02	
	Evaluative Threat	.33	.42	.79	.08	.01	.43	.42	1.03	.10	.04	.41	.43	.97	.10	.04
Gender	Gender						-.40	.21	-1.90	-.19		-.40	.21	-1.88	-.19	
	Evaluative Threat x Gender											-.07	.21	-.31	-.03	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 5
Summary of Regressions Examining Moderators of Evaluative Threat Effect on General Barrier Report

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	Evaluative Threat	-.001	.25	-.01	-.0005	.000	.04	.24	.16	.02	.10	.25	1.51	.17	.10	.10
	Trait Self-Handicapping						.08***	.02	3.28***	.31**		.08**	.02	3.26**	.31**	
	Evaluative Threat x Trait Self-handicapping											-.003	.02	-.15	-.09	
Neuroticism	Evaluative Threat	-.001	.25	-.01	-.0005	.000	.08	.24	.34	.03	.09	.85	.77	1.12	.34	.10
	Neuroticism						.11**	.03	3.07***	.30**		.11**	.03	3.11**	.30**	
	Evaluative Threat x Neuroticism											-.04	.03	-1.06	-.32	
Depressive symptoms	Evaluative Threat	-.001	.25	-.01	-.0005	.000	-.02	.25	-.08	-.01	.04	-.14	.41	-.35	-.06	.05
	Depressive symptoms						.06*	.03	2.14*	.21*		.06*	.03	1.98*	.20*	
	Evaluative Threat x Depressive symptoms											.01	.03	.37	.06	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 6

Summary of Regressions Examining Moderators of Evaluative Threat Effect on ADHD Symptom Report (ADHD Symptoms Total T-score)

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	Evaluative Threat	-.10	1.05	-.10	-.01	.000	.03	1.02	.03	.003	.06	3.70	6.46	.57	.35	.07
	Trait Self-Handicapping						.26**	.10	2.60**	.25**		.27**	.10	2.63**	.26**	
	Evaluative Threat x Trait Self-handicapping											-.06	.10	-.58	-.35	
Neuroticism	Evaluative Threat	-.10	1.05	-.10	-.01	.000	.08	1.05	.08	.01	.02	.04	3.35	.01	.004	.02
	Neuroticism						.23	.15	1.55	.15		.23	.15	1.54	.15	
	Evaluative Threat x Neuroticism											.002	.15	.01	.004	
Depressive symptoms	Evaluative Threat	-.10	1.05	-.10	-.01	.000	-.20	1.02	-.19	-.02	.06	-.42	1.72	-.25	-.04	.06
	Depressive symptoms						.28*	.11	2.49*	.24*		.27*	.12	2.38*	.24*	
	Evaluative Threat x Depressive symptoms											.02	.12	.16	.03	

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 7
Simple Correlations between Baseline and Task Performance Variables

	Accuracy Percentage		Correct Composite		Errors Composite	
	Evaluative Threat	Neutral	Evaluative Threat	Neutral	Evaluative Threat	Neutral
Trait Self-Handicapping	-.04	-.14	.07	-.22	.05	.08
Neuroticism	-.07	.07	.03	-.04	.08	-.04
Depressive symptoms	-.02	.07	.02	.06	-.06	-.04

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 8

Summary of Regressions Examining Moderators of Number of Practices on Dual 2-Back Accuracy Percentage for Evaluative Threat Group

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*B*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	Number of Practices	.90	.54	1.67	.23	.05	.91	.54	1.68	.24	.06	-1.42	3.22	-.44	-.37	.07
	Trait Self-Handicapping						-.09	.24	-.39	-.06		-.37	.45	-.83	-.22	
	Number of Practices x Trait Self-handicapping											.04	.05	.73	.64	
Neuroticism	Number of Practices	.90	.54	1.67	.23	.05	.91	.54	1.68	.24	.06	-3.12	2.27	-1.37	-.80	.12
	Neuroticism						-.20	.35	-.58	-.08		-1.40	.74	-1.89	-.56	
	Number of Practices x Neuroticism											.18	.10	1.82	1.19	
Depressive symptoms	Number of Practices	.90	.54	1.67	.23	.05	.93	.55	1.70	.24	.06	-.64	.95	-.68	-.17	.13
	Depressive symptoms						-.10	.25	-.41	-.06		-.85	.45	-1.91	-.49	
	Number of Practices x Depressive symptoms											.10	.05	1.99	.69	
Gender	Number of Practices	.90	.54	1.67	.23	.05	.94	.55	1.70	.24	.06	.89	.57	1.58	.23	.06
	Gender						.49	1.28	.38	.05		1.60	2.45	.66	.18	
	Number of Practices x Gender											-.15	.28	-.54	-.15	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 9
Summary of Regressions Examining Moderators of General Barrier Report on Dual 2-Back Accuracy Percentage for Evaluative Threat Group

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	General Barrier Report	1.08	1.18	.92	.13	.02	1.38	1.28	1.08	.17	.03	15.97*	7.15	2.23*	1.91*	.11
	Trait Self-Handicapping						-.17	.26	-.64	-.10		.71	.49	1.44	.41	
	General Barrier Report x Trait Self-handicapping											-.23*	.11	-2.07*	-2.01*	
Neuroticism	General Barrier Report	1.08	1.18	.92	.13	.02	1.29	1.22	1.06	.15	.03	8.05	4.08	1.97	.96	.09
	Neuroticism						-.26	.37	-.72	-.11		.81	.71	1.13	.32	
	General Barrier Report x Neuroticism											-.32	.19	-1.73	-1.03	
Depressive symptoms	General Barrier Report	1.08	1.18	.92	.13	.02	1.26	1.26	1.01	.15	.02	5.04*	1.96	2.57*	.60*	.13
	Depressive symptoms						-.12	.26	-.45	-.07		1.02	.53	1.92	.58	
	General Barrier Report x Depressive symptoms											-.26*	.11	-2.44*	-.96*	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 10

Summary of Regressions Examining Moderators of ADHD Symptom Report (ADHD Symptoms Total T-score) on Dual 2-Back Accuracy Percentage for Evaluative Threat Group

		Model 1					Model 2					Model 3				
Moderator Analysis	Variables	*B*	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	ADHD Symptoms	-.03	.24	-.13	-.02	.0003	-.02	.25	-.07	-.01	.002	1.59	1.44	1.10	.95	.03
	Trait Self-Handicapping						-.06	.25	-.24	-.04		1.44	1.35	1.07	.85	
	ADHD Symptoms x Trait Self-handicapping											-.03	.02	-1.13	-1.44	
Neuroticism	ADHD Symptoms	-.03	.24	-.13	-.02	.0003	-.01	.25	-.05	-.01	.001	.37	.63	.58	.22	.01
	Neuroticism						-.17	.36	-.47	-.07		1.09	1.96	.56	.44	
	ADHD Symptoms x Neuroticism											-.02	.03	-.65	-.59	
Depressive symptoms	ADHD Symptoms	-.03	.24	-.13	-.02	.0003	-.02	.25	-.09	-.01	.001	.19	.36	.54	.12	.02
	Depressive symptoms						-.03	.26	-.12	-.02		1.34	1.66	.80	.76	
	ADHD Symptoms x Depressive symptoms											-.02	.03	-.83	-.83	

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 11

Summary of Regressions Examining Moderators of Number of Practices on Dual 2-Back Correct Composite for Evaluative Threat Group

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*B*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	Number of Practices	.02	.13	.16	.02	.001	.02	.13	.14	.02	.01	-.14	.78	-.18	-.16	.01
	Trait Self-Handicapping						.03	.06	.44	.06		.01	.11	.06	.02	
	Number of Practices x Trait Self-handicapping											.003	.01	.21	.19	
Neuroticism	Number of Practices	.02	.13	.16	.02	.001	.02	.13	.16	.02	.001	-1.12*	.56	-2.00*	-1.27*	.03
	Neuroticism						.02	.09	.20	.03		-.34	.19	-1.78	-.56	
	Number of Practices x Neuroticism											.05*	.03	2.09*	1.46*	
Depressive symptoms	Number of Practices	.02	.13	.16	.02	.001	.02	.13	.14	.02	.001	-.46*	.22	-2.06*	-.52*	.13
	Depressive symptoms						.01	.06	.12	.02		-.22*	.10	-2.11*	-.55*	
	Number of Practices x Depressive symptoms											.03*	.01	2.59*	.91*	
Gender	Number of Practices	.02	.13	.16	.02	.001	.03	.13	.20	.03	.001	.04	.13	.31	.05	.01
	Gender						.06	.31	.19	.03		-.32	.58	-.56	-.16	
	Number of Practices x Gender											.05	.07	.77	.22	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 12
Summary of Regressions Examining Moderators of General Barrier Report on Dual 2-Back Correct Composite for Evaluative Threat Group

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	General Barrier Report	-.06	.27	-.22	-.03	.001	-.12	.30	-.41	-.06	.01	4.49**	1.59	2.83**	2.37**	.17
	Trait Self-Handicapping						.04	.06	.57	.09		.31**	.11	2.84**	.79**	
	General Barrier Report x Trait Self-handicapping											-.07**	.02	-2.95**	-2.79**	
Neuroticism	General Barrier Report	-.06	.27	-.22	-.03	.001	-.08	.28	-.27	-.04	.002	1.89*	.93	2.04*	1.00*	.10
	Neuroticism						.02	.09	.26	.04		.34*	.17	2.04*	.56*	
	General Barrier Report x Neuroticism											-.09*	.04	-2.22*	-1.30*	
Depressive symptoms	General Barrier Report	-.06	.27	-.22	-.03	.001	-.08	.29	-.28	-.04	.002	.93*	.44	2.09*	.49*	.15
	Depressive symptoms						.01	.06	.22	.03		.32**	.12	2.64**	.79**	
	General Barrier Report x Depressive symptoms											-.07**	.03	-2.87**	-1.12**	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 13

Summary of Regressions Examining Moderators of ADHD Symptom Report (ADHD Symptoms Total T-score) on Dual 2-Back Correct Composite for Evaluative Threat Group

		Model 1					Model 2					Model 3				
Moderator Analysis	Variables	*B*	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	ADHD Symptoms	-.01	.06	-.15	-.02	.0004	-.01	.06	-.21	-.03	.01	.21	.38	.55	.53	.01
	Trait Self-Handicapping						.03	.06	.47	.07		.24	.36	.66	.59	
	ADHD Symptoms x Trait Self-handicapping											-.004	.01	-.59	-.82	
Neuroticism	ADHD Symptoms	-.01	.06	-.15	-.02	.0004	-.01	.06	-.16	-.02	.001	.06	.19	.30	.14	.004
	Neuroticism						.02	.09	.22	.03		.23	.57	.39	.37	
	ADHD Symptoms x Neuroticism											-.003	.01	-.37	-.39	
Depressive symptoms	ADHD Symptoms	-.01	.06	-.15	-.02	.0004	-.01	.06	-.19	-.03	.001	-.003	.09	-.04	-.01	.002
	Depressive symptoms						.01	.06	.19	.03		.06	.39	.16	.15	
	ADHD Symptoms x Depressive symptoms											-.001	.01	-.13	-.13	

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 14

Summary of Regressions Examining Moderators of Number of Practices on Dual 2-Back Errors Composite for Evaluative Threat Group

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*B*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	Number of Practices	-.37	.21	-1.81	-.25	.06	-.38	.21	-1.81	-.26	.03	.68	1.24	.54	.46	.02
	Trait Self-Handicapping						.04	.09	.41	.06		.17	.18	.95	.25	
	Number of Practices x Trait Self-handicapping											-.02	.02	-.86	-.76	
Neuroticism	Number of Practices	-.37	.21	-1.81	-.25	.06	-.37	.21	-1.81	-.25	.03	.79	.92	.86	.54	.05
	Neuroticism						.08	.14	.57	.08		.45	.31	1.42	.44	
	Number of Practices x Neuroticism											-.05	.04	-1.29	-.89	
Depressive symptoms	Number of Practices	-.37	.21	-1.81	-.25	.06	-.37	.21	-1.75	-.25	.06	-.001	.38	-.002	-.0005	.09
	Depressive symptoms						-.01	.10	-.14	-.02		.16	.18	.92	.24	
	Number of Practices x Depressive symptoms											-.02	.02	-1.18	-.42	
Gender	Number of Practices	-.37	.21	-1.81	-.25	.06	-.37	.21	-1.73	-.25	.06	-.34	.22	-1.57	-.23	.08
	Gender						.08	.49	.16	.02		-.62	.94	-.66	-.18	
	Number of Practices x Gender											.09	.11	.87	.24	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 15
Summary of Regressions Examining Moderators of General Barrier Report on Dual 2-Back Errors Composite for Evaluative Threat Group

Moderator Analysis	Variables	Model 1					Model 2					Model 3				
		B	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	General Barrier Report	-.59	.45	-1.31	-.19	.04	-.74	.48	-1.53	-.23	.05	-3.20	2.80	-1.14	-1.01	.07
	Trait Self-Handicapping						.09	.10	.85	.13		-.06	.20	-.32	-.10	
	General Barrier Report x Trait Self-handicapping											.04	.04	.89	.90	
Neuroticism	General Barrier Report	-.59	.45	-1.31	-.19	.04	-.68	.46	-1.47	-.21	.05	-1.81	1.58	-1.15	-.57	.06
	Neuroticism						.13	.15	.86	.13		-.05	.28	-.19	-.05	
	General Barrier Report x Neuroticism											.05	.07	.75	.45	
Depressive symptoms	General Barrier Report	-.59	.45	-1.31	-.19	.04	-.59	.48	-1.24	-.19	.05	-1.59*	.77	-2.07*	-.50*	.07
	Depressive symptoms						.001	.10	.01	.001		-.30	.21	-1.44	-.45	
	General Barrier Report x Depressive symptoms											.07	.04	1.64	.67	

Note. *$p < .05$, **$p \leq .01$, ***$p \leq .001$

Table 16

Summary of Regressions Examining Moderators of ADHD Symptom Report (ADHD Symptoms Total T-score) on Dual 2-Back Errors Composite for Evaluative Threat Group

		Model 1					Model 2					Model 3				
Moderator Analysis	Variables	*B*	*SE B*	*t*	*β*	R^2	*B*	SE B	*t*	*β*	R^2	B	*SE B*	*t*	*β*	R^2
Trait Self-Handicapping	ADHD Symptoms	-.04	.10	-.40	-.06	.003	-.04	.10	-.45	-.07	.01	-.68	.63	-1.08	-1.02	.03
	Trait Self-Handicapping						.04	.10	.38	.06		-.55	.59	-.94	-.83	
	ADHD Symptoms x Trait Self-handicapping											.01	.01	1.02	1.41	
Neuroticism	ADHD Symptoms	-.04	.10	-.40	-.06	.003	-.04	.10	-.44	-.06	.01	-.19	.31	-.61	-.28	.02
	Neuroticism						.08	.15	.56	.08		-.38	.95	-.40	-.38	
	ADHD Symptoms x Neuroticism											.01	.02	.49	.53	
Depressive symptoms	ADHD Symptoms	-.04	.10	-.40	-.06	.003	-.03	.10	-.31	-.05	.01	-.15	.14	-1.08	-.23	.04
	Depressive symptoms						-.03	.10	-.29	-.04		-.79	.63	-1.24	-1.18	
	ADHD Symptoms x Depressive symptoms											.01	.01	1.21	1.21	

Note. ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

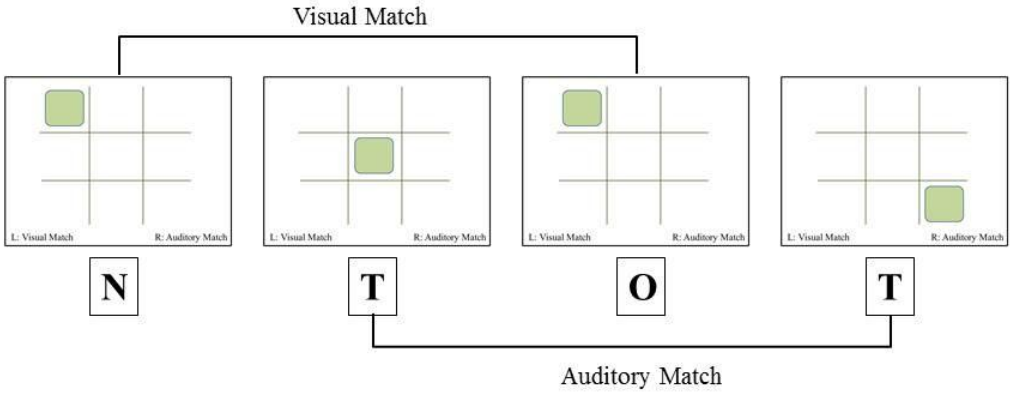

Figure 1. Dual 2-Back paradigm. The participant is required to press the left shift key when the visual stimulus is the same as the stimulus that was presented two stimuli back. The participant is required to press the right shift key when the auditory stimulus is the same as the stimulus that was presented two stimuli back.

Appendix A: Measures Used and Detailed Psychometrics

PsychPool Prescreen Questions

1. Do you sometimes think you might have ADHD (attention-deficit/hyperactivity disorder)? Yes No

Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist
For the following questions, answer on a scale from 0 (never), 1 (rarely), 2(sometimes), 3 (often), 4 (very often)

1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?

2. How often do you have difficulty getting things in order when you have to do a task that requires organization?

3. How often do you have problems remembering appointments or obligations?

4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?

5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?

6. How often do you feel overly active and compelled to do things, like you were driven by a motor?

Neutral Group Instructions

Introduction to task:

> "Next, I'd like for you to play a computer game. This computer game is like many that have become popular on Facebook and social media. It's a kind of game that's more about strategy and thinking than simply shooting at a target. We've received a prototype of this game from a group of people who want to make it into a SmartPhone application. They are curious to know what young adults think about the game. They are also curious to see how young adults perform on it, so we will be sharing your overall score with them. We'd like you to give your best effort on the game and afterward we will ask you some questions about it.
>
> Before you start, I need you to fill out a questionnaire about factors that you think might impact your playing of the game. Then I'll show you how to play the game."

(Self-Handicapping Checklist and CAARS-S:L)

Explanation of game:

> "This is the computer game. You will hear a voice speaking letters. When the letter you hear is the same as the one two back from that letter, you press the L key. For example, if you hear a voice saying „N, T, O, T…" then you would press the L key because the second T was the same as the letter spoken 2 letters back. At the same time, you will see blocks light up in the grid. When the block that lights up is in the same place as it was 2 back, you press the A key. For example, if this block lights up (point), then that block lights up (point to second block), then that block lights up again (point to third block), then you would press the A key because the block that lit up was the same as the block that lit up 2 back. Any questions?
>
> Alright, because this is a new game and you probably haven't played it before, we will give you as many chances to practice this task as you want. So far we've found that the more you practice, the better you do. To begin, press the space bar. Practice as many times as you want, but then let me know when you are ready to begin the game for real because I have to change a few things on it for the test trial."

Experimental Group Instructions

Introduction to task:

> "Next, I'd like for you to play a computer game. This is a new measure that has recently been developed to be an abbreviated test of intelligence. After you complete the test, I'll score it up and let you know how you did. You will even receive a print out that shows where your score falls compared to others who have already completed the task. So, obviously, so do your best because we'll be giving your score to the developers and they will use it to determine ability levels.
>
> Before you start, I need you fill out a questionnaire about factors you think might impact your ability to take the test. Because it is a relatively new measure, the people who created it want to know what sort of things might influence scores on the measure to make it a less accurate test of intelligence. So first, fill out this questionnaire and then I will show you how to play the game."

(Self-Handicapping Checklist and CAARS-S:L)

Explanation of task:

> "This is the computer game. You will hear a voice speaking letters. When the letter you hear is the same as the one two back from that letter, you press the L key. For example, if you hear a voice saying „N, T, O, T…" then you would press the L key because the second T was the same as the letter spoken 2 letters back. At the same time, you will see blocks light up in the grid. When the block that lights up is in the same place as it was 2 back, you press the A key. For example, if this block lights up (point), then that block lights up (point to second block), then that block lights up again (point to third block), then you would press the A key because the block that lit up was the same as the block that lit up 2 back. Any questions?
>
> Alright, because this is a new task and you probably haven't done anything like it before, we will give you as many chances to practice this task as you want. So far we've found that the more you practice, the more accurate the test is and the better able we are to determine your intelligence. To begin, press the space bar. Practice as many times as you want, but then let me know when you are ready to begin the test for real because I have to change a few things on it for the test trial."

Manipulation Check

Please answer the following questions:

1. How important was it for you to do well on the computer task? Circle one:

1	2	3	4	5	6	7
Not vey important					Extremely important	

2. What did you think of the computer task?

3. What do you think the computer task measures?

4. What feedback would you like to give to the developers of this computer task? They want your honest opinion, so include positive and negative reactions.

Brief History Questionnaire

Please complete the following questions regarding your health and diagnostic history.

Gender: _____

Age: _____

Race: _____

Do you have any major medical conditions for which you are currently receiving treatment? If yes, please explain what that condition is.

Are you receiving treatment for a psychological disorder? If yes, please indicate what the psychological disorder is.

Are you currently taking any medications? If yes, please list them here (include any over-the-counter medications you are taking as well).

Have you ever been diagnosed with attention-deficit/hyperactivity disorder? If so, when and by whom (i.e., psychologist, pediatrician, psychiatrist).

Have you ever required accommodations in school (through an IEP or 504 plan)?

Do you have any family members with a diagnosis of ADHD? If so, please list their relation to you. DO NOT provide names, simply indicate their relationship (i.e., mother, father, sibling).

Self-Handicapping Scale (SHS)

Please indicate (by writing a number in the blank beside each item) the degree to which you agree with each of the following statements as a description of the kind of person you think you are most of the time. Use the following scale:

0 = disagree very much 1 = disagree pretty much 2 = disagree a little 3 = agree a little 4 = agree pretty much 5 = agree very much

_____ 1. When I do something wrong, my first impulse is to blame circumstances.
_____ 2. I tend to put things off until the last moment.
_____ 3. I tend to over-prepare when I have an exam or any kind of "performance."
_____ 4. I suppose I feel "under the weather" more often than most people.
_____ 5. I always try to do my best, no matter what.
_____ 6. Before I sign up for a course or engage in any important activity, I make sure I have the proper preparation or background.
_____ 7. I tend to get very anxious before an exam or "performance."
_____ 8. I am easily distracted by noises or my own creative thoughts when I try to read.
_____ 9. I try not to get too intensely involved in competitive activities so it won't hurt too much if I lose or do poorly.
____ 10. I would rather be respected for doing my best that admired for my potential.
____ 11. I would do a lot better if I tried harder.
____ 12. I prefer small pleasures in the present to large pleasures in the dim future.
____ 13. I generally hate to be in any condition but "at my best."
____ 14. Someday I might "get it all together."
____ 15. I sometimes enjoy being mildly ill for a day or two because it takes off the pressure.
____ 16. I would do much better if I did not let my emotions get in the way.
____ 17. When I do poorly at one kind of thing, I often console myself by remembering I am good at other things.
____ 18. I admit that I am tempted to rationalize when I don't live up to other's expectations.
____ 19. I often think I have more than my share of bad luck in sports, card games, and other measures of talent.
____ 20. I would rather not take any drug that interfered with my ability to think clearly and do the right thing.
____ 21. I overindulge in food and drink more often than I should.
____ 22. When something important is coming up, like an exam or a job interview, I try to get as much sleep as possible the night before.
____ 23. I never let emotional problems in one part of my life interfere with other things in my life.
____ 24. Usually, when I get anxious about doing well, I end up doing better.
____ 25. Sometimes I get so depressed that even easy tasks become difficult.

Self-Handicapping Scale 5-item (SHS 5-item)

Please indicate (by writing a number in the blank beside each item) the degree to which you think each of the following statements is a true description of the kind of person you think you are most of the time. Use the following scale:

1 = Not true at all
2 = Mostly untrue of me
3 = Neutral
4 = Mostly true of me
5 = Very true

_____ 1. Some students put off doing their schoolwork until the last moment so they can say that is the reason if they don"t do as well as they had hoped. How true is this of you?

_____ 2. Some students purposely don"t try hard in school so that if they don"t do well, they can say it is because they didn"t try. How true is this of you?

_____ 3. Some students fool around the night before a test, so that if they don"t do as well as they had hoped, they can say that is the reason. How true is this of you?

_____ 4. Some students purposely get involved in a lot of activities. Then if they don"t do as well on their schoolwork as they had hoped, they can say it is because they are involved with other things. How true is this of you?

_____ 5. Some students let their friends keep them from paying attention in class or from doing their homework. Then if they don"t do as well as they had hoped, they can say friends kept them from working. How true is this of you?

NEO-FFI Neuroticism Scale (NEO-FFI-N)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am not a worrier.					
I often feel inferior to others.					
When I‟m under a great deal of stress, sometimes I feel like I‟m going to pieces.					
I rarely feel lonely or blue.					
I often feel tense and jittery.					
Sometimes I feel completely worthless.					
I rarely feel fearful or anxious.					
I often get angry at the way people treat me.					
Too often, when things go wrong, I get discouraged and feel like giving up.					
I am seldom sad or depressed.					
I often feel helpless and want someone else to solve my problems.					
At times I have been so ashamed I just wanted to hide.					

Self-Handicapping Checklist

Instructions: There are many factors that can potentially affect someone"s ability to complete these tests. Please consider the issues below and place a check on the line for each issue you think might interfere with your ability to complete today"s tasks.

_____ Not enough sleep last night

_____ Not enough caffeine today

_____ Too much caffeine today (feeling jittery)

_____ Side effects of medications I take (for example, allergy meds make me less alert)

_____ No prior experience with tasks like the ones I am about to take

_____ Typically not good at computer games

_____ Too many distractions in the room

_____ Distracted thinking about other stuff I have to do today

_____ Too much stress

_____ Not really caring about how well I do

_____ Feeling physically down or ill today

_____ Feeling anxious or worried about doing well on the task

_____ Worried about family problems

_____ Worried about boyfriend/girlfriend problems

_____ Worried about problems with my friends

_____ A physical health problem I have
LIST IT HERE: _____

_____ Other: _____

_____ Other: _____

Detailed Psychometrics of Measures Used in Present Study

Self-handicapping scale (SHS).

The SHS (Jones & Rhodewalt, 1982) is a 25-item questionnaire that assesses the degree to which the individual engages in self-handicapping behaviors for evaluative performances. It assesses various self-handicapping strategies including poor effort, making claims of illness, and endorsing procrastination tendencies. Examples of items are "I would do a lot better if I tried harder", "I suppose I feel „under the weather" more often than most" and "I tend to put things off to the last moment". The individual indicates agreement with each statement on a 6-point scale ranging from 0 (*disagree very much*) to 5 (*agree very much*), with higher scores representing greater self-handicapping tendencies. The original scale has demonstrated good internal consistency (.78) and temporal stability (.74 across one month) in samples of professional and college student athletes (Rhodewalt et al., 1984). In addition, the SHS has demonstrated good construct and predictive validity (Rhodewalt et al., 1984; Hirt et al., 1991; Strube & Roemmele, 1985) in samples consisting primarily of college-age individuals. Internal consistency for the present study was acceptable, $\alpha = .62$.

Several studies have modified this original scale or constructed shorter versions for use with younger populations. Greaven and colleagues (2000) attempted to adapt the original SHS for use with adolescents. The authors modified the wording of three items to make them more age-appropriate and eliminated one item assessing for drug use, due to ethical reservations about measuring the construct. The resulting scale was 24 items and demonstrated a somewhat low internal reliability when used with a sample of 141 adolescents, aged 12-15 years (.65). The authors speculated this lower alpha resulted

from using the scale with a new population or from making modifications to certain items.

A shorter 5-item scale (SHS 5-item) of academic self-handicapping was developed by Midgley and colleagues (1996), which assesses for self-handicapping behaviors individuals may use in an academic setting. Examples of these items include "Some students put off doing their work until the last moment so they can say that is the reason they didn"t do as well as they had hoped. How true is this for you?" and "Some students purposely get involved in a lot of activities.Then if they don"t do as well on their schoolwork as they hoped, they can say it is because they are involved in other things. How true is this of you?" Individuals rate each item according to how true each is of them on a 5-point scale ranging from 1 (*not true at all*) to 5 (*very true*). Higher scores on the scale represent greater reported self-handicapping. When administered to a sample of 112 8th grade students, factor analysis of the scale revealed a single factor accounting for 99% of the common variance and 59% of the total variance. Individual item loading ranged from .59 to .79. Internal consistency was in the excellent range at .83 and construct validity has been demonstrated by the scales in relation to relevant variables (Midgley et al., 1996). Internal consistency of the SHS 5-item was good in the present study, α = .79. In the present study, total score on the SHS 25-item was used as the primary trait self-handicapping moderator variable, while total score on the SHS 5-item was explored as a secondary measure of trait self-handicapping.

NEO five-factor inventory (NEO-FFI) neuroticism scale.

The NEO-FFI (Costa & McCrae, 1992) is a 60-item self-report measure designed to assess the big five personality factors by providing scores on each of the following

scales: neuroticism, extraversion, openness, conscientiousness and agreeableness. The present study used the neuroticism scale, which consists of 12 items that are endorsed on a five-point scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*), with higher scores reflecting higher neuroticism and negative affectivity. Examples of these items include "I often feel tense and jittery" and "I often feel inferior to others". In a sample of 1,492 adults (ages 19-93), the NEO-FFI Neuroticism subscale (NEO-FFI-N) correlated highly with the original NEO-PI-R Neuroticism scale (r = .83) and demonstrated excellent internal consistency at .86 (McCrae & Costa, 2004). Two-week test-retest reliability has been shown to be strong, at .80 (Murray, Rawlings, Allen, & Trinder, 2003). Internal consistency for the present study was good, α = .82.

Beck depression inventory-II (BDI-II).

The BDI-II (Beck, Steer & Brown, 1996) is a self-report questionnaire which assesses for symptoms commonly seen in depression. The questionnaire consists of 21 statements that pertain to sadness, guilt about past failure, hopelessness and other symptoms. Participants endorse each statement on a scale of 0-3. The BDI-II has strong internal consistency (.93; Beck et al., 1996). It has also demonstrated adequate construct validity, as it is highly correlated with other measures of depression, including the nonspecific depression subscale of the Mood and Anxiety Symptom Questionnaire (.71), the depression subscale of the Depression Anxiety Stress Scale (.77) and the depression subscale of the Symptom Checklist-90 Revised Version (.89) (Osman et al., 1997; Steer, Ball, Ranieri, & Beck, 1997). The BDI-II has demonstrated good internal reliability, convergent and divergent validity in its use with various psychiatric and outpatient

samples (Osman, Barrios, Gutierrez, Williams, & Bailey, 2008). Internal consistency for the present study was excellent, $\alpha = .93$.

Dual 2-back.

The Dual 2-Back (Kirchner, 1958; Kane & Engle, 2003; Owen, McMillan, Laird, & Bullmore, 2005) is a computerized version of a classic working memory task that involves both an auditory and visual component. A series of letters are spoken and the participant is required to press a specific key when the letter spoken matches the one that was spoken 2 letters back. At the same time, a series of blocks in a grid pattern will light up one at a time. Participants are instructed to press a specific key when the block that lights up is the same one that lit up two blocks back (see Figure 1). This task was selected because it can feasibly be introduced as a prototype for a computer/phone game that is similar to many of the popular brain-based games already available to the public on these devices. Additionally, it can be introduced as a measure of intellectual capacity, as research has demonstrated the task is strongly related to other tasks of working memory as well as fluid intelligence more generally (Jaeggi, Buschkuehl, Perrig, & Meier, 2010; Kane, Conway, Miura, & Coleflesh, 2007). Neuroimaging studies also show that the task activates areas of the frontal lobe associated with working memory, including dorsolateral and ventrolateral prefrontal cortex and frontal poles (Owen et al., 2005). For each trial, the Dual 2-Back yields an overall accuracy percentage as well as 4 test scores: 1) auditory hits, 2) auditory errors, 3) visual hits, and 4) visual errors. The overall accuracy percentage is a summary indicator of performance for the test trial. In the present study, the total number of hits, or correctly identified targets for both auditory and visual stimuli was combined into one Correct Composite for the test trial. The total

number of errors for both auditory and visual stimuli was combined into one Errors Composite for the test trial. The accuracy percentage, Correct Composite, and Errors Composite for the test trial served as the primary task performance outcome variables.

Self-handicapping checklist.

This form provides various excuses for poor performance that an individual can endorse prior to completing a task. It provides several options for respondents to endorse (i.e., "feeling physically ill today", "too many distractions in the room") and also provides space in which the respondent is able to claim additional excuses that might impair his/her ability to complete the task at hand that are not already provided on the form. Participants were instructed to place a mark next to all the factors he/she thought would have a negative impact on the upcoming performance. The checklist was designed to be consistent with previous studies (Strube, 1986), but was modified to match the present sample and circumstances of the proposed study (i.e., emerging adults and type of tasks to be completed). As the content of this measure is often modified to suit various research paradigms, there is little psychometric validation in the research base. However, construct validity of self-handicapping checklists has been demonstrated in research illustrating that individuals with higher self-handicapping tendencies (as measured by the Self-Handicapping Scale 25-item; Jones & Rhodewalt, 1982), claim the presence of more general barriers on self-handicapping checklists compared to individuals who are lower in self-handicapping tendencies (Strube, 1986). For the present study, total number of excuses endorsed was used as the primary measure of general barrier self-reported handicapping.

Conners adult ADHD rating scale: self-report-long form (CAARS:S-L).

The CAARS:S-L (Conners, Erhardt, & Sparrow, 1998) is a self-report measure of ADHD symptoms in adulthood. The measure consists of 66 items that are endorsed on a 4-point scale ranging from 0 (*not at all*) to 4 (*very much*), with higher scores reflecting higher levels of ADHD-related symptomatology. The measure yields eight clinical scales (Inattention, Hyperactivity, Impulsivity, Self-Concept Problems, DSM-IV Inattention, DSM-IV Hyperactive-Impulsive symptoms, DSM-IV ADHD symptoms, ADHD Index), with T-scores of 65 or greater representing a clinical elevation. Internal reliability is strong (α = .86-.90), as are one month test-retest reliabilities (r = .80-.91) for all eight of the CAARS:S-L clinical scales (Erhardt, Epstein, Conners, Parker, & Sitarenios, 1999). In addition, the measure demonstrates high correlation with other self-report ADHD measures and has good sensitivity and specificity for diagnostic accuracy of adult ADHD (Erhardt et al., 1999). Internal consistency for the present study was excellent, α = .93.). For the present study, the DSM-IV ADHD Symptoms Total (Scale G) T-score was used as the primary measure of ADHD self-reported handicapping. Internal consistency of this scale for the present study was good, α = .81.

Appendix B: Detailed Text for Additional Exploratory Analyses

Primary analyses in subsamples with and without ADHD diagnosis.

The primary analyses were re-run in a subsample of participants who reported a previous diagnosis of ADHD (N = 21; neutral group = 10, threat group = 11). An independent samples t-test showed that there was no difference in the number of practices completed prior to engaging in the test trial between participants in the threat group (M = 8.18, SD = 5.49) and those in the neutral group (M = 6.60, SD = 3.37), $t(19) = -.79$, p = .44. There was also no difference with regard to the number of general barriers to performance reported between the threat (M = 3.64, SD = 2.87) and the neutral group (M = 4.60, SD = 3.86), $t(19) = .65$, p = .52. Similarly, the groups were not different on total ADHD-specific symptom report, as measured by the ADHD Symptoms Total T-score on the CAARS:S-L (threat group M = 63.45, SD = 10.80; neutral group M = 59.60, SD = 10.52), $t(19) = -.83$, p = .42.

In the subsample of participants who reported no previous diagnosis of ADHD (N = 82; neutral group = 42, threat group = 40), there were no changes with regard to results of the analyses reviewed above. An independent samples t-test showed no difference in number of practices completed prior to engaging in the test trial between participants in the threat group (M = 7.33, SD = 4.49) and those in the neutral group (M = 6.90, SD = 3.97), $t(80) = -.45$, p = .65. There was also no difference with regard to the number of general barriers to performance reported between the threat (M = 3.95, SD = 1.97) and the neutral group (M = 3.71, SD = 2.57), $t(80) = -.46$, p = .64. Similarly, the groups were not different on total ADHD-specific symptom report, as measured by the ADHD

Symptoms Total T-score on the CAARS:S-L (threat group $M = 56.78$, $SD = 10.48$; neutral group $M = 58.14$, $SD = 10.59$), $t(80) = .59$, $p = .56$.

In the ADHD diagnosis subsample, supplemental analyses were conducted for individual scale elevations on the CAARS:S-L. Specifically, a series of chi-square analyses were performed to determine whether groups differed with regard to proportion of participants who reported ADHD symptoms high enough to yield a clinical elevation on each scale of the CAARS:S-L. A chi-square analysis was also performed to determine whether groups differed with regard to proportion of individuals with at least one scale elevation on the CAARS:S-L. Results showed that a higher proportion of individuals in the threat group had an elevation on the CAARS:S-L DSM-IV ADHD Symptoms Total scale (63.6%) than those in the neutral group (20%), $\chi^2 = 3.73$, $p = .04$. All other chi-square analyses were non-significant, all ps $> .05$. The same analyses were run in the subsample without previous diagnosis of ADHD, with all analyses non-significant, all ps $> .05$.

With regard to the relationship between self-handicapping and task performance, in the ADHD subsample, simple correlations were conducted between each self-handicapping variable (number of practices, general barrier report, ADHD-specific symptom endorsement) and the three Dual 2-Back performance scores (total accuracy percentage, correct composite, errors composite) for the evaluative threat group. Results showed there was no relationship between total number of practices and overall accuracy percentage, $r(11) = -.07$, $p = .83$, correct composite, $r(11) = -.20$, $p = .56$, or errors composite, $r(11) = -.04$, $p = .91$. The relationships between general barrier report and accuracy percentage, $r(11) = .47$, $p = .15$, correct composite, $r(11) = .28$, $p = .41$, or

errors composite, $r(11) = -.38$, $p = .25$ were not statistically significant; however small to moderate effect sizes suggest this was influenced by small sample size. These findings suggest that higher report of general barriers is associated with fewer errors on the Dual 2-Back as well as a higher number of correct hits and higher overall accuracy. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(11) = .57$, $p = .07$, correct composite, $r(11) = .51$, $p = .11$, or errors composite, $r(11) = -.52$, $p = .10$. Again, moderate to large effect sizes suggest higher ADHD symptom report in this subsample was associated with better general performance on the Dual 2-Back.

For those in the neutral group, results showed there was no relationship between total number of practices and accuracy percentage $r(10) = -.09$, $p = .81$, correct composite, $r(10) = .36$, $p = .34$, or errors composite, $r(10) = .001$, $p = .99$; however moderate effect size suggests more practices was associated with higher correct composite scores. The relationships between general barrier report and accuracy percentage, $r(10) = -.17$, $p = .64$, correct composite, $r(10) = .23$, $p = .55$, and errors composite, $r(10) = .40$, $p = .28$ were not statistically significant; however small to moderate effect sizes suggest higher barrier report was associated with higher correct composite scores, but also higher errors composite scores. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(10) = .52$, $p = .12$, correct composite, $r(10) = .42$, $p = .26$, or errors composite, $r(10) = -.31$, $p = .42$. Again, moderate to large effect sizes suggest higher ADHD symptom endorsement was associated with better general performance on the Dual 2-Back.

In the subsample without ADHD, the same sequence of correlations was performed for those in the evaluative threat group. Results showed a significant relationship between total number of practices and overall accuracy percentage, $r(40) = .39$, $p = .01$, as well as errors composite, $r(40) = -.36$, $p = .03$, such that higher practices corresponded to higher accuracy and lower errors on the test trial. The relationship between practice trials and correct composite was non-significant, $r(40) = .14$, $p = .40$. The relationships between general barrier report and accuracy percentage, $r(40) = -.01$, $p = .97$, correct composite, $r(40) = -.21$, $p = .21$, or errors composite, $r(40) = -.10$, $p = .54$ were not statistically significant. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(40) = -.04$, $p = .79$, correct composite, $r(40) = -.12$, $p = .45$, or errors composite, $r(40) = -.01$, $p = .94$.

For the neutral group, the relationship between practice trials and accuracy percentage, $r(42) = -.06$, $p = .73$, correct composite, $r(42) = .24$, $p = .12$, and errors composite, $r(42) = .16$, $p = .31$ were not significant; however small effect sizes suggests more practices corresponded to higher correct composite scores. The relationships between general barrier report and accuracy percentage, $r(42) = .01$, $p = .95$, correct composite, $r(42) = .03$, $p = .85$, and errors composite, $r(42) = .05$, $p = .76$, were not significant. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(42)$ - .004, $p = .98$, correct composite, $r(42) = -.15$, $p = .35$, or errors composite, $r(42) = -.04$, $p = .82$.

Primary analyses in subsample with higher baseline ADHD symptoms.

In another exploratory analysis, individuals higher in baseline ADHD symptom endorsement were selected using a mean split, such that those with a prescreen score of

13 or higher were selected (N = 35; neutral group = 17, threat group = 18). The primary analyses were re-run. An independent samples t-test showed that there was no difference in the number of practices completed prior to engaging in the test trial between participants in the threat group (M = 5.72, SD = 2.76) and those in the neutral group (M = 7.76, SD = 3.96), $t(33) = 1.78$, $p = .08$. There was also no difference with regard to the number of general barriers to performance reported between the threat (M = 4.28, SD = 2.37) and the neutral group (M = 4.94, SD = 3.23), $t(33) = .70$, $p = .49$. Similarly, the groups were not different on total ADHD-specific symptom report, as measured by the ADHD Symptoms Total T-score on the CAARS:S-L (threat group M = 61.39, SD = 10.66; neutral group M = 59.94, SD = 12.02), $t(33) = -.38$, $p = .71$. A series of chi-square analyses were performed to determine whether groups differed with regard to proportion of participants who reported ADHD symptoms high enough to yield a clinical elevation on each scale of the CAARS:S-L. All analyses were non-significant ps > .05.

With regard to the relationship between self-handicapping and task performance, simple correlations in the evaluative threat group showed there was no relationship between total number of practices and overall accuracy percentage, $r(18) = .09$, $p = .73$, correct composite, $r(18) = -.05$, $p = .84$, or errors composite, $r(18) = -.04$, $p = .89$. The relationships between general barrier report and accuracy percentage, $r(18) = -.11$, $p = .67$, correct composite, $r(18) = -.26$, $p = .31$, or errors composite, $r(18) = -.08$, $p = .75$ were not statistically significant; however the small effect size suggests higher report of general barriers was associated with less correct hits on the Dual 2-Back. Finally, there was no significant relationship between ADHD symptom endorsement and accuracy percentage, $r(18) = -.21$, $p = .41$, correct composite, $r(18) = -.25$, $p = .31$, or errors

composite, $r(18) = .003$, $p = .99$. Again, small effect sizes suggest higher ADHD symptom report in this subsample was associated with worse performance on the accuracy and correct composite for the Dual 2-Back.

In the neutral group, there was no relationship between total number of practices and overall accuracy percentage, $r(17) = -.25$, $p = .32$, correct composite, $r(17) = .13$, $p = .64$, or incorrect composite, $r(17) = .23$, $p = .40$; however small effect sizes suggest more practice was associated with lower accuracy and higher errors. The relationships between general barrier report and accuracy percentage, $r(17) = .24$, $p = .35$, correct composite, $r(17) = .21$, $p = .44$, and incorrect composite, $r(17) = -.10$, $p = .72$, were non-significant; however, small effect sizes suggest endorsement of more general barriers was associated with higher accuracy and higher correct composite scores. Finally, there was no significant relationship between ADHD symptom report and percent accuracy, $r(17) = .07$, $p = .80$, correct composite, $r(17) = .004$, $p = .99$, or errors composite, $r(17) = .02$, $p = .95$.

Primary analyses in subsample with "successful" manipulation.

In another exploratory analysis, individuals were selected based on whether their ratings of task importance aligned with their experimental group assignment. For those in the threat group, individuals who rated the task low in importance (i.e., rating of 4 or less on a 7-point scale) were excluded from the analysis. For those in the neutral group, individuals who rated the task high in importance (i.e., rating of 5 or higher on a 7-point scale) were excluded. In this way, the experimental groups were comprised of individuals with the expected response to the manipulation, with 36 in the evaluative threat group and 24 in the neutral group. Those in the evaluative threat group reported higher

importance of the task, and those in the neutral threat group reported lower importance of the task. The primary analyses were re-run.

An independent samples *t*-test showed that there was no difference in the number of practices completed prior to engaging in the test trial between participants in the threat group ($M = 7.92$, $SD = 5.03$) and those in the neutral group ($M = 7.75$, $SD = 4.32$), $t(58) = -.13$, $p = .08$. There was also no difference with regard to the number of general barriers to performance reported between the threat ($M = 3.89$, $SD = 2.31$) and the neutral group ($M = 4.17$, $SD = 2.82$), $t(58) = .68$, $p = .97$. Similarly, the groups were not different on total ADHD-specific symptom report, as measured by the ADHD Symptoms Total T-score on the CAARS:S-L (threat group $M = 59.25$, $SD = 10.27$; neutral group $M = 59.04$, $SD = 9.47$), $t(58) = -.10$, $p = .94$. A series of chi-square analyses were performed to determine whether groups differed with regard to proportion of participants who reported ADHD symptoms high enough to yield a clinical elevation on each scale of the CAARS:S-L. All analyses were non-significant ps $> .05$.

With regard to the relationship between self-handicapping and task performance, simple correlations in the evaluative threat group showed there was no relationship between total number of practices and overall accuracy percentage, $r(36) = .28$, $p = .10$, correct composite, $r(36) = .03$, $p = .88$, or errors composite, $r(36) = -.34$, $p = ..052$; however, small effect size suggests less practice was associated with less overall accuracy and more errors in the evaluative threat group. The relationships between general barrier report and accuracy percentage, $r(36) = -..01$, $p = .65$, correct composite, $r(36) = -.06$, $p = .75$, or errors composite, $r(36) = -.12$, $p = .50$ were not statistically significant. Finally, there was no significant relationship between ADHD symptom

endorsement and accuracy percentage, $r(36) = -.02$, $p = .91$, correct composite, $r(36) = .05$, $p = .80$, or errors composite, $r(36) = -.04$, $p = .83$.

In the neutral group, there was no relationship between total number of practices and overall accuracy percentage, $r(24) = -.35$, $p = .25$, correct composite, $r(24) = -.04$, $p = .90$, or incorrect composite, $r(24) = .23$, $p = .47$; however small effect sizes suggest less practice was associated with higher overall accuracy and less errors. The relationships between general barrier report and accuracy percentage, $r(24) = -.05$, $p = .86$, correct composite, $r(24) = .14$, $p = .68$, and incorrect composite, $r(24) = .30$, $p = .34$, were non-significant; however, small effect sizes suggest endorsement of more general barriers was associated with more errors. Finally, there was no significant relationship between ADHD symptom report and percent accuracy, $r(24) = -.22$, $p = .47$, correct composite, $r(24) = -.52$, $p = .08$, or errors composite, $r(24) = .15$, $p = .64$; however, small to moderate effect size suggests higher report of ADHD symptoms was associated with less overall accuracy and less correct hits on the Dual 2-Back.

Primary analyses using CAARS:S-L DSM-IV inattentive symptoms t-score.

The primary analyses were run using the CAARS:S-L DSM-IV Inattentive Symptoms T-Score as the primary measure of ADHD-specific self-reported handicapping. This was done based on the research that identifies the Inattentive Symptoms scale as the scale most often elevated in college samples seeking an evaluation of ADHD (Suhr, Hammers, Dobbins-Buckland, Zimak, & Hughes, 2008). Results showed there was no significant difference between experimental groups with regard to CAARS:S-L DSM-IV Inattentive Symptoms T-Score (threat group $M = 59.57$, $SD = 11.84$; neutral group $M = 59.15$, $SD = 12.48$), $t(101) = -.17$, $p = .86$. In the threat threat

group, correlational analyses showed non-significant relationships between Inattentive Symptoms T-score and accuracy percentage, $r(51) = .05$, $p = .71$, correct composite, $r(51) = .17$, $p = .24$, and errors composite, $r(51) = -.07$, $p = .62$. In the neutral group, correlational analyses showed non-significant relationships between Inattentive Symptoms T-score and accuracy percentage $r(52) = .13$, $p = .38$, correct composite, $r(52) = -.08$, $p = .58$, and errors composite, $r(52) = -.15$, $p = .30$.

Table 17
Chi-Square Analyses for CAARS:S-L Scale Elevations (T-score ≥ 65) and t-tests for T-score Mean Differences by Experimental Group for the Total Sample (N = 103)

	Chi-Square				T-test			
	Proportion with Elevation		χ^2	*p*	T-score mean (*SD*)		*t*	*p*
	Evaluative Threat	Neutral			Evaluative Threat	Neutral		
Inattention	9.8	13.5	.34	.56	51.96 (9.57)	52.98 (8.69)	.57	.57
Hyperactivity	11.8	7.7	.49	.49	52.71 (9.52)	54.04 (7.10)	.81	.42
Impulsivity	9.8	11.5	.08	.78	47.84 (9.70)	49.90 (10.00)	1.06	.29
Self-Concept Problems	7.8	5.8	.18	.68	50.18 (9.17)	50.02 (8.72)	-.09	.93
DSM-IV Inattention	41.2	40.4	.01	.94	59.57 (11.84)	59.15 (12.48)	-.17	.86
DSM-IV Hyperactive-Impulsive	11.8	7.7	.49	.49	53.43 (9.76)	54.02 (8.96)	.32	.75
DSM-IV ADHD Symptoms	25.5	30.8	.36	.55	58.22 (10.80)	58.42 (10.49)	.10	.92
ADHD Index	9.8	9.6	.001	.97	50.43 (8.82)	52.12 (8.54)	.98	.33
At least one CAARS:S-L Elevation	49.0	42.3	.47	.49				

Note. CAARS:S-L = Conners Adult ADHD Rating Scale: Self-report – Long Version; ADHD = Attention-Deficit/Hyperactivity Disorder; *$p < .05$, **$p \leq .01$, ***$p \leq .001$

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