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Medication Moderates Link Between ADHD and Some Intimate Partner Violence Measures

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Introduction

Intimate partner violence (IPV), is a significant public health concern involving physical or psychological threats from a current or former romantic partner. (Centers for Disease Control and Prevention [CDC], 2014). Previous investigations have revealed that nearly half of all women and men have suffered from psychological aggression by an intimate partner at some point (Black et al., 2011). While IPV affects both genders, females suffer more than five million IPV incidents each year and nearly two million injuries (National Center for Injury Prevention and Control, 2003). While many predictors have been linked to IPV, we focused on Attention-Deficit/Hyperactivity Disorder (ADHD) and related variables.

ADHD is now widely recognized to pose significant problems in adulthood, including college student populations. Weyandt and DuPaul (2013) indicated that 2% to 8% of college students have clinically significant ADHD symptoms and impairment, including difficulties with interpersonal relations (e.g., Barkley et al., 2008). While several studies have noted significant correlations between ADHD and IPV victimization and perpetration (Fang, Massetti, Ouyang, Grosse, & Mercy, 2011; Theriault & Holmberg, 2001; Wymbs et al., 2012), the role of ADHD in IPV beyond mere association has been questioned. Wymbs, Dawson, Suhr, Bunford, N. and Gidycz (2017) examined whether ADHD poses an additional *additive* risk of IPV when combined with previously established predictors of IPV (childhood maltreatment, primary psychopathy, alcohol abuse, and illicit drug use) and whether ADHD moderates the predictive power of these other variables. While they found that students with greater ADHD symptom severity reported higher rates of IPV perpetration, and higher rates of psychological IPV victimization, ADHD symptoms were not *additive* risk factors of psychological IPV perpetration and victimization (when affected students possessed the other aforementioned risk factors). For example, students reporting any alcohol abuse or illicit drug use endorsed higher rates of psychological IPV perpetration and victimization, regardless of their level of ADHD symptoms. Thus, it appears that the value of ADHD symptom level as a predictor for IPV perpetration and victimization may be limited, except in the uncommon case of an individual having severe levels of ADHD symptoms without any other risk factors. Despite the growth in understanding the role of ADHD in IPV, researchers such as Wymbs et al. (2017) have noted that the extant research has failed to examine whether ADHD plays a role in the severity of IPV. Ironically, investigations focusing on the relationship of ADHD to IPV have failed to include potentially salient variables related to ADHD such as whether individuals are being treated with psychotropic medication and how well they are adhering to treatment (how often) guidelines. Multiple investigations have established the effectiveness of such medications for the treatment of ADHD in adults (Biederman, 2013), thus individuals who take medication may have a different risk level of physical and/or psychological IPV.

Aims of the Current Study

The current study examined the role of ADHD symptom severity, medication treatment, and adherence to treatment (medication) in predicting levels of symptoms and severity of multiple subscales of IPV victimization and perpetration. If this were the case, the level of symptoms and/or severity of one or more of the subscales could be predicted by knowing the level(s) of one or more of the three predictor variables.

Methods

Participants and Survey

Three hundred twenty-nine students at a Midwestern public university responded to a campus wide email inviting students to participate in a survey on relationships. Those who participated had the opportunity to provide their email address for a drawing of three \$50.00 Amazon gift certificates. One hundred twenty-four participants failed to answer four or more questions on the survey. These participants' data were removed prior to final analyses leaving a group of 205 participants. The survey was composed of questions from the Conflicts Rating Scale – II, the Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist, and additional questions about medication treatment and adherence to this treatment, in applicable cases.

Measures

IPV perpetration and victimization. The Conflict Tactics Scale–II (CTS-II; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is the most widely used measure of IPV perpetration, victimization and severity. The CTS-II is reliable with college students ($\alpha = .79$ to $.86$; Straus et al., 1996). The subscales of the CTS-II are Negotiation, Psychological Aggression, Physical Assault, Sexual Coercion, and Injury. Each of the scales provide a measure of both IPV Perpetration and Victimization. We devised an alteration of the scoring guidelines in a manner that allowed each item's frequency (for both perpetration and victimization) to be reported in a style reflective of ratio scale measurement (How many times....? 0 1 2 3 4 5 6) . We completed reliability analyses and average scores for each of the subscales (Negotiation $\alpha = .79$ Psychological Aggression Perpetration $\alpha = .68$, Psychological Aggression Victimization $\alpha = .75$, Physical Assault Perpetration $\alpha = .83$, Physical Assault Victimization $\alpha = .79$, Sexual Coercion Perpetration $\alpha = .47$, Sexual Coercion Victimization $\alpha = .44$, Injury Perpetration $\alpha = .68$, Injury Victimization $\alpha = .76$).

ADHD. Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist. The ASRS-v1.1 was developed by the World Health Organization in 2003. It contains a total of 18 items based on the DSM-IV-TR (American Psychiatric Association, 1994). The ASRS-v1.1 is known to be an effective measure for detecting ADHD in the general population with a sensitivity of 68.7% and a specificity of 99.5% (Kessler et al., 2007). In addition to the total score ($\alpha = .86$), we divided the scale to form two additional measurements; one for hyperactivity-impulsivity items ($\alpha = .78$) and one for inattention items ($\alpha = .80$).

Table 1. Descriptive Statistics and Intercorrelations for Symptom Levels for ADHD and IPV Variables.

	M (SD)	1	2	3	4	5	6	7	8	9	10	11
1. Negotiation	24.86 (7.77)	--										
2. Psych Aggr Perp	5.68 (5.68)	.29**	--									
3. Psych Aggr Vict	5.76 (6.59)	.26**	.79**	--								
4. Phys Asslt Perp	1.15 (3.99)	.03	.5**	.28**	--							
5. Phys Asslt Vict	1.20 (3.70)	.05	.49**	.37**	.89**	--						
6. Sex Coerc Perp	1.11 (2.83)	-.02	.18**	.16	.17*	.15*	--					
7. Sex Coerc Vict	1.68 (3.16)	.1	.39**	.49**	.06	.13	.58**	--				
7. Injury Perp	.09 (.83)	-.05	.26**	.16*	.5**	.46**	.51**	.17*	--			
8. Injury Vict	.05 (.47)	-.07	.28**	.16*	.55**	.47**	.49**	.14*	.98**	--		
9. ADHD Total	27.19 (9.57)	-.06	.11	.18**	.05	.12	.06	.06	-.003	-.02	--	
10. Taking Med	.08 (2.8)	.3	.11	.10	.11	.14*	.17*	.17*	-.09	-.06	-.04	--
11. How Oft Med	2.33 (.27)	.04	-.07	-.00	-.04	.03	-.08	-.07	.02	.01	-.08	-.31

Note: Psych Aggr Perp = Psychological Aggression Perpetration, Vict = Victimization, Phys Asslt Perp = Physical Assault Perpetration, Sex Coerc Perp = Sexual Coercion Perpetration, Injury Perp = Injury Perpetration, Taking Med = whether or not the student was currently taking medication for ADHD, How Oft Med = how regularly the student was taking their medication for ADHD (0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Always). * = p < .05, ** = p < .01.

Results

We first determined descriptive statistics and correlations for the each of the measures to be employed in regression analyses. These are reported in Table 1. Bivariate correlations were computed to determine the degree to which ADHD symptoms (and covariates) were associated with IPV perpetration and victimization (Table 1). As has been found in previous investigations, ADHD Total Score was significantly associated with Psychological Aggression Perpetration ($r = .18$, $p < .01$). Those students reporting higher numbers of ADHD symptoms were thus more likely to have reported more Psychological Aggression Perpetration behaviors. As for any type of moderating effect of taking medication (with ADHD Total Scores at least one standard deviation above the mean), there were two significant findings that are perplexing in combination. First, a positive association was discovered between taking medication for ADHD and the Physical Assault Victimization Score ($p = .14$, $p < .05$) Secondly, a negative association was found between taking medication for ADHD and the Sexual Coercion Perpetration Score ($p = -.32$, $p < .01$). Next we computed bivariate correlations between the various ADHD variables and the Severity indices of four different IPV victimization scales. These results can be found in Table 2. Significant results from these analyses were a significant positive association (albeit moderate) between ADHD Total Score and Psychological Aggression Victimization as well as Physical Aggression Victimization.

Table 2. Correlations between ADHD Total Score and IPV Victimization Severity Scales

	Psych Aggr Vict Sev	Phys Asslt Vict Sev	Sex Coer Vict Sev	Injury Vict Sev
ADHD Total	.16*	-.14*	-.02	-.02
Take Medication	.04	-.00	-.06	-.04
How Often Take Med	-.01	-.09	-.01	.01

Note: Psych Aggr Vict Sev = Psychological Aggression Victimization, Phys Aggr Vict Sev = Physical Aggression Victim Severity, Sex Coer Vict Sev = Sex Coercion Victim Severity, Injury Vict Sev = Injury Victim Severity. * = p < .05, ** = p < .01.



Key Findings

1. ADHD Total Score was positively correlated with Psychological Aggression Perpetration.

2. Taking medication for ADHD was positively correlated with Physical Assault Victimization, Sexual Coercion Perpetration, and Sexual Coercion Victimization.

3. ADHD Total Score was positively correlated with Psychological Aggression Victimization Severity and negatively correlated with Physical Assault Victimization Severity.

Discussion

As Wymbs et al. (2017) noted, the ability of ADHD symptom level to provide additional IPV predictive value has been relativity nonexistent when combined with other variables known to strongly associate with IPV (alcohol abuse, etc.). Nonetheless, as other researchers have discovered (Fang, Massetti, Ouyang, Grosse, & Mercy, 2011; Theriault & Holmberg, 2001; Wymbs et al., 2012), our analyses from Table 1, ADHD Total Score was significantly correlated with a variety of IPV perpetration and victimization variables. More importantly, our results revealed that taking medication for ADHD was positively associated with Physical Assault Victimization, Sexual Coercion Perpetration and Sexual Coercion Perpetration. While we had anticipated that medications known to control the symptoms of ADHD might therefore lessen symptoms of IPV perpetration and victimization, the opposite was true. Ironically, how well students adhered to the guidelines for taking their medication was not significantly associated with greater (or lesser) rates of IPV perpetration or victimization. One plausible explanation may lie in the fact that, as a group, college students have been found to take medications for ADHD on a sporadic basis and in a manner which is more about their non-medical needs (taking it to study, to stay up longer to party, etc.) than in a manner reflecting a goal of successful treatment of their disorder (Rabiner, 2011). Undoubtedly other explanations will develop over time as these variables are explored in more detail and with other combinations of variables.

As per a primary aim of our investigation, there were significant relationship between some ADHD variables and some forms of IPV victimization. The positive associations between ADHD Total Score and Psychological Aggression Victimization and Physical Aggression Victimization provide ground level evidence that ADHD, and potentially many related variables, plays a role in the level of IPV severity. As far as providing a rationale for these results, we can only speculate that perhaps similar concerns with medication treatment adherence may be found to play a role. As the first study to assess the role of ADHD treatment variables in predicting the severity of IPV perpetration and victimization, our findings represent a foundation for future work. As time passes and other studies are performed, the many causes of how ADHD treatment variables predict IPV perpetration and victimization will be revealed.

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