

An Empirical Examination of the Moderating Influence of Dogmatism on the Relationship Between Adult Attention Deficit and Time Management at Work

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This empirical research study examines the moderating influence of dogmatism (DG) on the relationship between adult attention deficit (AAD) and time management at work (TMW). Observers of 138 subjects completed assessments of AAD and TMW, and the subjects themselves completed a self-report measure of DG. Regression analysis supports the hypotheses of (1) a negative correlation between AAD and TMW, and (2) a moderating influence of DG on the relationship between AAD and TMW. The negative relationship between AAD and TMW significantly declines as DG increases. Organizations need to help disordered employees find substitutes for dogmatic thinking processes that possess similar protective and decision-making benefits but avoid the related inflexibility and social challenges. Future research requires the inclusion of variables that classify work situations according to their time management requirements. This will provide greater clarity about the influence of DG on the various time management situations faced by disordered employees. This is the first empirical examination of AAD, DG, and TMW, and helps employers who face increasing social, legal and economic pressures to support functional but disordered employees.

Attention related disorders are the most commonly diagnosed neurobehavioral disorders in the world (Polanczyk et al., 2007) and remain prevalent through adolescence into adulthood (Faraone & Biederman, 2005). Recent prevalence research suggests that at least 5% of the global adult population have clinical levels of attention related disorders (Polanczyk et al., 2007) costing the global economy approximately

144 million days of lost production per annum (de Graaf et al., 2008). Despite the prevalence and general impact of attention disorders, relatively little research has been conducted on the impact of adult attention disorders within the nomological network that determines individual and team performance in organizations (Halbesleben, Wheeler, & Shanine, 2013). The study helps address the gap by examining the moderating influence of dogmatism on the relationship between adult attention deficit and time management at work.

Adult Attention Deficit

Definition, Measurement and Prevalence

The most commonly diagnosed childhood disorder is attention deficit hyperactivity-impulsivity disorder (ADHD) which is defined as a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with development, has symptoms presenting in multiple life settings, and negatively impacts functioning (e.g., social, academic etc.) (American Psychiatric Association Diagnostic and Statistical Manual-DSM-V, 2013). A clinical diagnosis requires the presence of a particular number and type of symptoms.

Lifespan research suggests that the majority of children will continue to experience symptoms as adults (Barkley et al., 2002), and a recent population screen of 966 adults suggests prevalence of approximately 3% using a narrow definition and 16% using a broader definition (Faraone & Biederman, 2005). A review of prevalence research suggests that at least 11 million adults within the United States (Barkley, Murphy, & Fischer, 2010) and over 200 million adults globally (Polanczyk et al., 2007) possess clinical levels of the disorder making it a significant global public health and workplace challenge.

Research on symptom prevalence through adolescence and into adulthood suggests a continuation of symptoms accompanied by a general decline in symptom intensity and a relatively greater decline or absence of the hyperactivity component (Biederman et al., 2006; Brown, 1995). Brown (1995) suggests that strict reference to the symptoms of inattention contained within the diagnostic and statistical manual of mental disorders (American Psychiatric Association-DSM-V, 2013) does not capture all of the key adult symptoms, and that the hyperactivity component should be excluded from the adult construct.

Research conducted by Brown (1996) on symptoms that commonly occur among adults with attention deficits produced the following 5 symptom clusters (factors):

1. Difficulty activating and organizing work (difficulty getting organized and started on tasks predominantly caused by a relative higher arousal threshold and/or chronic anxiety)
2. Difficulty sustaining attention and concentration (difficulties staying focused on priority tasks that are not of high personal interest, receiving, and organizing information and resisting distraction)
3. Difficulty sustaining energy and effort (insufficient and/or inconsistent levels of general energy and difficulty sustaining effort required to complete important tasks)
4. Difficulty managing emotional interference (difficulty with intense, negative

and disruptive mood states; relatively high and sustained levels of irritability and emotional reactivity; difficulty managing emotions that constrain the development of constructive relationships)

5. Difficulty utilizing working memory and accessing/recalling learned material (episodic or consistent chronic forgetfulness, difficulty organizing, sequencing and retaining information in short term memory, and problems accessing and using learned material)

The symptom clusters provide more extensive coverage of the DSM criteria for inattention, similar coverage of the impulsivity criteria, but exclude reference to the hyperactivity criteria. Difficulties with energy and effort is mostly an addition to the DSM criteria and is supported by the state regulation theory of attention disorders (Sanders & Van Duren, 1998) and associated research (Metin et al., 2014). Difficulties managing emotional interference is also mostly an addition and is supported by recent research suggesting a relatively independent contribution of emotional liabilities to the disorder (Skirrow & Asherson, 2013; Sjöwall, 2013). Much of the content of the symptom clusters is a more comprehensive representation of most of the DSM ADHD criteria with the addition of energy, effort and emotion related liabilities, and the exclusion of hyperactivity.

Brown (2005) refers to this collection of symptom clusters as adult attention deficit (AAD) which is a dimensional rather than a categorical diagnosis. Brown (1996) uses dimensional (severity) measurement of the symptom clusters to determine the level of AAD and provides a suggested level at which AAD becomes particularly disruptive (the level at which adult attention deficit (AAD) becomes adult attention deficit disorder (AADD)).

Researchers and practitioners have expressed concern about a simplistic interpretation and use of the attention disorder construct arising from categorical diagnosis based on the presence (or lack thereof) of a particular number and type of symptoms. The categorical approach both ignores evidence that symptoms and associated impairment fall along a continuum (Achenbach, 1991; Blacker & Tsuang, 1992; Levy et al., 1997; Sherman, Iacono, & McGue, 1997), and excludes non-clinically disordered adults from full consideration within research on nomological networks of interest (Nigg, 2006). Clinical cut points are often imprecise, and the categorical approach is relatively insensitive compared with dimensional measurement because change is restricted to movement from one category to another (Rossiter, 2004). Limitations of the categorical approach within organizational behavior research is addressed by using dimensional measurement and correlation analysis when modeling the disorder within individual and team performance networks (Coetzer, 2010).

Adult attention deficit (AAD) is defined as a persistent pattern of inattention and related cognitive, emotional and effort related symptoms that occur with varying levels of severity and creates progressively greater challenges within the personal, academic and work life of adults as severity increases (Brown, 1996; Coetzer, 2010). The inclusion of a clinical threshold does not represent a demarcation point between qualitatively different phenomena, but rather identifies a transition range along the symptom/impairment continuum where the condition is most likely to become particularly disruptive.

Brown (1996, 2005) suggests that symptoms associated with AAD as opposed to ADHD are a more prevalent problem among adults, and that non-clinically impaired adults require better consideration by both researchers and practitioners. The measurement qualities, potential prevalence and impact of the AAD variable within the adult performance nomological network supports the inclusion of the variable within organizational behavior research. Research by Coetzer (2007, 2009, 2010) demonstrates that dimensional measurement and correlation of AAD with organizational behavior variables reveals important components of the individual and team performance nomological network. Dimensional measurement of AAD based on the Brown Adult Attention Deficit Disorder Scale (BAADS) (Brown, 1996) and a correlation-based approach is used in this study to examine the relationships between AAD, dogmatism and time management at work.

No large scale clinical prevalence studies have been conducted using the Brown Adult Attention Deficit Disorder Scale (Brown, 1996). However, the range of 3% to 16% suggested by previous adult ADHD clinical prevalence studies (Faraone & Biederman, 2005), and the likelihood of AADD being more prevalent than adult ADHD (AADHD), suggests a prevalence range of between 5% and 15% (adults who experience particularly disruptive impairment arising from AAD). A higher prevalence range is also supported by research suggesting a history of under-reporting due to poor self-awareness (inability to be self-attentive), denial, fear of a negative social stigma, and complex coping mechanisms that mask symptoms but require excessive expenditure of energy and/or concentrate impairment in one particular life situation while protecting others (Brown, 2001; Barkley, 2010; Goldstein, 2002; Manor et al., 2012; Palmini, 2008).

The term condition as used in this research refers to adult attention deficit (AAD) and all its associated levels, including the lower levels associated with the absence of symptoms and no significant impairment. The term clinical disorder, or clinically disordered, refers to a condition that has reached the suggested clinical threshold whereas the term non-clinical disorder, or non-clinically disordered, refers to a condition involving impairment that falls below the suggested clinical threshold. The term disorder, or disordered, refers to those dimensions of the condition associated with some degree of impairment, both non-clinical and clinical.

Occupational and Organizational Impact

Research by Biederman et al. (2006) found that, on average, adults with ADHD have household incomes that are \$10,791 lower for high school graduates and \$4,334 lower for college graduates. Annual income loss for adults with ADHD in the United States is similar to losses associated with drug and alcohol abuse (Biederman et al., 2006).

Organizational behavior research studies using categorical diagnosis of adult ADHD identified associations with poor interview performance (Weiss & Hechtman, 1993), higher workplace accident rates (Reynolds, 1997), lower job performance ratings (Barkley, 2013), higher absenteeism (Secnik, Swensen, & Lage, 2005), lower productivity (Kessler et al., 2009) and higher turnover (Kleinman et al., 2009). Adults with ADHD are also perceived by their employers as requiring more supervision and less able to complete assignments (Barkley, 1990). They are also more likely to change jobs (Reynolds, 1996), engage in part time employment (Biederman et al., 2006),

and seek out jobs that don't require repetitive tasks, close supervision, sedentary performance conditions and concentration over long periods of time (Mannuzza et al., 1993). A review of data from Fortune 200 companies found that medical costs for clinically disordered employees were 48% higher (Secnik et al., 2005).

Research studies using dimensional measurement of AAD identified associations between difficulty with teamwork (Coetzer & Richmond, 2007; Coetzer & Trimble, 2009, 2010), greater reliance on coworkers (Coetzer & Trimble, 2009), difficulty managing conflict (Coetzer & Trimble, 2010), job stress (Coetzer, Hanson, & Trimble, 2009), lower self-efficacy (Coetzer et al., 2009) and less effective task management systems (Coetzer & Richmond, 2009),

Attention related disorders are also associated with positive behaviors like the ability to work in a fast paced environment, ingenuity, innovation, creativity, determination, perseverance, risk taking, and intense focus on things of interest (Mannuzza et al., 1993; Nicolaou et al., 2011; Schecklmann et al., 2008; Stuart, 1992; White & Shah, 2006, 2011) which may explain why entrepreneurs appear to have significantly higher prevalence rates (Nicolaou et al., 2011; Nixdorff, 2008). Recent research by White and Shah (2011) suggests that adults with ADHD attain higher overall levels of creative achievement across a variety of occupational and task domains.

The ability of an organization to foster employee innovativeness, creativity, and an entre/intrapreneurial orientation may be one of the most significant contributors to sustained organizational success within an increasingly globalized economy (Tewari, 2011). Research by Zhou (2003) suggests that employees with low creativity benefit from working closely with highly creative employees. Organizational innovation, creativity and success is therefore potentially influenced by the manner in which highly creative employees, many of whom may be disordered to varying degrees, are distributed and deployed throughout the organization.

Managerial strategies that appropriately leverage the potential strengths of the disorder while removing, reducing or mitigating the deficits are needed to ensure successful deployment of disordered employees (Kessler et al., 2009). Most researchers and practitioners agree that multimodal management of the disorder involving a combination of medicinal and non-medicinal support (counseling, coaching, training, and supportive conditions) has the greatest potential for success (Shaw et al., 2012). Multimodal management of the disorder in the contemporary workplace requires a comprehensive understanding of the impact of the disorder on personal performance capacity (core workplace competencies, motivation, and other performance supporting personal states); performance behavior including key mediators and moderators; and performance outcomes at the individual, team, and organizational level (Coetzer et al., 2009).

General Theory of Adult Attention Deficit and Work Performance – Constraints on Performance

Work performance deficits associated with disordered attention have recently been explained using attention control theory (ACT) which proposes that any conditions that create inattention disrupt the efficient and effective performance of priority tasks (Eysenck et al., 2007). The efficient and effective achievement of goals is thought to be influenced by two interdependent attentional systems: the stimulus driven system

and the goal driven system (Corbetta & Schulman, 2002). The stimulus driven system responds to external stimuli that are making immediate demands on attention, and the goal driven system uses higher order cognitive processes and control systems to keep individuals progressing toward broader goals (Miller & Cohen, 2001).

Disordered employees are thought to have both an imbalance between their attentional systems, and difficulty making optimal use of the goal driven system (Halbesleben et al., 2013). The imbalance is the result of disproportionate expenditure of attentional resources on external stimuli that are immediately gratifying and often task irrelevant or non-critical. Suboptimal use of the goal driven system is caused by limited ability to inhibit initial responses, higher vulnerability to distraction, and disrupted control of working memory (Alvarez & Emory, 2006). This prevents optimal development and use of higher order cognitive processes like planning, prioritizing, modeling and predicting, decision making, problem solving, and regulation of both emotion and effort (Barkley, 1997).

Impulsivity and emotional interference associated with the disorder also make it difficult to participate in meetings and to collaborate and coordinate with others on tasks that are not of personal interest and immediately gratifying (Jackson & Farrugia, 1997; Kitchen, 2006; Patton, 2009). ACT suggests that disordered employees will have a relatively lower ability to translate effort into efficient and effective performance on priority tasks because of higher distractibility, diffuse expenditure of energy, disrupted workplace relationships and constrained higher order cognitive processes (Halbesleben et al., 2013).

Disordered adults may have a relatively greater propensity for organizational citizenship behavior (OCB) which offers more immediate gratification but often comes at the expense of priority work tasks (Halbesleben et al., 2013). This suggests that both the disordered employee and some coworkers who benefit from the OCB may have a positive perspective of performance while others who are impacted by poor performance on priority tasks will often have the opposite experience.

General Theory of Adult Attention Deficit and Work Performance – Contributions to Performance

Disordered attention is also associated with productive behavior like creativity, intense concentration on things of personal interest, determination and an entre/intrapreneurial mindset (Mannuzza et al., 1993; Nicolaou et al., 2011; Schecklmann et al., 2008; White & Shah, 2006, 2011). Notable modern entrepreneurs who acknowledged that aspects of an attention disorder were useful to them include Richard Branson (founder of Virgin), Ingvar Kamprad (founder of Ikea), David Neeleman (founder of JetBlue), Charles Schwab (founder of the Schwab Corporation), and Paul Orfalea (founder of Kinkos). Hartmann (2003) suggests that significant historical figures like Thomas Edison, Albert Einstein, Henry Ford, Walt Disney, and many others demonstrated the symptoms of attention disorders and were able to take advantage of some of the benefits like perseverance, hyperfocus on things of personal interest, and creativity. Research by White and Shah (2011) suggests that adults with attention disorders attain higher overall levels of creative achievement across a variety of occupational and task domains. In fast paced work

environments, disordered adults may perform just as well, if not better, than non-disordered (Stuart, 1992).

The attention deficit characteristic of low arousability is thought to produce a higher sensation seeking drive which generates higher levels of risk taking and novelty/stimulation seeking behavior (Farley, 1985). Content validation research by Conners, Erhardt, and Sparrow (1999) identifies a cognitive restlessness symptom cluster that is similar to novelty/stimulation seeking behavior. Subsequent research by Sagvolden et al. (2005) suggests that the maintenance of novel behavior is associated with reduced reinforcement and extinction opportunities caused by the disorder.

Higher levels of creativity associated with the disorder are thought to be the result of uninhibited attention spans (wider and more diffused) and increased protection from both internal and external inhibitors. Widened and defocused attention adds more elements to the attentional stream which increases the number of potential combinations (Mendelsohn, 1976). Protection from external inhibitors is caused by high distractibility that prevents disordered adults from focusing on immediate external constraints (Memmert, 2009). Protection from internal inhibitors is caused by disrupted links between working and long term memory that reduces the influence of previously developed and stored schema (Park et al., 2003).

Translating creativity into practical benefit requires both divergent thinking and the ability to focus attention and work within certain constraints (Finke & Bettle, 1996; Finke, Ward, & Smith, 1992). Research conducted by White and Shah (2011) suggests that disordered adults have a significantly greater preference for the idea generation stage of decision making and problem solving which requires divergent thinking. They have significantly lower preference for defining the decision making situation or further developing and refining ideas and solutions, all of which predominantly requires convergent thinking and active consideration of constraints. Disordered and non-disordered adults appear to have similar preferences regarding the implementation stage of decision making.

Treatment and Management of Attention Disorders

Attention disorders are highly treatable (Barkley, 2010; Shaw et al., 2012) but also challenging because of a complex etiological structure with multiple points of intervention and variation within the form of the disorder (Barkley, 2010; Brown & Gerbarg, 2012; Chacko, Kofler, & Jarrett, 2014). Treatments are typically divided into medicinal correction of neurotransmitter imbalance and non-medicinal activities that address related cognitive, emotional, and behavioral deficits, and create or secure corrective or supportive environments (Hodgson, Hutchinson, & Denson, 2014; Sibley et al., 2014).

Non-medicinal treatment includes education, neurofeedback, various forms of counseling, coaching and training (cognitive-behavioral, experiential, systemic), and behavioral and compensatory management (person-situation fit and accommodation) (Hodgson et al., 2014; Sibley et al., 2014). Research suggests that other factors like exercise, nutrition, and meditation may also contribute to effective management of the disorder (Stevens et al., 2011; Hurt & Arnold, 2015; Zeidan, 2010). Most researchers and clinicians agree that multimodal management of the disorder involving

a combination of medicinal and non-medicinal interventions has the greatest potential for success (Shaw et al., 2012; Travell & Visser, 2006).

Adult Attention Deficit in Contemporary Organizations

Rapid changes in social and economic conditions brought about by technological advances, globalization, human migration, and other factors are changing the nature of work and how organizations are designed and managed (Dastmalchian & Blyton, 2001; Davis-Blake & Broschak, 2009). Organizations are emphasizing decentralization, delegation, empowerment, co-management, collaboration, teamwork, and employee self-regulation as a way to address increasing rates of complexity and change (Freese, 2008). This is delegating and distributing increasingly complex responsibilities and competencies throughout the organization which employees are expected to embrace, develop, and enact in an increasingly independent manner (Manz et al., 2015). Many of these competencies rely on higher order cognitive processes like inhibiting initial responses, planning, prioritizing, critical thinking, modeling, prediction, regulation of emotion, regulation of effort, and problem solving.

Success in most endeavors is based upon the ability to set and achieve goals within a particular time frame (Yanping & Soman, 2014). Increasing rates of change and complexity mean that the demonstration of competency is increasingly dependent on the use of time (Kessler & Chakrabarti, 1996; Langerak, Griffin, & Hultink, 2010). The extent to which capacities like planning, project management, creativity, decision making, problem solving, and learning achieve the distinction of competency is increasingly dependent on the time taken to execute such activities. Time management is therefore an apex competency meaning that it fundamentally influences the extent to which many other capacities become competencies (Barling, Kelloway, & Cheung, 1996). The disruption of higher order cognitive processes and the social challenges created by the disorder are potential constraints on the ability to develop and enact many contemporary workplace competencies, including time management.

Other highly valued competencies like creativity, innovation and an entre/intrapreneurial orientation appear to be enhanced by the disorder. The ability of an organization to design managerial strategies that foster employee innovativeness, creativity and an entre/intrapreneurial orientation may be one of the most significant contributors to sustained organizational success within an increasingly globalized economy (Meisinger, 2007; Simon et al., 2011; Tewari, 2011). This suggests that some of the most highly valued employees may also be disordered to varying degrees and that supportive managerial strategies are required.

The development of multimodal management of the disorder in the workplace requires a comprehensive understanding of the impact of the disorder on personal performance capacity (core workplace competencies, motivation, and other performance supporting personal states); performance behavior including key mediators and moderators; and performance outcomes at the individual, team, and organizational level (Coetzer et al., 2009). This study examined the moderating influence of dogmatism on the relationship between AAD and time management.

Time Management

Definition and Influence

Time management is defined as the effective allocation and use of time while performing goal-directed activities, and includes setting and prioritizing goals, monitoring progress, and managing personal productivity (Claessens et al., 2007; Rapp, Bachrach, & Rapp, 2013).

Time is a scarce resource that must be effectively allocated and used efficiently. Effective allocation means distributing the scarce resource across competing demands in a manner that maximizes the likelihood of success in the shortest possible time. Efficient use means that the allocated time is used with limited waste. Limiting ineffective use of time requires predication, modeling and organization of interdependent tasks in relation to each other. Limiting inefficient use of time includes minimizing distractions, reducing time spend on non-priority and non-value added activities, and avoiding unnecessary reductions in pace.

Research on the content and dimensionality of the construct has identified a number of significantly correlated but distinct dimensions (Macan et al., 1990). These include setting achievable short and long term goals, prioritizing, scheduling, using time management tools, avoiding distractions, optimal allocation of effort across tasks, monitoring progress and making efficient adjustments, maintaining an organized environment and maintaining a constructive attitude toward time (Biswas, 2000; Britton & Tesser, 1991; Claessens et al., 2007; Hall & Hursch, 1982; Macan et al., 1990; Tripoli, 1998).

The ability to manage time efficiently and effectively is a skill (Lakein, 1973) that is associated with lower job stress (Jamal, 1984), less emotional exhaustion (Peeters & Rutte, 2005), increased job satisfaction (Macan et al., 1990), and higher individual performance (Barling et al., 1996; Britton & Tesser, 1991; Yet Mee Lim & Seers, 1993; Radhakrishna, Yoder, & Baggett, 1991).

The unified theory of adult attention deficit developed by Barkley (1997) suggested that difficulties with sequencing events in working memory has the effect of disrupting a disordered person's sense of time. Barkley (1997) suggested that disordered adults have a relatively disorganized sense of time which they often experience as proceeding more slowly than non-disordered adults.

Research has clearly established a negative association between attention disorders and time management in children and adolescents (Radonovich & Mostofsky, 2004; Sonuga-Barke et al., 2008), and national surveys of adults with attention disorders suggest difficulty managing time. Recent research by Carelli and Wiberg (2012) supports a relationship between adult ADHD and poor time management, and exploratory research by Tolchinsky and Jefferson (2011) identified the mediating influence of poor time management on the relationship between adult ADHD and problematic video game play. A search of multiple databases (medline, psyc-info, academic source premier, business source premier, etc.) produced no empirical studies on the relationship between AAD and time management.

Dogmatism

Definition and Influence

Belief and disbelief systems satisfy the need for a cognitive framework that defines situations and provides protection from threats (Rokeach, 1960). Dogmatism is generally defined as a closed belief system resulting from a rigid attachment to particular beliefs that are resistant to opposing beliefs. Rokeach (1960) suggested that dogmatism is defensive in nature and encompasses a constellation of psychoanalytic defenses that help to shield a vulnerable mind. More recently, Altemeyer (1996) defined dogmatism as “an unjustified and unchangeable certainty in one’s beliefs, reflecting conviction beyond the reach of evidence to the contrary” (p. 201). Rigid attachment to a particular set of beliefs helps to protect self-directing processes that are relatively more vulnerable to external and internal stimulus (Johnson, 2010). Defensive cognitive closure, rigid certainty and isolating (compartmentalizing) contradictory beliefs is a way to protect higher order cognitive processes from complex external stimulus that may create the experience of cognitive chaos, confusion, vulnerability and anxiety. Rigid cognitive structures are also a way to defend against the disruptive impact of emotions like anxiety, fear, or anger that have reached a level of intensity that disrupts self-directing cognitive processes.

Developmental psychologists have consistently identified early psychosocial conditions in the parenting process and a biological vulnerability for hyper-arousal, environmental stressors and disrupted socio-culture learning as the distal causes (Johnson, 2010). Anxiety that arises in childhood and persists through adolescence and into adulthood will help to rigidify the belief system as a means of personal defense. Recent research by Brown (2007) identifies an association between disrupted functioning of short term memory and dogmatism, suggesting a link between rigid thinking and adult attention deficit.

Research on the impact of dogmatism on mental health and general functioning has identified mostly detrimental, but some beneficial effects (Richek, Mayo, & Puryear, 1970; Riggio & Taylor, 2000; Rokeach, 1960). Research on the occupational impact of dogmatism has revealed an association with both high and low performance (Funk & Carter, 1971; Swanson, Cornette, & Kieth, 1991). Dogmatic workers are likely to struggle in situations that are dynamic, uncertain, complex, and require high levels of reflection, flexibility, and cooperation with others (Schore, 2003). However, a dogmatic thinking style may be useful when performance conditions require cognitive and emotional states that are particularly vulnerable to external and internal stimuli that evoke disruptive cognitive dissonance (Gross, 2006). The impact of dogmatism on health and performance appears to be moderated by personal vulnerability to disruptive dissonance. For workers who are prone to confusion and indecision as the complexity and intensity of external and internal stimulus increases, the benefits of a dogmatic style may outweigh the costs.

The Relationship between Dogmatism, Adult Attention Deficit, and Time Management

Hypotheses

The general proposition guiding this research study is that AAD constrains the effective and efficient management of time at work, and that dogmatism moderates this relationship. Disordered adults who are more dogmatic will be able to generate a higher level of cognitive protection from the disorganizing effect of the disorder and will, as a result, manifest a relatively higher level of decisiveness that supports more efficient and effective time management.

Adult workers who experience difficulties with getting organized and started on tasks, concentration, sustaining effort, managing emotional interference, and using short term working memory will be less effective at managing their time. They will be less able to effectively prioritize and allocate time across important work tasks, make accurate predictions of time required to complete tasks, get important tasks done without wasting time, maintain an organized working environment, and make use of time management tools. Therefore,

Hypothesis 1: Adult attention deficit is negatively associated with time management at work.

The distraction, confusion, and indecisiveness associated with the disorder can be constrained by employing a more dogmatic thinking style that provides higher order cognitive processes with some protection from disruptive internal and external stimuli. A more dogmatic thinking style will also help to manifest a higher level of decisiveness. The protective and decisive aspects of a dogmatic thinking style will reduce the extent to which the disorder undermines time management at work. Thus,

Hypothesis 2: Dogmatism will moderate the relationship between adult attention deficit and time management at work.

Methods

Subjects and Procedures

The subjects were 138 actively employed business graduate students. Each subject identified a person who was familiar with their general behavior and another who was familiar with their current management of work related tasks. The first observer completed an observer version of the Brown Adult Attention Deficit scale (BAADS), and the second person completed an assessment of the subject's time management at work. Each subject completed a self-report measure of dogmatism.

A principle components factor analysis with a Varimax rotation was used to confirm the dimensionality of the time management measure and examine the contribution of the individual items to the factor(s). Product moment correlations were used to test the hypothesized relationships between the measures. A linear regression that included the multiplication of standardized independent and

moderator variables (moderator variable) was used to test for a significant moderating effect.

Measures

Adult Attention Deficit (ADD)

The Brown (1996) Adult Attention Deficit Scale (BAADS) contained 40 self-report items that measured the 5 symptom clusters. Organizing and activating to work (cluster 1) measured difficulty in getting organized and started on tasks (e.g., “experiences excessive difficulty getting started on tasks”). Sustaining attention and concentration (cluster 2) measured problems in paying attention and concentrating while performing tasks (e.g., “listens and tries to pay attention but soon becomes distracted”). Sustaining energy and effort (cluster 3) measured problems in maintaining the required energy and effort while performing tasks (e.g., “runs out of steam and doesn’t follow through”). Managing affective interference (cluster 4) measured difficulty with moods, emotional reactivity, and sensitivity to criticism (e.g., “is easily irritated” and “has a short fuse with sudden outbursts of anger”). Utilizing working memory and accessing recall (cluster 5) measured forgetfulness in daily routines and problems with recall of learned material (e.g., “intends to do things but forgets”). The questions were phrased in third person singular to support observer ratings (e.g., “the person being described is disorganized”). The instrument used a 4-point behavioral frequency scale (0=never, 1=once a week, 2=twice a week, 3=almost daily). A total score for AAD was generated by adding up the scores on all of the questions.

Dogmatism

The new dogmatism scale (DOG) (Altmeyer, 1996) was used to measure dogmatism. The instrument was designed and validated for use with adults and contained 20 items that measured general dogmatism. Example items for the scale included the following: “I am absolutely certain that my ideas about the fundamental issues in life are correct”; “The things I believe in are so completely true, I could never doubt them”; and “I have never discovered a system of beliefs that explains everything to my satisfaction” (reverse coded). Subjects used a 7-point Likert scale (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=agree, 7=strongly agree) to rate the extent to which they agreed with each item. Each of the subjects completed the dogmatism measure and a total score was derived by adding up the scores on the individual items (some items needed to be reversed).

Time Management

Items for measuring time management were developed after reviewing the time management disposition scale (Huang & Zhijie, 2001), the time management behavior scale (Macan et al., 1990), the assessment of time management skills (White, Riley, & Flom, 2013), time management of professionals scale (Biswas, 2000), and the time management questionnaire (Britton & Tesser, 1991). Ten items that represented each of the general components of time management were selected and worded in a manner that referred to the general situation that the subjects were embedded in (see Table

1). The questions were phrased in third person singular to support observer ratings (e.g., “the person being described makes effective use of time management tools”). Example items were “plans the execution of important work tasks effectively”, “makes accurate predictions of how long it will take to complete important tasks”, and “has an organized system for completing important tasks.” The observers used a 7-point Likert scale (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=agree, 7=strongly agree) to rate the extent they believed the subject engaged in each time management activity. A total score for time management was generated by adding up the scores on the individual items.

Results

Descriptives, Factor Analysis, Correlations, and Regression

A principle components factor analysis with an orthogonal rotation (Varimax) was conducted to examine the structure of the project manager effectiveness instrument. The factor analysis for the time management at work items produced a single factor with factor loadings ranging from 0.64 to 0.83 which suggested that each item was making a meaningful contribution to the measure. The Cronbach alpha internal reliability coefficient was $\alpha = 0.85$ and could not be improved by eliminating items. This suggested that the instrument had good internal reliability and each item was making a meaningful contribution.

Table 1: *Principle Components Factor Analysis of Time Management at Work Items with a Varimax Rotation*

The Person Being Observed...	Component 1
Makes effective use of time management tools (e.g. lists, to dos, written schedule etc.) to manage his/her important work tasks	0.83
Gets important work tasks done without wasting time	0.82
Prioritizes and allocates time across important work tasks effectively	0.82
Sets explicit, clear and achievable work goals	0.81
Plans the execution of important work tasks effectively	0.78
Makes accurate predictions of how long it will take to complete important work tasks	0.76
Has an organized system for completing important work tasks	0.72
Has a constructive attitude toward the allocation and use of time to complete important work tasks	0.69
Consistently maintains an organized environment for completing important work tasks	0.67
Monitors progress on important work tasks and makes necessary changes efficiently	0.64

Means, standard deviations, and correlations among the variables appear in Table 2. All variable distributions were approximately normal and demonstrated reasonable variation across their respective scales. No univariate or bivariate outliers were considered problematic and the product moment correlations revealed significant associations between the variables. Cronbach alpha internal reliability coefficients ranged from ($\alpha = 0.85$) to ($\alpha = 0.91$), suggesting good internal reliabilities. The linear regression for testing the moderation effect produced no problematic residuals.

Table 2: Means, Standard Deviations, Correlations, and Internal Reliabilities

	Mean	Std Dev	1	2	3
1 Time Management	53.28	10.61	0.85		
2 Dogmatism	78.68	24.12	.01	0.86	
3 Adult Attention Deficit	38.42	16.37	-.39**	-.11	0.91

Note 1: Cronbach Alpha internal reliabilities are shown on the diagonal
Note 2: ** Correlation is significant at the 0.01 level (2-tailed).

Empirical Test of Hypothesis

The significance threshold for empirical tests was set at $\alpha = 0.05$ (2 tailed). The correlation between AAD and time management at work (H1) was statistically significant ($r = -0.39$, $p < 0.01$). The linear regression of time management at work on adult attention deficit, dogmatism, and the moderator (multiplication of the standardized dogmatism and adult attention deficit variables) produced a statistically significant moderator effect ($\beta = 0.17$ $p = 0.037$). The regression of time management at work on adult attention deficit for the half of the dataset with the highest dogmatism scores produced a beta of -0.24, while the same regression on the half of the dataset with the lowest dogmatism scores produced a beta of -0.53. This suggested that increasing dogmatism reduced the constraining influence of the disorder.

Discussion

The results of this research suggested that the negative relationship between adult attention deficit and time management at work significantly declined as dogmatism increased. The direction of the association between AAD and project manager effectiveness cannot be determined from this study and there may be a bidirectional relationship that may result in a reinforcing and debilitating cycle. The large number of studies confirming the significant contribution of genetic factors to the manifestation of the disorder (Barkley, 2010) provided general support for the hypothesized direction in this study.

Implications for Organizations and Education Institutions

Organizations wishing to ensure the timely completion of key tasks need to be aware of the influence of AAD on time management in the workplace. The emergence of more empowered work cultures, tighter deadlines, the need for creativity/innovation, and project-oriented work represents both an opportunity and challenge for disordered employees. Disordered employees without the necessary support will not be able to leverage their strengths and may constrain the performance of interdependent others.

The protective influence of dogmatism on time management at work suggests the need for conditions, competencies, and tools that protect higher order cognitive resources from disruptive external and internal stimulus. The provision of intensive and adapted time management training/coaching, time management tools, and a work space free of unnecessary distractions may be especially important for disordered

employees. Although a dogmatic style may be beneficial under relatively simple and stable conditions, it is unlikely that a defensive and rigid cognitive style will support employee performance under increasingly dynamic, complex, and collaborative conditions. Organizations need to help disordered employees find substitutes for dogmatic thinking processes that possess similar protective benefits but avoid the related inflexibility and social challenges associated with being dogmatic. Helping disordered employees to better manage anxiety, stress, emotional disruption, and find an appropriate balance between assertiveness and collaboration, is likely to play an important role in developing constructive substitutes for using a dogmatic style to constrain the disruptive impact of the disorder.

The increasing availability of effective coaches (life, organizational, task, peer, manager as coach, etc.) (Theeboom, Beersma, & van Vianen, 2014) offers a potential substitute for close supervision and a potentially more accepted and developmental resource for keeping disordered employees oriented toward timely and successful completion of priority tasks and projects. Effective organizational coaches could address a wide range of cognitive, emotional and behavioral deficits, and protect the employee from the reinforcing cycles of failure that many disordered employees experience (Nadeau, 1997). Establishing reciprocal peer coaching systems within employee teams or the organization as a whole, that addresses challenges at the individual and relational level may add considerable mutual value, especially for disordered employees (Kubik, 2010; Parker et al., 2013). Coaching processes that contain the necessary structure and content for supporting disordered employees are needed.

The effective use of employee teams represents an opportunity for distributing the creative benefits associated with the disorder while managing the deficits. Team members and peer coaches can help disordered employees to activate, organize, stay on track, maintain a balance between organizational citizenship opportunities and priority work tasks, avoid experiences of failure and manage challenging emotions. They can also help disordered employees address the pitfalls of rigid thinking and behavior. In return, team members can benefit from the creativity that disordered employees may offer. This will require the careful design of teams to ensure optimal person-role fit and supportive team development interventions. Team building that educates team members about the disorder and addresses the social and task performance challenges while taking advantage of the benefits is required. Structured collaborative decision making processes that provide team members with the opportunity to optimally locate themselves within the process should improve person-role fit, avoid the problems of excessive rigidity and ensure timely decisions. Partnering disordered employees with someone who is flexible and has strong administration and social skills may support individual, team, and organizational effectiveness.

The multimodal approach to managing the disorder in the workplace suggests that sustained improvement will depend on other forms of support like the general education of both managers and employees, establishing supportive organizational cultures and climates, appropriate medication, and coaching/training that address key underlying cognitive, emotional, and behavior deficits (e.g., retention training to support effective and efficient use of short term memory). The provision of employee assistance programs that provide disordered, potentially disordered, and non-disordered

employees with information about the disorder and opportunities for assessment is an important part of the constructive management of employee diversity. This will help to create a more inclusive, supportive, and responsive organizational culture. This will also increase the likelihood of the employee seeking out other important parts of multimodal treatment, particularly medicinal support.

Education institutions, like management programs within universities, need to assist new project managers to recognize and respond to the symptoms of the disorder in both themselves and others. Early diagnoses and treatment may help to prevent the exacerbating cycles of failure that often accompany the condition. Educating future managers about the condition will help to ensure that they do not become a contributor to the emergence and reinforcement of such cycles through ignorance or the inability to be supportive. Time management training, peer coaching systems and student team interventions that address the disorder in a constructive manner will help prepare all future managers for the challenges of the contemporary workplace. Education and training that improves self-awareness, emotional intelligence, effective use of working memory, and constructive assertiveness may help substitute for the protective use of dogmatic thinking styles.

Increasing social, economic and legal pressures to provide reasonable accommodation for functional but disordered employees and take appropriate advantage of employee diversity underscores the general social value of this research.

Limitations and Suggestions for Future Research

A more complete understanding of the relationship between adult attention deficit, dogmatism, and time management requires a classification of performance situations in terms of varying needs and types of time management. This study did not include classification and measurement of the various performance situations that the subjects were embedded in. Complex, dynamic, and collaborative performance situations that require both flexibility and efficient time management may eliminate the benefits of using a more dogmatic style to constrain the negative influence of the disorder. The classification and measurement of different performance situations would help to reveal the moderating influence of varying time management requirements across performance situations.

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