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Procrastination Rates Among Adults With and Without AD/HD: A Pilot Study

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ABSTRACT - A convenience sample of adults clinically diagnosed with attention deficit disorder with hyperactivity (AD/HD: 18 men, 11 women: *M* age = 48.6 years old, *SD* = 10.3) were administered a demographic sheet and three reliable and valid self-report measures of chronic procrastination. Their chronic procrastination rates were compared to adults without a diagnosis of AD/HD (102 women, 65 men: *M* age = 44.1years old, *SD* = 8.74). As expected, AD/HD adults reported significantly higher rates of decisional procrastination (indecision), avoidance procrastination (behavior delays motivated to protect one's self-esteem and social image), and arousal procrastination (behavior delays to seek thrill experiences under time pressure) than similar demographic profile normal (non-AD/HD) adults.

From 3 to 8% of school age children have been diagnosed with *attention-deficit/hyperactivity disorder* (AD/HD), one of the most prevalent childhood psychiatric conditions (American Psychiatric Association, 2000). The essential symptoms of AD/HD are inattention, hyperactivity, and impulsivity. Persons with AD/HD are characterized as having a diminished ability to sustain mental effort and vigilance, especially when performing dull, repetitive activities (Barkley, 1998). These persons are categorized usually as having difficulties completing tasks on-time, organizing work, and are often described as being careless, impulsive, distracted, and forgetful (APA, 2000). According to Barkley (1998), hyperactivity for persons with AD/HD include high levels of vocal or motor activity accompanied with fidgeting, restlessness, and excessive speech. Individuals diagnosed with AD/HD may have difficulty delaying gratification and shift responding to a variety of tasks often resulting in inaccuracy. Persons

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with AD/HD also report feeling easily stressed, impatient, and short-tempered (APA, 2000).

Traditionally, AD/HD was considered by many psychologists to be strictly a childhood disorder, outgrown by adolescence or adulthood (Murphy & Gordon, 1998). However, many experts now recognize that AD/HD is a chronic syndrome affecting approximately 4 to 5% of adults (Barkley, 1998), with 50 to 80% of children diagnosed continuing with symptoms in adulthood (Murphy & Gordon, 1998). Adults with AD/HD also report higher rates of other psychiatric disorders such as affective and personality disorders (May & Bos, 2000; Rey, Morris-Yates, Singh, Andrews, & Stewart, 1995). In fact, Zuckerman (1983) found that persons with AD/HD compared to persons without such tendencies report higher needs for sensation seeking and thrill-seeking experiences.

Research has shown that persons with AD/HD also may experience difficulty in school and may not complete higher education degrees, typically earning lower grades, failing more often, and even being expelled from school (Klein & Mannuzza, 1991). However, Mannuzza, Klein, Bessler, Malloy, and LaPadula (1993) reported that a substantial percentage of AD/HD persons have completed at least a bachelor's degree. Moreover, adults with AD/HD seem to have the same rate of employment and average income as persons without AD/HD disorders, and may even out-achieve adults without AD/HD disorders in occupational settings (Mannuzza et al., 1993; Shekim, Asarnow, Hess, Zaucha, & Wheeler, 1990; Weiss & Hechtman, 1993).

Given the prevalence of task delays and incompletion, as well as impulsive task shifting, the present study examined the prevalence of chronic procrastination among a sample of adults diagnosed with AD/HD. *Procrastination* may be defined as a needless delay of a relevant and timely task, estimated to be prevalent by at least 70% of college students when working on academic-specific tasks (Ellis & Knaus, 1977), as high as 20% among normal adult men and women (Harriott & Ferrari, 1996), and more likely reported by "white collar" as compared to "blue collar" workers (Hammer & Ferrari, 2002). People who frequently delay tasks are more likely to engage in self-handicapping behaviors such as withdrawn effort (Ferrari & Tice, 2000), as well as positive impression management and avoidance of self-relevant evaluations (see Ferrari, Johnson, & McCown, 1995). Empirical studies also report that chronic procrastination is related to a host of other traits, including low self-confidence and self-esteem and high depression, worry, public self-consciousness, social anxiety, forgetfulness, disorganization, dysfunctional impulsiveness, behavioral rigidity, and lack of energy (Beswick, Rothblum, & Mann, 1988; Effert & Ferrari, 1989; Ferrari 1991, 1992, 1993; Lay, 1986). In short, procrastination is a complex phenomenon involving more than a difficulty with time management.

Ferrari (1992; Ferrari, O'Callaghan, & Newbegin, 2005) identified two separate but related types of chronic procrastination: *avoidance* and *arousal*. Avoidance procrastinators seek to delay tasks in order not to reveal potential

character flaws such as lack of ability; while arousal procrastinators desire to delay tasks for a thrill, sensation-seeking experience (i.e., waiting to work on tasks close to deadline in order to experience excitement or "a rush" from "beating the clock"). Both forms of chronic procrastination have been found to be prevalent in adult samples in the United States, United Kingdom, and Australia (e.g., 15-18%; Ferrari, O'Callaghan, & Newbegin, in press). A third form of frequent delays is a more cognitive form called decisional procrastination, or *indecision* (Ferrari et al., 1995), where individuals delay decision-making situations.

Very few studies, however, examined the role of any chronic procrastination tendency among clinical diagnoses. Ferrari and McCown (1994), for instance, found chronic avoidance procrastination tendencies common among adult community samples diagnosed with passive-aggressive disorders, but not obsessive-compulsive tendencies. Related to the present study, Ferrari (2000) examined the prevalence of attention deficits among college students and found (controlling for intelligence) no significant relation between arousal, avoidance, or decisional procrastination with attention deficits. Unfortunately, that study did not include community samples of adults with AD/HD diagnoses.

The present exploratory study, then, adds to this line of clinical study by focusing on arousal, avoidance, and decisional procrastination tendencies with adults diagnosed with AD/HD. It was expected that the AD/HD adults would self-report higher rates of all three forms of chronic procrastination compared to adult community samples without AD/HD. Such an outcome would be the first empirical support for the inclusion of frequent procrastination tendencies in the diagnoses of AD/HD symptoms among adults.

Method

Clinical and Non-clinical Participants

Two samples of adults were included in this study. A known group of clinically diagnosed AD/HD adults (M age = 48.6 years old, SD = 10.3), consisting of 18 men and 11 women, were the primary group of interest. All AD/HD adults were receiving medication and behavioral treatment at the time of this study. Most adults in this sample had some college education (72.4%), were Caucasian (94.6%), married (79.3%) with at least one child (M = 1.2, SD = 1.1), "white-collar" professionals in corporate setting (77.9%) for just over four years in their present position (M = 4.1, SD = 1.8). These adults reported that neither their parents (96.6%) nor their children (82.6%) were diagnosed with attention deficits, and that they were taking at least one (82.8%), and sometimes a second (44.8%), prescribed medication to control their attention/hyperactivity disorders at least once per day (M = 1.52, SD = 0.2)

The other group of participants were convenient samples of adults attending public presentations on procrastination hosted by the first author (n = 102 women, 65 men: M age = 44.1years old, SD = 8.7). Most participants in this

non-AD/HD diagnosed sample were married (88.8%) with at least one child (M = 1.5 children, SD = 1.1). Also, these urban adults most often were professional or corporate "white-collar" employment (77%) with at least 4 years employment in their present position (M = 4.8, SD = 1.2).

Psychometric Scales

Participants completed Mann's (1982) 5-item, 5-point Likert scale (1 = *not at all true of me*; 5 = *always true of me*) "Decisional Procrastination" scale to assess a person's tendency to engage in various practices or strategies that result in indecision when attempting to make decisions. Sample items include "I put off making decisions" or "I delay making decisions until it is too late." Retest reliability for this scale is 0.68 with good internal consistency (0.77: Radford, Mann, & Kalucy, 1986) and strong construct validity (see Ferrari et al., 1995; Senecal & Guay, 2000; Tuinstra, van Sonderen, Groothoff, van den Heuvel, & Post, 2000). Coefficient alpha was 0.77 with the present sample of AD/HD adults and 0.80 across the present samples of non-AD/HD adults.

In addition, all participants completed Lay's (1986) 20-item, 5-point (1 = "not true of me"; 5 = "very true of me") *General Procrastination Scale* (GP) that examined behavioral procrastination tendencies in the start or completion of everyday tasks motivated by a desire for a thrill seeking experience (i.e., arousal procrastination). Sample items include "I often find myself performing tasks that I had intended to do days before," and "I generally return phone calls promptly (reverse-coded)." This scale has acceptable temporal stability (retest $r \geq .60$) and construct and predictive validities for use as a research inventory (see Ferrari et al., 1995; Ferrari & Pychyl, 2000). In the present study, coefficient alpha was 0.86 with the AD/HD adults and 0.78 with the non-AD/HD samples.

Participants also completed McCown and Johnson's (1989a: see Ferrari et al., 1995) 15-item, 7-point (1 = *strongly disagree*; 7 = *strongly agree*) *Adult Inventory of Procrastination* (AIP). This inventory assesses a person's tendency to avoid starting or completing tasks across a variety of situations (i.e., avoidant procrastination). Sample items include "I often find myself running out of time" and "I don't get things done on time." Extensive and growing literature indicates that the AIP has both convergent and divergent validities and is predictive of task delays (see Ferrari et al., 1995, Ferrari & Pychyl, 2000). The AIP maintains good temporal stability (retest r = 0.80) and internal consistency (alphas $\geq$ .70: Ferrari et al., 1995). With the present samples, coefficient alpha was 0.83 with the AD/HD adults and 0.79 with the non-AD/HD adults.

Procedure

All participants were recruited from a variety of convenient samples where the first author engaged in a brief presentation on the causes and consequences of procrastination. All AD/HD participants, for instance, were members of a western Chicago support group for adults with attention deficient that met on a

weekly base. The first author was invited by the members to present on the topic of procrastination. In addition, we included as a normal (non-AD/HD) control a sample of adults drawn from the general population that lived in the same geographical western suburbs of urban Chicago as the adults with AD/HD.

For each sample, participants completed a consent form and then a short demographic sheet requesting information on their age, sex, race, marital status, number of children, and employment status (i.e., professional vs. non-professional occupation). Subsequently, AD/HD participants were asked to complete a sheet inquiring about how long they were diagnosed with AD/HD, whether diagnosed by a professional, family history of attention deficit, the impact of their attention deficit on their life, and whether they were taking one or more medications to treat their disorder. All participants then completed the three standardized procrastination scales, in counterbalanced order. It took participants 10 to 15 minutes to complete all surveys.

Results and Discussion

We used adult samples with and without AD/HD diagnosis "matched" in that they both typically were married with children, well-educated, white-collar professionals living around the same Midwestern urban area. A 2 (sex: men vs. women) by 2 (diagnosis: AD/HD vs. non-AD/HD) *Multiple Analysis of Variance* was conducted on mean scores from the three chronic procrastination measures. Table 1 presents these mean scores for both adult samples. There were no significant main or interaction effects for sex. These results are consistent with nearly all published studies on chronic procrastination (see Ferrari et al., 1995; Ferrari & Pychyl, 2000; Schowuenburg, Lay, Pychyl, & Ferrari, 2004), such that no significant sex difference in chronic procrastination seems to exist among adults (now, including persons with AD/HD).

Table 1
Mean Score on Three Chronic Procrastination Measures for Adults with and without Attention Deficit/Hyperactivity Disorders

	AD/HD diagnosed (n=29)	non-AD/HD diagnosed (n=167)
Decisional Procrastination	17.48 (3.91)	11.23 (4.69)
Arousal Procrastination	72.44 (11.85)	49.34 (11.79)
Avoidant Procrastination	54.72 (9.61)	35.67 (9.98)

Note. Value in parentheses is standard deviation.

However, there was a significant omnibus difference based on diagnoses, F (3, 163) = 32.13, $p < .0001$, *Wilks' lambda* = 0.623. Univariate analyses indicated that adults diagnosed with AD/HD compared to adults without AD/HD diagnosis reported significantly higher decisional procrastination, F (1, 169) = 37.96, $p < .0001$, arousal procrastination, F (1, 169) = 88.23, $p < .0001$, and avoidant procrastination, F (1, 169) = 83.04, $p < .0001$ (see Table 1). These results are the first to demonstrate empirically that both cognitive (i.e., indecision) and behavioral forms of procrastination may be found in adults with AD/HD diagnoses. They support the clinical diagnoses that frequent delays in completing tasks may be a symptom of AD/HD disorder (APA, 2000; Barkley, 1998), at least with adults in the present sample.

Implications, Limitations and Future Directions

The results of the present study indicated that theoretical and practical models on attention deficit disorder with hyperactivity (i.e., AD/HD) including frequent chronic procrastination as symptoms may be supported (see APA, 2000; Berkley, 1998). Compared to other samples in the present study, adults diagnosed with AD/HD claimed that they more often are indecisive (decisional procrastination) and engage in task delays that may reflect poor performance ability for thrill seeking motives (arousal procrastination) and avoidance of tasks (avoidance procrastination). In fact, with the present sample of adults diagnosed with AD/HD arousal and avoidance procrastination scores were significantly related, $r = 0.66$, $p < .001$, consistent with other non-clinical adult samples (see Ferrari & Pychyl, 2000, for examples). Unfortunately, the small sample size of non-randomly selected adults diagnosed with AD/HD makes it difficult to assess further the processes involved in arousal or avoidance procrastination and AD/HD. While both groups came to listen about aspects related to chronic procrastination, the AD/HD adults were members of a support group, perhaps making them less representative of others receiving other forms of treatment. In addition, no information was gathered on the type of AD/HD participants were diagnosed or whether they were diagnosed with co-morbidity. Future studies may need to include larger samples of randomly selected AD/HD adults receiving different forms of treatment with different co-morbidity diagnoses. In addition, it would be useful for future studies to include a battery of reliable and valid measures to assess whether chronic procrastination is a mediator or moderator to varied forms of AD/HD (e.g., inattentive type, hyperactive-impulsive type, or combined type).

Nevertheless, the present study demonstrates that all three forms of frequent procrastination may have clinical relevance in understanding psychiatric disorders. Within the field of AD/HD, the present study contributes to the growing body of research on adults diagnosed with AD/HD (Murphy & Gordon, 1998; Weiss & Hechtman, 1993). The present study supports clinical diagnoses that chronic cognitive and behavioral procrastination tendencies are important to assessing adults with AD/HD tendencies.

Author Note

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