



Unravelling the Link between Adverse Childhood Experiences, Problematic Alcohol Use, and Psychological Dating Violence among Undergraduates

Maria-Chidi Christiana Onyedibe¹ , Desmond Uchechukwu Onu¹ , & Chuka Mike Ifeagwazi¹ 

¹Department of Psychology, University of Nigeria, Nsukka, Enugu State, Nigeria.

ARTICLE INFO

Keywords:

Adverse childhood experiences
problematic alcohol use
psychological dating violence

ABSTRACT

Psychological dating violence (PDV) has become increasingly prevalent among undergraduate students in recent years, leading to significant psychological distress and academic performance impairment. This surge in PDV among undergraduates highlights the need for extensive research into potential predictors and mediators. This study, conducted among undergraduates in Nigerian universities, explores the intricate web of factors contributing to PDV, with a specific focus on the mediating role of problematic alcohol use. A total of 483 participants (male= 239, female= 244) with a mean age of 21.44 years (SD=2.51) completed the Childhood Trauma Questionnaire, Alcohol Use Disorders Identification Test, and the Multidimensional Measure of Emotional Abuse Scale. Utilizing mediation analysis (via PROCESS procedures for SPSS version 3.2.01), our findings indicate that higher adverse childhood experiences was associated with both PDV perpetration and victimization. Most notably, our research reveals that problematic alcohol use acted as a mediator in this relationship. This result sheds light on the mechanisms through which early life adversities may manifest as unhealthy dating behaviours. By unravelling this complex interplay, our findings not only enhance our understanding of the dynamics between adverse childhood experiences and psychological dating violence but also emphasize the importance of targeted interventions. These interventions could address problematic alcohol use as a potential avenue for prevention and support among college students. This study offers valuable insights for practitioners, educators, and policymakers in developing comprehensive strategies to foster healthier relationships and enhance well-being that could improve better academic performance among the undergraduate population.

Introduction

Psychological dating violence (PDV) has to do with undermining, ignoring, stalking and other behaviours which humiliate, scare, threaten or ridicule a dating partner (Ekechukwu & Ateke, 2014). These violent behaviours are mostly found among university students either as perpetrators or victims (Brem et al., 2018; Cofone, 2011). Prevalence of PDV has been on the high increase across cultures, over other forms of dating violent behaviours such as physical and sexual dating violence. For instance, Umana et al. (2014) reported 41.8% prevalence of perpetrated and victimized PDV over physical dating violence (7.9%) and sexual dating violence (6.6%) in a Nigerian sample; while Katz et al. (2000) reported 80% prevalent rate of perpetrated and victimized PDV in a US sample. Rubio-Garay et al. (2017) in a systematic review reported perpetrated PDV in a range of 4.2% to 97% and victimized PDV also in a range of 8.5% to 95.5%. PDV is, indeed, a concern that calls for more empirical studies for better understanding and management.

Investigating PDV among university students will be essential research endeavour given the large role that PDV plays

in the affected students' mental health (Murray & Kardatzke, 2007). For instance, studies have found that victims of PDV usually experience low self-esteem, anxiety, depression, academic failures, reduced sense of autonomy, distress, insomnia, eating disorder, social dysfunctions, and increased suicidal behaviours more than non-victims (Black & Breiding, 2008; Black, 2011; Brem et al., 2018; Chan et al., 2008). Particularly in Nigeria, as much as 22% of university students who presented themselves to psychological clinics for aid were said to be victims of dating violence (Aluede et al., 2006). Identifying the psychosocial variables linked to PDV among Nigerian students may therefore inform formulation of effective anti-PDV policy. This justifies the reason for the present study.

Adverse childhood experiences (ACEs) are among major variables that have been consistently linked to dating violence (Davis et al., 2019; Musa et al., 2018). ACEs are defined as the intensive and frequently occurring traumatic events (such as multiple types of abuse, neglect, violence between parents/caregivers, peer and community) experienced by children during the first 18 years of life (Davis et al., 2019; World Health Organization, WHO; 2018). ACEs are more

experienced by children raised in the low resource settings such as Nigeria than in the high resource settings (Blum et al., 2019). Intergenerational theory of violence (Curtis, 1963; Wisdom, 1989) had postulated that victims of ACEs tend to also model violence in their dating relationship.

Empirical studies have also continued to link ACEs to dating violence of all forms. For instance, some authors (Barbaro & Shackelford, 2019; Mair et al., 2012; Whitfield et al., 2003) found positive association between ACEs and perpetration of intimate partner violence (IPV; which include physical, sexual and psychological dating violence). Willie et al. (2018) and Whitfield et al. (2003) also reported that ACEs were positively associated with being victim of IPV. However, only a handful of these studies have specifically focused on the ACEs-PDV relationship. These studies include Jones et al. (2018) and Oji (2017) who found positive association between ACEs and being victim of PDV. Oji (2017) also found positive association between ACEs and perpetration of PDV. Further studies on the association between ACEs and PDV are therefore needed for clearer understanding of pattern of the ACEs-PDV link, this study.

There also exists dearth of empirical studies on the pathways explaining how ACEs are associated with PDV. It is particularly important to identify the link between ACEs and PDV especially in a sample of university students among whom more incidences of PDV are mostly recorded (Brem et al., 2018; Cofone, 2011). Identifying this link may be helpful in understanding the mechanisms implicated in PDV of this vulnerable population. This could be useful in the development of effective interventions that may improve students' learning as well as their health and well-being. Analyses of mediation would help researchers to go beyond answering if high ACEs are associated with more PDV to how ACEs are associated with PDV.

Problematic alcohol use (PAU; harmful use of alcohol) is thought to be the mediating variable linking the ACEs-PDV association. Compared to the general population, people who had ACEs are much more likely to use substances (Edalati & Krank, 2015; LeTendre & Reed, 2017), especially alcohol (Feliti et al., 1998; Hughes et al., 2017). In the general effect model, Higgins and McCabe (2000) argued that all forms of ACEs could result in impaired psychological functioning. Victims of ACEs often resort to using substances as a coping mechanism in their self-help efforts to manage their childhood trauma (Kaliszewski, 2019). Studies (e.g., Anda et al. 2002; Dube et al., 2005; Dube et al., 2006; Goncalves et al., 2016) have consistently found positive association between ACEs and PAU. Studies on positive associations between PAU and PDV perpetration (Paynter, 2015; Rothman, et al., 2012 systematic review; Shorey et al., 2015; Shorey, et al., 2014; Swahn et al., 2008) and victimization (Eaton et al., 2007; Paynter, 2015; Sabina, et al., 2017) are also consistent.

These patterns of association indicating that ACEs are positively associated with PAU and that PAU is also positively associated with perpetration of PDV and being victim of PDV seem to suggest that PAU may be helpful in explaining the

pathway through which ACEs influence PDV. Craig et al. (2019) found that alcohol use mediated the association between ACEs and recidivism. The current study therefore investigated whether PAU will mediate the relationship between ACEs and PDV among Nigerian students. We hypothesized that: (1) ACEs will be positively associated with PDV (2) ACEs will be positively associated with PAU (3) PAU will be positively associated with PDV (4) PAU will mediate ACEs-PDV relationship.

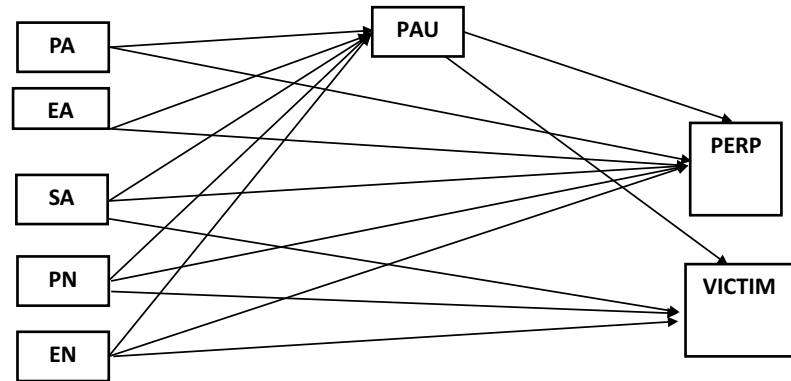


Figure 1. Conceptual model of mediator effect of PAU on ACE (PA, EA, SA, PN, EN) and PDV relationship.

Note: PERP=perpetration, VICTIM=victimization, ACE= Adverse childhood experiences, PA=physical abuse, EA=emotional abuse, SA=sexual Abuse, PN= Physical neglect, EN=emotional neglect, PAU= Problematic alcohol use

Method

Participant

Participants were 483 undergraduates (male = 239, female=244). Their age ranged between 18 and 30 years (mean age = 21.44, SD = 2.51). Their academic level ranged between level 100 and 400 levels. They were conveniently drawn from three public universities located in Southeast Nigeria, namely; University of Nigeria Nsukka, Enugu State, Ebonyi State University and Micheal Okpara University of Agriculture, Umudike, Abia State. All participants were in dating relationship. While eighty-seven (87) of them were cohabitating with their partner while 396 were not.

Instruments

Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998): CTQ is a 28 item self-report measure that assesses ACEs across 5 domains. The domains are: physical abuse, sexual abuse, emotional abuse, physical neglect and emotional neglect. Participants' responses are rated in a 5 point-Likert scale ranging from (1) never true to (5) very often true, with higher scores on each subscale indicating higher level of ACEs for the subscale. Bernstein and Fink (1998) generated initial coefficient Cronbach's alpha (α) scores for physical abuse (ranging from .81 to .86), emotional abuse (ranging from .84 to .89), sexual abuse (ranging from .93 to .95), physical neglect

(ranging from .63 to .78), emotional neglect (ranging from .88 to .92) and test-retest reliability ranged from .79 to .85 in an average period of 4 month for the total scale. We obtained α of .78 (physical abuse), .88 (sexual abuse), .81 (emotional abuse), .75 (physical neglect) and .91 (total ACEs) for the present study.

Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993): This is a 10-item scale that measures problematic alcohol use across three domains, namely: hazardous alcohol use, alcohol dependence, and harmful alcohol use. Participants' responses are rated in a 5-point likert scale, ranging from 0 (never) to 4 (daily). Total score ranged from 0 to 40 with higher score indicating greater problematic alcohol use. Adewuya (2005) obtained an alpha reliability coefficient of .93, .94 and .98 for hazardous alcohol use, harmful use and alcohol dependence respectively. AUDIT yielded a total alpha reliability coefficient of .77 in the present study and was used to indicate problematic alcohol use.

The Multidimensional Measure of Emotional Abuse Scale (MMEAS; Murphy & Hoover, 1999; Murphy et al., 1999): This is a 56-item scale used to measure perpetration (28 items) and victimization (28 items) of PDV. The perpetration and victimization are assessed through four sub-scales: restrictive engulfment (which includes behaviors that isolate one's partner, restrict a partner's activity, and display jealousy, e.g., trying to stop you from seeing certain friends or family members), denigration (which encompasses behaviors that humiliate or degrade one's partner, e.g., calling you a loser, failure, or using similar terms), hostile withdrawal (which involves behaviors that create tension concerning relationship stability, such as emotional withdrawal, e.g., acting cold or distant when angry), and dominance/intimidation (which includes behaviors like threats, destruction of property, and actions that instil fear, e.g., throwing, smashing, hitting, or kicking something in front of you). Participants were instructed to indicate, on a 7-point frequency scale (ranging from "never" [0] to "more than 20 times"[7]), how often both themselves and their dating partner engaged in each behavior over the past 6 months. Higher scores on items of each of the subscales indicated higher perpetration or victimization of PDV. The developers reported α score ranging from .85 to .92 for victimization subscales, and .83 to .89 for perpetration subscales. As reported by the developers, α for perpetration and victimization respectively, in college sample were .84 and .85 for Restrictive Engulfment, .88 and .91 for Hostile withdrawal, .89 and .92 for Denigration, .83 and .91 for Dominance/Intimidation. The scores for the four subscales are calculated by summing the response categories, with each subscale ranging from 0 to 42. In this study, the total scores from the four scales were aggregated and utilized in both the perpetration and victimization sub-dimensions. The perpetration and victimization subscales were employed in the present study to assess PDV perpetration and PDV victimization, respectively. The perpetration subscales demonstrated an alpha reliability of .91, while the victimization subscales yielded an alpha reliability coefficient of .89 in the

present study.

Procedure

Ethical approval was granted by the Ethical Approval Committee, Department of Psychology, University of Nigeria, Nsukka. With the help of 4 research assistant (postgraduate students) participants were approached in their classrooms (shortly before their lectures commenced) after establishing rapport with them. The nature and purpose of the study were explained to them and those who were willing to participate in the study gave their informed consent. Those who were not willing to participate did not get the questionnaire for completion. Out of 500 copies of questionnaire distributed across the 3 schools, 492 were returned, while 9 were discarded due to incomplete response. The remaining 483 completed questionnaires were used for data analysis representing 96.6% return rate.

Design/Statistics

This study employed cross-sectional survey design. First, a Pearson correlation was conducted to determine the correlation among the study variables. Model 4 of the Hayes (2019) PROCESS macro for SPSS (version 25) was used for the mediation analysis. This was used to estimate path coefficients in the mediator model and to produce bias corrected bootstrapped confidence intervals (CI) for total effect, direct effect and indirect association between ACE and PDV through PAU. The PROCESS module is a widely used method in testing the indirect and conditional effects (Chukwuorji et al., 2019; Ifeagwazi et al., 2017). All analyses were adjusted for age and gender.

Results

Results in **table 1** showed that higher age was associated with both PDV perpetration ($r = .16, p < .01$) and victimization ($r = .12, p < .05$). The result in table 1 also showed that ACEs (across dimensions) was positively associated with perpetration dimension of PDV: emotional abuse ($r = .16, p = .01$), sexual abuse ($r = .20, p = .01$), physical neglect ($r = .14, p = .01$) and emotional neglect ($r = .18, p = .01$). Also, ACEs (across dimensions) was positively associated with victimization dimension of PDV: emotional abuse ($r = .12, p = .05$), sexual abuse ($r = .21, p = .01$), physical neglect ($r = .13, p = .05$) and emotional neglect ($r = .19, p = .01$). These indicate that the more ACEs people had, the more they would likely be perpetrators or victims of psychological dating violence later in life. The result also showed that PAU was positively associated with PDV in the perpetration ($r = .32, p = .01$) and victimization ($r = .30, p = .01$) dimensions, indicating that the more people engage themselves in PAU, the more they would likely perpetrate or become victims of PDV.

In testing for mediation, we examined whether the requirements described by Baron and Kenny (1986) in testing for mediation analysis were met. First there should be a significant relationship between the independent variable

Table 1: Means, standard deviation and correlation among the study variables

S/N	Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1	Gender	-	-	-								
2	Age	21.58	2.54	-.29**	-							
3	Physical Abuse	8.06	3.49	-.13*	.05	-						
4	Emotional Abuse	8.42	3.87	-.05	.02	.55**	-					
5	Sexual Abuse	8.28	4.24	.01	.04	.16**	.28**	-				
6	Physical Neglect	8.61	3.93	-.04	.12*	.02	.11*	.19**	-			
7	Emotional Neglect	10.80	5.71	-.06	.08	.02	.24**	.08	.58**	-		
8	PAU	16.75	4.46	-.15**	.02	.12*	.18**	.28**	.22**	.16**	-	
9	PDV Perpetration	41.82	31.12	-.05	.19**	.10	.16**	.20**	.14**	.18**	.32**	-
10	PDV Victimization	42.17	32.31	-.05	.23**	.05	.12*	.21**	.13*	.19**	.30**	.91**

Note: * $p < .05$, ** $p < .01$, PAU= Problematic alcohol use, PDV= Psychological dating violence

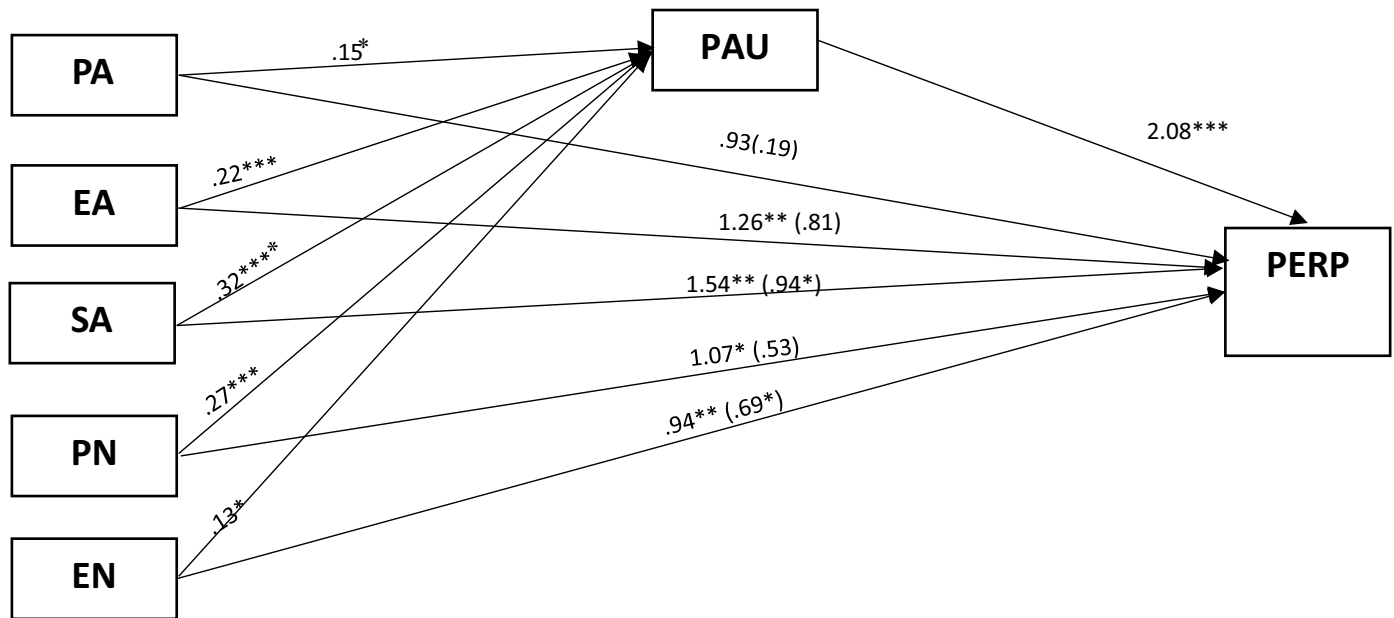


Figure 2: Mediating role of PAU on the relationship between ACE (PA, EA, SA, PN, EN) and perpetration dimension of PDV

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, ACE=Adverse childhood experiences, PA, physical abuse; EA, Emotional abuse; SA, Sexual abuse; PN, Physical Neglect; EN, Emotional neglect; PAU= Problematic alcohol use; PERP, Perpetration.

(ACE) and the proposed mediator (PAU). Our result in figure 2 confirmed that the five dimensions of ACE were all significantly related to PAU: Physical abuse ($B = .15, p = .03$), Emotional abuse ($B = .22, p = .001$), sexual abuse ($B = .32, p = .000$), physical neglect ($B = .27, p = .000$) and emotional neglect ($B = .13, p = .004$). Second, the independent variable (ACE) is expected to have significant association with the dependent variables (PDV; Perpetration and Victimization) and our result established such relationship for four out of the five dimensions of the ACE for both perpetration: emotional abuse ($B = 1.26, p = .004$), sexual abuse ($B = 1.54, p = .022$), physical neglect ($B =$

$1.07, p = .014$) and emotional neglect ($B = .94, p = .002$) and victimization: emotional abuse ($B = .99, p = .03$), sexual abuse ($B = 1.71, p = .001$), physical neglect ($B = .89, p = .05$) and emotional neglect ($B = .92, p = .002$). Third, the mediator (PAU) is expected to have significant association with the dependent variables (PDV; Perpetration and Victimization) and our result established such relationship both for perpetration (see **Fig 2**: $B = 2.08, p = .000$) and victimization (**Fig 3**: $B = 2.12, p = .000$). Fourth, having satisfied the requirement for mediation analysis, mediation is said to occur if, controlling for the mediator (PAU), the initial association between the independent variable (ACE) and the dependent variable (PDV) became non-significant (full mediation) or greatly reduced (partial mediation). As can be seen in **figure 2** and **3**, PAU mediated the association between the four dimensions of ACE and PDV. Specifically, for perpetration dimension of PDV, emotional abuse ($B = .81, p = .06$) and physical neglect ($B = .53, p = .22$) showed full

Table 2: PROCESS macro results for the indirect effect of X (ACE) on Y (PDV)

ACE	PERP	Effect	Boot SE	BootLLCI	BootULCI	VICTIM	Effect	Boot SE	BootLLCI	BootULCI
PA		.31	.16	.03	.66		.32	.16	.04	.69
EA		.45	.15	.21	.80		.46	.16	.19	.83
SA		.60	.18	.31	1.02		.59	.19	.28	1.01
PN		.55	.16	.26	.90		.56	.17	.26	.96
EN		.25	.09	.11	.47		.25	.01	.11	.47

Note: ACE= Adverse childhood experiences, PERP=perpetration, VICTIM=victimization, PA=physical abuse,

EA=emotional abuse, SA=sexual Abuse, PN= Physical neglect, EN=emotional neglect.

mediation, while sexual abuse ($B = .94, p = .022$) and emotional neglect ($B = .69, p = .017$) showed partial mediation. Similarly, for victimization dimension of PDV, there was full mediation for emotional abuse ($B = .53, p = .24$) and physical neglect ($B = .33, p = .45$) and partial mediation for sexual abuse ($B = 1.11, p = .008$) and emotional neglect ($B = .72, p = .017$). These mediation results indicated an indirect relationship between ACE and PDV through PAU.

A 95% bias-corrected confidence interval based on 5000 bootstrap samples for perpetration dimension of PDV indicated that the indirect effect of the four dimensions of the ACE: emotional abuse ($CI = .21$ to $.80$), sexual abuse ($CI = .31$ to 1.02), physical neglect ($CI = .26$ to $.90$) and emotional neglect ($.11$ to $.47$) does not include zero (see **Table 2**) indicating that the results were statistically significant. Similarly, the result was also significant for the victimization dimension of PDV: emotional abuse ($CI = .19$ to $.83$), sexual abuse ($CI = .28$ to 1.01), physical neglect ($CI = .26$ to $.96$) and emotional neglect ($.10$ to $.46$).

Discussion

The major aim of this study was to examine the mediating influence of problematic alcohol use (PAU) in the relationship between adverse childhood experiences (ACEs) and psychological dating violence (PDV) among university students in Nigeria. The direct association between ACEs and PDV was also investigated. Consistent with previous studies (eg. Barbaro & Shackelford; 2019; Mair et al., 2012; Whitfield et al., 2003) we found that ACEs was associated with increased perpetration of PDV. In agreement with Willie et al. (2018) and Whitfield et al. (2003), we also found that ACEs was positively associated with being a victim of PDV. Hence, our hypothesis that ACEs will be associated with PDV was supported. These findings therefore suggest that increased adverse experiences of students during childhood age is linked to psychologically harmful behaviours against a dating partner later in life or even

being a victim of harmful behaviours. ACEs may therefore be the avenue that may nurture young people to either become perpetrators or victims of harmful behaviours as they relate to their intimate partners later in life (Amr et al., 2019). Health professionals managing victims or perpetrators of PDV may take cue to explore the client's history of adverse experiences during their childhood age.

We also found that ACEs were associated with increased problematic alcohol use. Hence, experiencing abuse and/or neglect as a child was associated with engaging in more in problematic alcohol use. Earlier studies (eg. Anda, et al. 2002; Dube, et al., 2005; Dube et al., 2006; Goncalves, et al., 2016) had reported similar results. This finding is in line with our hypothesis which stated that ACEs will be associated with PAU. ACEs are known sources of emotional instability to the extent that victims often resort to substance use as a self-help approach in their effort to manage the symptoms of their early life traumatic experiences (Kaliszewski, 2019; Onu et al., 2020). PAU may be one of the self-help approaches.

In line with our third hypothesis, our results showed that PAU was associated with increased PDV across dimensions. Thus, students who engaged in harmful use of alcohol, reported having perpetrated PDV or being having been victims of PDV. This finding is consistent with other studies (eg. Eaton et al., 2007; Paynter 2015; Rothman et al., 2012; Swahn et al., 2008; Shorey et al., 2014; Sabina et al., 2017) who found positive association between PAU and PDV. It therefore seems that PAU is a precipitator of perpetrating PDV and also could put one in condition of being a victim of PDV.

Most importantly, PAU mediated the association between ACEs and PDV across all domains. Our study provides evidence that ACEs influence PDV through PAU. This finding therefore suggests that even though ACEs predispose people to PDV, harmful use of alcohol is the pathway explaining ACEs-PDV link. Therefore, intervention aimed at reducing the negative impacts of ACEs on PDV among students should

target reducing harmful use of alcohol among this vulnerable group. This study has therefore revealed a hidden socio-psychological variable that may underlie or determine who, among victims of ACEs, will perpetrate PDV and/or who, among victims of ACEs, will become victim of PDV. Craig (2019) had similarly reported that alcohol use mediated the association between ACEs and recidivism. Of even more important is that our sample of study were drawn from Nigerian students among whom there are high rate of PDV (Aluede et al., 2006). Onu et al. (2020) had called for family, school and community-based interventions aimed at educating the stake holders and identifying the victims of ACEs in order to address their mental health needs. This may be helpful in controlling PDV.

Our study is not however without some limitations worth acknowledging. The cross-sectional design nature of our study, (use of convenient sampling method and use of self-reported measures [questionnaires]) prevents us from making cause-effect inferences of our findings. Future studies should therefore consider longitudinal design, random sampling method, inclusion of more schools among other approaches that will enhance causal inferences and more generalization of findings. This study nonetheless, highlights the mediating role of harmful alcohol use in the association between adverse childhood experiences and psychological dating violence among Nigerian students.

Conflict of interest: Authors declare no conflict of interest.

Funding: This study is not being funded by any individual/organization.

References

- Aluede, O., Imhonde, H., & Eguavoen, A. (2006). Academic, career and personal needs of Nigerian university students. *Journal of Instructional Psychology*, 33(1), 50-57.
- Amr, S., Garas, M., Boulos, D. N., Saleh, D. A. A., Jillson, I. A., & Loffredo, C. A. (2019). Circumstances of substance use by street youth in Egypt support the case for intervening to prevent adverse childhood experiences. *Journal of Substance Use*, 24(3), 341-345. <https://doi.org/10.1080/14659891.2019.1572804>
- Anda, R. F., Whitfield, C. L., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric Services*, 53(8), 1001-1009.
- Barbaro, N., & Shackelford, T. K. (2019). Environmental unpredictability in childhood is associated with anxious romantic attachment and intimate partner violence perpetration. *Journal of Interpersonal Violence*, 34(2), 240-269.
- Black, M. C. (2011). Intimate partner violence and adverse health consequences: implications for clinicians. *American Journal of Lifestyle Medicine*, 5(5), 428-439.
- Blum, R. W., Li, M., & Naranjo-Rivera, G. (2019). Measuring adverse child experiences among young adolescents globally: Relationships with depressive symptoms and violence perpetration. *Journal of Adolescent Health*, 65(1), 86-93.
- Breiding, M. J., Black, M. C., & Ryan, G. W. (2008). Chronic disease and health risk behaviors associated with intimate partner violence—18 US states/territories, 2005. *Annals of Epidemiology*, 18(7), 538-544.
- Brem, M. J., Florimbio, A. R., Grigorian, H., Elmquist, J., Wolford-Clevenger, C., & Stuart, G. L. (2018). College-based dating violence prevention strategies. In *Adolescent Dating Violence* (pp. 437-466). Academic Press.
- Brown, M. J., Perera, R. A., Masho, S. W., Mezuk, B., & Cohen, S. A. (2015). Adverse childhood experiences and intimate partner aggression in the US: Sex differences and similarities in psychosocial mediation. *Social Science & Medicine*, 131, 48-57.
- Chan, K. L., Straus, M. A., Brownridge, D. A., Tiwari, A., & Leung, W. C. (2008). Prevalence of dating partner violence and suicidal ideation among male and female university students worldwide. *Journal of Midwifery & Women's Health*, 53(6), 529-537.
- Craig, J. M., Zettler, H. R., Wolff, K. T., & Baglivio, M. T. (2019). Considering the mediating effects of drug and alcohol use, mental health, and their co-occurrence on the adverse childhood experiences–recidivism relationship. *Youth Violence and Juvenile Justice*, 17(3), 219-240.
- Curtis, G. C. (1963). Violence breeds violence—perhaps? *American Journal of Psychiatry*, 120(4), 386-387.
- Davis, J. P., Ports, K. A., Basile, K. C., Espelage, D. L., & David-Ferdon, C. F. (2019). Understanding the buffering effects of protective factors on the relationship between adverse childhood experiences and teen dating violence perpetration. *Journal of Youth and Adolescence*, 48(12), 2343-2359.
- Dube, S. R., Anda, R. F., Whitfield, C. L., Brown, D. W., Felitti, V. J., Dong, M., & Giles, W. H. (2005). Long-term consequences of childhood sexual abuse by gender of victim. *American Journal of Preventive Medicine*, 28(5), 430-438.
- Dube, S. R., Miller, J. W., Brown, D. W., Giles, W. H., Felitti, V. J., Dong, M., & Anda, R. F. (2006). Adverse childhood experiences and the association with ever using alcohol and initiating alcohol use during adolescence. *Journal of Adolescent Health*, 38(4), 444-e1.
- Eaton, D. K., Davis, K. S., Barrios, L., Brener, N. D., & Noonan, R. K. (2007). Associations of dating violence victimization with lifetime participation, co-occurrence, and early initiation of risk behaviors among US high school students. *Journal of Interpersonal Violence*, 22(5), 585-602.

- Edalati, H., & Krank, M. D. (2016). Childhood maltreatment and development of substance use disorders: A review and a model of cognitive pathways. *Trauma, Violence, & Abuse*, 17(5), 454-467.
- Ekechukwu, R. O., & Ateke, B. W. (2014). Correlates and consequences of dating violence in adolescent relationships in Nigeria. *Educational Research International*, 1(3), 99-110.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.
- Gonçalves, H., Soares, A. L. G., Santos, A. P. G. D., Ribeiro, C. G., Bierhals, I. O., Vieira, L. S., Hellwig, N. L., Wehrmeister, F. C., & Menezes, A. (2016). Adverse childhood experiences and consumption of alcohol, tobacco and illicit drugs among adolescents of a Brazilian birth cohort. *Cadernos de Saude Publica*, 32, e00085815.
- Higgins, D. J., & McCabe, M. P. (2000). Multi-type maltreatment and the long-term adjustment of adults. *Child Abuse Review: Journal of the British Association for the Study and Prevention of Child Abuse and Neglect*, 9(1), 6-18. <https://doi.org/10.1080/14659891.2019.1572804>
- Jones, M. S., Worthen, M. G., Sharp, S. F., & McLeod, D. A. (2018). Life as she knows it: The effects of adverse childhood experiences on intimate partner violence among women prisoners. *Child Abuse & Neglect*, 85, 68-79.
- Kaliszewski, K., Diakowska, D., Wojtczak, B., Migoń, J., Kasprzyk, A., & Rudnicki, J. (2019). The occurrence of and predictive factors for multifocality and bilaterality in patients with papillary thyroid microcarcinoma. *Medicine*, 98(19).
- Katz, J., Arias, I., & Beach, S. R. (2000). Psychological abuse, self-esteem, and women's dating relationship outcomes: A comparison of the self-verification and self-enhancement perspectives. *Psychology of Women Quarterly*, 24(4), 349-357.
- LeTendre, M. L., & Reed, M. B. (2017). The effect of adverse childhood experience on clinical diagnosis of a substance use disorder: Results of a nationally representative study. *Substance Use & Misuse*, 52(6), 689-697.
- Mair, C., Cunradi, C. B., & Todd, M. (2012). Adverse childhood experiences and intimate partner violence: Testing psychosocial mediational pathways among couples. *Annals of Epidemiology*, 22(12), 832-839.
- Murray, C. E., & Kardatzke, K. N. (2007). Dating violence among college students: Key issues for college counselors. *Journal of College Counseling*, 10(1), 79-89.
- Musa, S., Peek-Asa, C., Jovanović, N., & Selimović, E. (2018). Association of adverse childhood experiences and health risk behaviors among young adults visiting a regional primary healthcare center, Federation of Bosnia and Herzegovina. *PLoS One*, 13(3), e0194439.
- Oji, P.I. (2017). *Childhood maltreatment, alcohol use and attachment style as predictors of psychological dating violence among Nsukka youths* (A project presented in partial fulfillment of the requirements for the award of Bachelor's degree in psychology). University of Nigeria Nsukka.
- Onu, D. U., Ifeagwazi, C. M., Orjiakor, C. T., & Iorfa, S. K. (2020). Adverse childhood experiences and tramadol use in Nigeria: the mediating role of sociosexuality in a predominantly male student sample. *Journal of Substance Use*, 1-7.
- Paynter, E. (2015). *The relationship between alcohol consumption patterns and intimate partner violence victimization and perpetration among youth in the slums of Kampala, Uganda*. A thesis submitted in partial fulfillment of the requirements for the award of Masters of Public Health. Atlanta, Georgia. https://scholarworks.gsu.edu/iph_theses/397.
- Rubio-Garay, F., López-González, M. A., Carrasco, M. Á., & Amor, P. J. (2017). The prevalence of dating violence: A systematic review. *Papeles del Psicólogo*, 38(2), 135-147.
- Sabina, C., Schally, J. L., & Marciniak, L. (2017). Problematic alcohol and drug use and the risk of partner violence victimization among male and female college students. *Journal of Family Violence*, 32(3), 305-316.
- Shorey, R. C., Fite, P. J., Choi, H., Cohen, J. R., Stuart, G. L., & Temple, J. R. (2015). Dating violence and substance use as longitudinal predictors of adolescents' risky sexual behavior. *Prevention Science*, 16(6), 853-861.
- Shorey, R. C., Stuart, G. L., McNulty, J. K., & Moore, T. M. (2014). Acute alcohol use temporally increases the odds of male perpetrated dating violence: A 90-day diary analysis. *Addictive Behaviors*, 39(1), 365-368.
- Swahn, M. H., Bossarte, R. M., & Sullivent, E. E. (2008). Age of alcohol use initiation, suicidal behavior, and peer and dating violence victimization and perpetration among high-risk, seventh-grade adolescents. *Pediatrics*, 121(2), 297-305.
- Umana, J. E., Fawole, O. I., & Adeoye, I. A. (2014). *Prevalence and correlates of intimate partner violence towards female students of the University of Ibadan, Nigeria*. BMC Women's Health, 14(1), 131.
- Whitfield, C. L., Anda, R. F., Dube, S. R., & Felitti, V. J. (2003). Violent childhood experiences and the risk of intimate partner violence in adults: Assessment in a large health maintenance organization. *Journal of Interpersonal Violence*, 18(2), 166-185.

- Widom, C. S. (1989). Child abuse, neglect, and adult behavior: Research design and findings on criminality, violence, and child abuse. *American Journal of Orthopsychiatry*, 59(3), 355-367.
- Willie, T. C., Kershaw, T., & Sullivan, T. P. (2018). The impact of adverse childhood events on the sexual and mental health of women experiencing intimate partner violence. *Journal of Interpersonal Violence*, 36(11-12), 5145–5166. <https://doi.org/10.1177/0886260518802852>
- World Health Organization. (2018). *Adverse childhood experiences international questionnaire (ACE-IQ)*. https://www.who.int/violence_injury_prevention/violence/activities/adverse_childhod_experiences/en/ Accessed on 26th of March, 2020.