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The Mediating Influence of Role Stress on the Relationship between Adult Attention Deficit and Self-Efficacy

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Adult Attention Deficit Disorder (AAD) and stress are pervasive and significant experiences with harmful consequences for both employees and organizations as a whole. This research study proposes a network of significant relationships between AAD, role stress, and self-efficacy. Adults who are experiencing the core symptoms of AAD (difficulties with task activation, concentration, effort, emotional interference, and accessing memory) are less likely to manage their role effectively and develop self-efficacy. The correlations between AAD and both role stress ($r = 0.49$, $p < 0.01$) and self-efficacy ($r = -0.32$, $p < 0.01$) were statistically significant, as was the correlation between role stress and self-efficacy ($r = -0.44$, $p < 0.01$). The Sobel test ($Z = 6.57$, $p < 0.00$) provides support for the hypothesis that role stress mediates the relationship between AAD and self-efficacy. A significant partial correlation between AAD and self-efficacy ($r = -0.15$, $p = 0.02$) remains after inclusion of the mediator (role stress), which limits the finding to partial mediation. Future research needs to draw samples from a variety of work situations.

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The Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV) defines Attention Deficit and Hyperactivity Disorder (ADHD) as “a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development” (APA, 1994). Recent lifespan research suggests that the majority of children with ADHD continue to experience symptoms as adults (Barkley et al., 2002; Biederman, Mick & Faraone, 2000; Mannuzza et al., 1998; Weiss et al., 1985). A recent national survey found that 4.2 % of US workers had Adult Attention Deficit Hyperactivity Disorder (ADHD), resulting in \$19.5 billion in lost human capital per annum (Kessler et al., 2005). Other studies on the prevalence of ADHD among adults in the United States claim that prevalence rates are much higher (Barkley et al., 2002; Mannuzza et al., 1993, 1998; Weiss et al., 1985). A recent population screen of 966 adults in the United States suggests prevalence rates of 2.9% for narrowly defined ADHD and 16.4% using a more broad definition (Biederman & Faraone, 2005). Prevalence rates of 10%-12% of the adult population in the United States are a conservative average for the prevalence studies that have been done to-date. Kessler et al. (2005) concludes that Adult Attention Deficit Disorders are a common and costly problem within the US workforce.

Adult Attention Deficit

Adults with ADHD have difficulty focusing on their problem behavior and without help, will often fall into a chain of failures (Nadeau, 1997). Barkley (1990) suggests that depression, anxiety, and diminished hopes of future success may even exacerbate the symptoms of adult ADHD. This suggests that without intervention, adults with attention disorders are more likely to find themselves in a debilitating cycle. The chain of failures produced by attention-related difficulties may produce depression, anxiety and hopelessness. This, in turn, exacerbates the symptoms of the disorder and increases the likelihood of ongoing failures. A recent national survey by Harris Interactive (2004) found that the majority of adults with ADHD believed that the disorder had constrained them from achieving both short and long-term goals. Research has confirmed that adults with ADHD attain lower occupational ranking, socioeconomic status, and social class standing when compared with their peers (Biederman et al., 2006; Mannuzza et al., 1993). Research by Biederman et al. (2006) found that, on average, adults with ADHD have annual 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 estimated at \$77 billion, which is similar to income loss estimates for drug abuse (\$58 billion) and alcohol abuse (\$86 billion). Research has also established a link between ADHD and substance abuse (Biederman et al., 2006).

A recent study using data from Fortune 200 companies found that absenteeism and medical costs for employees diagnosed with ADHD were 48% higher. Adults with ADHD were also more likely to change jobs (Corgiat & Goodwin, 1992; Wallis, 1994), engage in part-time employment (Biederman et al., 2006) and seek out jobs that don't require concentration over long periods of time (Weinstock, 1993). They also avoid jobs that require close supervision, repetitive tasks and sedentary performance

conditions (Mannuzza et al., 1993). The disorder is also associated with higher accident rates and lower productivity (Reynolds, 1996, 1997). Adults with ADHD are perceived by their employers as requiring more supervision and as less able to complete assignments (Barkley, 1990).

ADHD may also be associated with positive behaviors like ingenuity, creativity, and determination (Mannuzza et al., 1993), which may explain why entrepreneurs appear to have relatively higher levels of the disorder (Miller, 1993). In fast-paced work environments, adults with ADHD may perform just as well, if not better, than non-ADHD employees (Stuart, 1992). Hartmann (1993) encourages a more encompassing view of adult workers with ADHD by suggesting that employers consider both the negative and positive behaviors associated with the condition.

Research on adult ADHD suggests that the hyperactivity/impulsivity component of the disorder may disappear or not exist (Weiss & Hechtman, 1986, 1993), whereas the inattention component and related cognitive symptoms, referred to as Adult Attention Deficit (AAD), are more likely to persist or develop (Brown, 1995). Brown (1995) suggests that the hyperactivity/impulsivity component should be excluded but also suggests that strict reference to the symptoms of inattention may not capture all of the key symptoms. Brown (1996) proposes five clusters of symptoms, all of which seem to commonly occur among persons with AADs. The five-symptom clusters include: difficulties with activating to work, concentrating, sustaining effort and energy, managing emotional interference, and accessing memory. This suggests that AAD, as opposed to ADHD, may be a more prevalent problem for adult workers and that some of the key symptoms associated with the disorder may have been ignored in previous research. Researchers have also expressed concern about strictly treating Attention Deficit Disorder as a categorical diagnosis, as opposed to a dimensional construct with varying levels of severity (Achenbach, 1991; Blacker & Tsuang, 1992). Categorical diagnosis promotes simplistic use and interpretation of the construct. This research defines adult attention deficit (AAD) as a persistent pattern of inattention and related cognitive symptoms that occur with varying levels of severity and create additional challenges within the academic, work and social life of adults. Although empirical research on the impact of Attention Deficit Disorder and organizational behavior is limited, research to-date suggests that Attention Deficit Disorder is having a wide range of negative consequences in the workplace.

The Expected Relationship between AAD and Self-Efficacy

Adults who experience ongoing difficulty with activation, concentration, effort, emotional interference, and accessing memory are more likely to have difficulty achieving a sense of personal mastery over key life tasks. This should constrain personal performance, thereby negatively affecting what has been called self-efficacy. Social cognitive theory (Bandura, 1986) suggests that cognitive processing of social information can influence human performance. Beliefs about one's ability to mobilize sufficient effort, cognitive resources and the behavioral strategies necessary for successful task completion are considered important determinants of performance and satisfaction (Bandura, 1997). Self-efficacy is generally defined as the perceived

capability for performing a specific task (Bandura & Wood, 1989). It can be improved through positive mastery experiences, the observation of similar others succeeding with sustained effort, receiving realistic encouragement from a credible source, and the perception of being in a performance-ready state (physiological and psychological) (Bandura & Schunk, 1989; Bandura & Wood, 1989). These general determinants influence self-efficacy through a process of cognitive evaluation (Gist & Mitchell, 1992). Positive or negative efficacy information is generated by evaluating the task requirements, related personal experiences and relevant personal and situational constraints and resources. Research has confirmed self-efficacy as a valid predictor of satisfaction, effort, persistence, and success across a wide range of tasks (Gist & Mitchell, 1992; Lennings, 1994; Luthans & Stajkovic, 1998) including team work (Chowdhury, Endres & Lanis, 2002; Phillips, 2001; Cohen & Bailey, 1997).

The modern workplace is increasingly characterized by foreign competition, team work, self-leadership, constant change, projects, stress, and the demand for greater information processing and productivity (Manz & Sims, 1996; Smith, 1997). This is increasing the cognitive load and emotional labor associated with work. A significant increase in dual income families, divorce rates, job insecurity, and threats to national and international security are also adding to the cognitive and emotional challenges faced by adults. Increasing cognitive loads and emotional labor are increasing work-related stress. Surveys conducted over the last two decades suggest that between one third and two thirds of the US labor force experiences high levels of stress at work (Barsade & Wiesenfeld, 1997; Bond, Galinsky & Swanberg, 1998; Driscoll, 1995; Northwestern National Life Insurance Company, 1992; Schultz & Schultz, 1998). Surveys conducted by the European Foundation and European Commission found that stress is actually the primary complaint among workers (Costa & Paoli, 1994). Estimates of the organizational costs of workplace stress for US employers during the 1990s ranged from \$80 billion (Mann, 1996) to more than \$200 billion (DeFrank & Ivancevich, 1998). The American Institute of Stress (2001) provided a more recent estimate of \$300 billion annually. Research also suggests that the majority of workers believe that levels of stress are rising significantly (Armour, 2003; D'Arcy, Masius & Bowles, 1996; Cohen, 1997; Princeton Survey Associates, 1997; Reheiser & Spielberger, 1995).

Success in managing complex and dynamic challenges, both at home and at work, requires the effective use of cognitive and emotional resources. Both personal and work-related responsibilities require adults to identify, process, and integrate complex task information. They must be able to sustain the effort and energy necessary to keep up with the pace of personal and work responsibilities, and make quality contributions in a timely manner. They must also be able to monitor and effectively respond to personal emotions, stress, and social dynamics. Adults who experience an ongoing difficulty with activation, concentration, effort, emotional interference and accessing memory are more likely to have difficulty achieving a sense of personal mastery over key life tasks. This should lower self-efficacy and constrain personal performance. Thus,

H1: Adult attention deficit will be negatively associated with self-efficacy.

The Expected Mediating Influence of Role Stress on the Relationship between AAD and Self-Efficacy

Research has shown that the personal attributes of employees influence their ability to manage role stress, which ultimately influences performance (Chatman, Flynn & Spataro, 2001; Howell & Higgins, 1990; Kelly, Gable & Hise, 1981). Research conducted by the Center for Cognitive and Emotional Health suggests that employees with AAD experience higher levels of stress and have difficulty managing important administrative tasks associated with both personal and professional roles (Hallowell, 2005). This suggests that role stress may be a key mediator of the relationship between AAD and role stress.

Role stress is generally defined as "anything about an organizational role that produces adverse consequences for the individual" (Kahn & Quinn, 1970, p. 41). More specifically, role stress is defined as "a perception indicated by ambiguity, conflict and overload arising from both the characteristics of the individual and the work environment" (Tetrick, 1992, p. 136). Role ambiguity occurs when a person is not sure what their role requires and/or how to do it (Cooper, Dewe & O'Driscoll, 2001; Senatra, 1980), whereas role conflict occurs when the performance requirements of a role are not compatible (Gaertner & Ruhe, 1981; Kahn et al., 1964; Shenkar & Ziera, 1992). Role overload is defined as having too many things to do in a given time period (Bacharach, Bamberger & Conley, 1991; Peterson & Smith, 1995; Gordon, Haka & Schick, 1990).

Moderate levels of stress (referred to as eustress), may stimulate people to excel and increase performance (Selye, 1976). Eustress is conceptually opposite to distress and refers to stress that is taxing but has a sustained positive influence. Bhagat et al. (1985, p. 203) suggest that some workplace stressors are positive because they "produce a state of challenge, coupled with disruptive pleasure." For example, the need to create greater alignment between elements within a role and across roles has been found to reduce boredom (Seiber, 1974) and help energize employees (Jones, 1993; Marks, 1977). However, when stress levels exceed the coping skills and resources available to the employee, the results are typically harmful to both the employee and the organization (Jamal, 1984, 1985; Goolsby, Rhoads & Singh, 1994). A role that becomes overloaded with content may increase productivity in the short-term but performance inevitably suffers (Beehr & Walsh, 1976).

The general view that role stress is detrimental to individuals and organizations has been widely supported and subsequently, the subject of more than 300 journal articles (Ortqvist & Wincent, 2006). Organizational and individual problems associated with role stress include absenteeism (Brown, 2001; Goetzel et al., 1998), high turnover (Lee, 1997; Mann, 1996), burnout (Holloway & Wallinga, 1990; Jones, 1993), emotional exhaustion (Posig & Kickul, 2003), deteriorating personal health, job dissatisfaction (Keenan & Newton, 1984), reduced organizational commitment (Johnston et al., 1990), and lower job performance (Abramis, 1994; Babin & Boles, 1996; Jamal, 1984; Micheals & Rebele, 1990).

Role stress derived from role overload, ambiguity, and conflict should undermine self-efficacy. A lack of clarity about one's role creates confusion and frustration which

undermines productivity. A further tax on productivity results from spending personal resources on role clarification as opposed to content execution. Role ambiguity also undermines the ability to clearly measure performance relative to role requirements and as a result, undermines the ability to develop a sense of mastery. Role overload undermines the ability to perform a job with excellence because of the need to distribute resources over too many tasks. Role overload will also divert personal resources as attempts are made to manage the boundaries of the role as opposed to executing the content. Role conflict creates a win-lose situation where effective execution of certain aspects of the role undermines the ability to perform other aspects of the role effectively. The confusion, frustration and exhaustion created by such a situation should undermine a sense of mastery and performance readiness, which in turn should undermine self-efficacy.

The harmful and costly consequences of role stress underscores the importance of understanding individual and organizational antecedents, and developing strategies for reducing these stressors (Lawson, Liks & Savery, 2001). Research has shown that the personal attributes of employees influences their ability to manage role stress, which ultimately influences performance (Chatman et al., 2001; Howell & Higgins, 1990; Kelly et al., 1981). A recent national survey (Harris Interactive, 2004) found that 64 percent of adults with ADHD reported having difficulties with workplace stress.

Research conducted by the Center for Cognitive and Emotional Health suggests that employees with AAD experience higher levels of stress and have difficulty managing important administrative tasks (Hallowell, 2005). Research on the influence of Adult Attention Deficit Disorder on marital relations provides further evidence of difficulty managing key tasks. Families containing a parent who has an Attention Deficit Disorder often rely on the nonafflicted spouse for planning, organizing, setting limits, time management, problem solving, child rearing, making financial contributions, and maintaining family harmony (Dixon, 1995; Weiss & Hechtman, 1993).

Hallowell (2005) states that the symptoms of AAD are being amplified by an increasingly hyperkinetic work environment. As cognitive load and emotional labor increases, the frontal lobes of the cortex are increasingly used to maintain a sense of direction and organization. The inhibiting functions within the frontal lobes of the cortex are also used to constrain emotional flooding caused by lower brain responses to increasingly threatening conditions. Research conducted (Young et al., 2007) has confirmed that adults with AAD have significantly greater difficulty with planning and problem solving as task difficulty increases. This suggests that limited capacity within the frontal lobes of the cortex to inhibit emotional and cognitive interference reduces the capacity to cope with increasing cognitive load and emotional labor.

Difficulties managing necessary tasks should increase role stress, especially under current organizational conditions. Adults need to attend to multiple sources of role-related information and integrate this information into a coherent mental map of their role requirements. Adults also need to shape role requirements in order to prevent conflicts and maximize person-role fit. As previously suggested, adults need to keep up with the pace of work, make quality contributions in a timely manner, and adjust as new conditions arise. Accurately monitoring and responding to personal emotions and social

dynamics is an important part of this challenge. Adults who experience difficulties activating task work, sustaining concentration, sustaining effort, managing emotional interference, and accessing short-term memory are less likely to manage their role effectively. A persistent constraint on personal productivity should create a backlog of tasks contributing to role overload. Difficulties with sustaining attention, managing emotional interference and accessing short term memory should undermine the development of a clear, well-integrated, and detailed mental map of a role. These challenges could also make it more difficult to update understanding of role requirements as conditions change. This situation may contribute to an ongoing sense of confusion about the requirements of a role. These conditions will produce higher levels of role confusion. Difficulties with gathering, integrating and updating role information should constrain the ability to shape a role. Difficulties shaping a role can lead to higher levels of role conflict. Addressing role conflicts effectively also requires sustained energy and emotional control, which is lacking in adults with AAD. Therefore, the increase in role stress caused by AAD will constrain the development of self-efficacy. This suggests that role stress will mediate the relationship between AAD and self-efficacy. Therefore,

H2: Role stress will mediate the relationship between adult attention deficit and self-efficacy

Methods

Subjects and Procedure

The subjects of this study were 229 university students enrolled in two evening management courses at a large state university in Western Canada. The average age of the subjects was twenty four, with women making up 52% of the participants. All the students reported that they had some work experience, and 63% reported that they were engaged in at least 16 hours of paid work per week. Each of the students completed measures of adult attention deficit, role stress and self-efficacy as part of a personality awareness exercise. Product moment correlations were used to test all the hypotheses regarding associations between the measures, and the Sobel (1982) test was used to examine the mediating influence role stress on the relationship between AAD and personal mastery.

Measures

Adult Attention Deficit (AAD). The Brown (1996) Attention Deficit Disorder scales were used to measure the amount of adult attention deficit. The instrument was designed and tested for use with adults eighteen years and older. The forty self-report items on the Brown AAD scales are grouped into five clusters of conceptually related symptoms of AAD. Organizing and activating to work (cluster 1) measures difficulty in getting organized and started on tasks. An example item is: "I am disorganized; I have excessive difficulty keeping track of plans, money, or time." Sustaining concentration (cluster 2) measures problems in sustaining attention while performing tasks. An example item is: "I listen and try to pay attention (e.g., in a meeting, lecture, or conversation) but my mind often drifts" or "I miss out on desired information."

Sustaining energy and effort (cluster 3) measures problems in keeping up consistent energy and effort while performing tasks. An example item is: “I ‘run out of steam’ and don’t follow through” or “my effort fades quickly.” Managing affective interference (cluster 4) measures difficulty with moods and sensitivity to criticism. An example item is: “I become irritated easily” or “I am ‘short-fused’ with sudden outbursts of anger.” Utilizing working memory and accessing recall (cluster 5) measures forgetfulness in daily routines and problems in the recall of learned material. An example item is: “I intend to do things but forget (e.g., turn off appliances, get things from store, return phone calls, keep appointments, pay bills, do assignments).”

Subjects used a 4-point scale (1=never, 2=once a week, 3=twice a week, 4=almost daily) to rate the frequency with which each item occurred in their own lives. A total score for AAD was derived by adding up the scores for each of the items. The Cronbach alpha internal reliability coefficient was $\alpha=0.90$ suggesting good internal reliability.

Role Stress. Items for measuring role ambiguity, conflict, and overload were generated after reviewing the Role Stress Inventory (House, Lirtzman & Rizzo, 1970), Occupational Environment Scale (Osipow & Spokane, 1983), Role Clarity Index (Kahn et al., 1964), and the Work Stress Inventory (Barone et al., 1984) (see Table 2). The items needed to be worded in a more general manner so as to capture role ambiguity, role conflict, and role overload as it pertains to the more general context faced by students. Four items were chosen for each of the dimensions of role stress. An example item for role ambiguity is: “I’m confused about the various tasks that make up my role.” An example item for role conflict is: “The important tasks I need to do often conflict with one another.” An example item for role overload is: “I have more tasks that I can effectively manage.” Subjects used a seven 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. Scores for each dimension of role stress were derived by adding up the scores for the associated items. A total score for role stress was derived by adding up the scores for each of the dimensions. The Cronbach alpha internal reliability coefficient was $\alpha=0.92$ suggesting good internal reliability.

Self-Efficacy

The measure developed by Jerusalem and Schwarzer (1995) was used to measure general self-efficacy. The scale measures efficacy with regard to coping with daily challenges and stressful situations. The measure includes ten items and an example item is: “I can always manage to solve difficult problems if I try hard enough.” Subjects used a 5-point scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to rate the extent to which they agreed with each item. The Cronbach alpha internal reliability coefficient was $\alpha=0.93$ suggesting good internal reliability.

Table 2: *Items for Role Overload, Role Ambiguity and Role Conflict*

Role Overload
1. I'm worried that I have more tasks than I can cope with
2. I have more tasks than I can effectively manage
3. I feel concerned about not being able to complete all the tasks I need to get done
4. I constantly feel overwhelmed by the tasks that I need to do
Role Ambiguity
5. I'm not clear about all the tasks that I need to do
6. I don't understand many of the tasks that I need to do
7. I'm don't have a clear sense of how all the tasks I need to do fit together
8. I'm confused about the various tasks that make up my role
Role Conflict
9. Many of the important tasks that must be done prevent me from doing other important tasks
10. Successful completion of many of my important tasks means poor performance on others
11. The important tasks that I need to do often conflict with one another
12. I often have difficulty deciding which tasks to do because they conflict with doing other tasks

Scale anchors: 1=strongly disagree; 2=disagree; 3=slightly disagree; 4=neutral; 5=slightly agree; 6=agree; 7=strongly agree

Results

Descriptives

Means, standard deviations and correlations among the variables appear in Table 1. 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 ($\alpha = 0.90$) to ($\alpha = 0.93$) suggesting good internal reliabilities.

The steps proposed by Baron and Kenny (1986) and Judd and Kenny (1981) were used to test the mediational hypothesis. Step one establishes that the criterion variable is significantly correlated with the predictor. The criterion variable is regressed on the predictor to estimate and test the path (c) between them. This establishes that there is an effect to be mediated. Step two establishes that the predictor is significantly correlated with the mediating variable. The mediator is regressed on the predictor to estimate and test the path (a) between them. Step three establishes that the mediator affects the outcome variable. It is not sufficient just to correlate the mediator with the criterion variable because the mediator and the outcome may be related due to the joint influence of the predictor variable. Therefore, the predictor variable must be controlled in establishing the effect of the mediator on the criterion variable (path b). The criterion variable is regressed on both the predictor and mediator simultaneously in order to estimate and test path b. Step four determines whether the mediator completely mediates the relationship between the predictor and criterion variables. In order to establish this, the effect of the predictor on the criterion, controlling for the mediator (path c) should be zero. The effects in both steps three and four are estimated in the same equation.

The amount of mediation, which is called the indirect effect, is defined as the reduction of the effect of the predictor variable on the criterion variable, or $c - c'$. This difference in coefficients is theoretically exactly the same as the product of the effect of the predictor on the mediator times the effect of the mediator on the criterion, or ab (thus it holds that $ab \approx c - c'$). The two are exactly equal when multiple regression is used, there are no missing data and the same covariates are in the equation. If step two (the test of a) and step three (the test of b) are met, it follows that there necessarily is a reduction in the effect of the predictor on the criterion. One way to test the null hypothesis that $ab = 0$ is to test that both a and b are zero (steps 2 and 3).

Much more commonly, a single test is used and is highly recommended (MacKinnon et al., 2002). The test was first proposed by Sobel (1982). It requires the standard error of a or s_a (which equals a/t_a where t_a is the t test of coefficient a) and the standard error of b or s_b . The Sobel test provides the standard error of ab can be shown to equal approximately the square root of

$$b^2s_a^2 + a^2s_b^2$$

Other standard errors have been proposed, but the Sobel test is by far the most commonly reported. The test of the indirect effect is given by dividing ab by the square root of the above variance and treating the ratio as a Z test (i.e., larger than 1.96 in absolute value is significant at the .05 level).

Table 1: Means, Standard Deviations and Correlations

	Mean	Std Deviation	1	2	3
1. Adult Attention Deficit	44.88	19.70	(0.90)		
2. Role Stress	42.99	12.49	0.49**	(0.92)	
3. Self-efficacy	53.62	8.57	-0.32**	-0.44**	(0.93)

Note 1: Internal consistency reliabilities are shown in parentheses on the diagonal

Note 2: ** = correlations statistically significant at the level $p < 0.01$ (2-tailed)

Empirical Tests of Hypotheses

Hypothesis 1: The correlation between AAD and self-efficacy is statistically significant ($r = -0.32$, $p < 0.01$) which provides support for the hypothesis that subjects who scored higher on AAD tended to have lower self-efficacy.

Hypothesis 2: The Sobel test is statistically significant ($Z = -4.566$, $p < 0.001$) suggesting that a significant amount of the lower self-efficacy associated with adult attention deficit is derived from increased role stress (see figure 1). A significant partial correlation between AAD and self-efficacy ($r = -0.15$, $p = 0.02$) remains after including the mediator (role stress) in the regression. This suggests that increased role stress does not fully explain the association between AAD and lower self-efficacy among the subjects, and that other unmeasured factors are helping to transmit the affect.

Figure 1: Mediating Influence of Role Stress on the Relationship between Adult Attention Deficit and Self-Efficacy

Type of Mediation: Partial

Sobel Z value: -4.566, $p < 0.001$

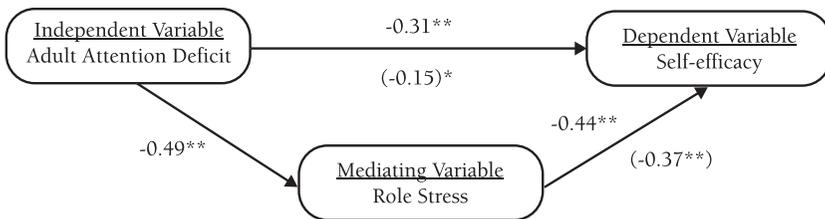
Direct Influence: -0.154

Indirect Influence: -0.165

Note 1: ** = correlations significant at the level $p < 0.01$

* = correlations significant at the level $p < 0.05$

Note 2: Correlations in parentheses indicate beta weights computed after the mediator has been included in the regression equation



The results of this research confirm that AAD, role stress, and self-efficacy are all significantly related to one another. More specifically, the results indicate that AAD may contribute to role stress which in turn, undermines self-efficacy, although definite conclusions about causality cannot be made due to the correlational nature of the study. These results suggest that the following processes may be operating. Difficulties with task activation, concentration, sustained effort, emotional interference, and memory are probably constraining productivity and contributing to role overload. Difficulties with attention and accessing short term memory are probably constraining the ability to form a detailed, accurate, and coherent mental map of a role which should increase role ambiguity. Poorly formed cognitive representations of a role, and difficulties with effort and emotional interference are likely to decrease the ability to identify and manage role conflicts effectively. Increased role overload, ambiguity, and conflict should also constrain the ability to measure and perform key aspects of the job. Role stress should also increase the expenditure of emotional and cognitive resources on role management, which is likely to divert resources away from content execution. A sense of personal mastery is unlikely to develop amidst the increased confusion, frustration, and exhaustion caused by increased role stress. In addition, the exhaustion arising out of continuing role stress should undermine a sense of performance readiness. Constraints on developing a sense of mastery and performance readiness should ultimately undermine self-efficacy and performance. The positive association between AAD and role stress suggests that adults with AAD may have a lower threshold for tolerating role ambiguity, overload and conflict. This suggests that adults with AAD are more likely to experience debilitating stress at relatively lower levels of role conflict, overload, and ambiguity. Persistent difficulties with general personal mastery should lower self-efficacy and ultimately role performance.

Implications for organizations and education institutions

Organizations need to be more aware of the influence AAD may have on role stress and self-efficacy. Organizations committed to creating more empowered cultures that emphasize fluid roles and self-regulation may end up producing the opposite if employees with attention difficulties are not provided with the necessary support. Helping employees with AAD to manage role ambiguity, overload and conflict more effectively may be necessary in order for such employees to fully access the benefits of an empowered work environment. Failure to help employees with AAD manage their role may result in a reduction in mastery, performance readiness, self-efficacy, and performance. Making managers and employees more aware of the role management challenges potentially faced by employees with AAD may help to increase the understanding and support received from coworkers and supervisors. Providing such employees with the skills and opportunities to identify and manage role design issues may help to reduce role stress. Managers who are responsible for supervising and developing employees with AAD will likely be required to make relative greater investments in such employees. It is important to provide managers with the support they need when developing such employees, especially during the introduction of more empower work designs. In general, investing resources necessary to support employees with the disorder may help to reduce potential increases in absenteeism, turnover, health care costs, and poor performance.

Increasing coverage of the disorder within the Americans with Disabilities Act appears likely and employers need to be ready to provide reasonable accommodations when required to do so. Making employees and managers more generally aware of the symptoms of AAD and the treatment options available may provide the education necessary to reduce the extent to which the condition remains undiagnosed and untreated.

Educational institutions, like management programs within universities, need to assist potential managers to recognize and respond to the symptoms of AAD in both themselves and others. Early diagnoses and treatment may help to prevent the exacerbating cycles of failure that often accompany the condition. An increased emphasis on role management skills within business programs may be necessary to help potential managers reduce future role stress.

Limitations and suggestions for future research

The instability of the hyperactivity/impulsivity component of ADHD in adults and the traditionally narrow focus on symptoms of inattention (hyperactivity/impulsivity aside) suggests that AAD may be more prevalent and problematic within the US workforce. Studies that determine the prevalence of AAD versus adult ADHD are required to clarify this important issue. AAD appears to have mostly negative outcomes for employees and organizations, but there is some evidence that employees with AAD excel with certain tasks and in certain situations. This highlights the importance of identifying the specific tasks and situations that are problematic or a good fit for employees with AAD. Research that examines the influence of AAD on a wide range of typical work tasks and situations is required. Research that identifies the variety of personal and organizational characteristics, strategies, and supporting

resources that mitigate the negative influence of AAD on role stress and task performance will help to provide clues about possible interventions. Personal case histories of employees who rate high on both role stress and AAD, and low on personal mastery, will provide insight into the progression of these relationships, as well as the personal and organizational factors that influence this progression.

This is a correlational study and as a result, it limits any causal conclusions that can be made. The use of only self-report data prevents statistical control of common method bias. A variety of data collection methods is suggested for future research in order to control for such potential bias. The external validity of this study is limited by the use of adult students. Future research needs to draw samples from a variety of work situations in order to capture the full range of role stress.

Prior to this study, no systematic empirical research existed on the relationship between AAD, role stress, and self-efficacy. This study should help to initiate a new avenue of empirical research in organizational behavior, and help to solidify the body of anecdotal evidence about the influence of AAD in the workplace. This will hopefully bring greater understanding and support to adult workers who are trying to better manage the impact of AAD on both themselves and others.

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