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Effect of Partner Violence in Adolescence and Young Adulthood on Blood Pressure and Incident Hypertension

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Abstract

Intimate partner violence has adverse health consequences, but little is known about its association with hypertension. This study investigates sex differences in the relationship between intimate partner violence and blood pressure outcomes. Data included 9,699 participants from waves 3 (2001–02) and 4 (2008–09) of the National Longitudinal Study of Adolescent Health (51% female). Systolic (SBP) and diastolic (DBP) blood pressure and incident hypertension (SBP ≥ 140 mmHg, DBP ≥ 90 mmHg, or taking antihypertensive medication) were ascertained at wave 4. Intimate partner violence was measured at wave 3 with 8 items from the revised Conflict Tactics Scales. Separate victimization and perpetration scores were calculated. Sex-specific indicators of severe victimization and perpetration were created using the 66th percentile among those exposed as a cut point. Sex-specific linear and logistic regression models were developed adjusting for age, race, financial stress, and education. Thirty-three percent of men and 47% of women reported any intimate partner violence exposure; participants were categorized as having: no exposure, moderate victimization and / or perpetration only, severe victimization, severe perpetration, and severe victimization and perpetration. Men experiencing severe perpetration and victimization had a 2.66 mmHg (95% CI: 0.05, 5.28) higher SBP and a 59% increased odds (OR: 1.59, 95% CI: 1.07, 2.37) of incident hypertension compared to men not exposed to intimate partner violence. No other category of violence was associated with blood pressure outcomes in men. Intimate partner violence was not associated with blood pressure outcomes in women. Intimate partner violence may have long-term consequences for men’s hemodynamic health. Screening men for victimization and perpetration may assist clinicians to identify individuals at increased risk of hypertension.


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Introduction

One in 10 US adolescents report exposure to physical intimate partner violence (IPV) in the prior year.[1] IPV is related to serious mental and physical health sequelae;[2] however, its relationship to hypertension, a condition affecting over one-third of the US adult population,[3] and a growing number of adolescents[4] is unclear. Psychosocial stress is a known risk factor for hypertension,[3] but little is known about stressors that occur over important developmental time periods such as the transition from adolescence to adulthood. Since high blood pressure has been shown to track from from adolescence into adulthood,[5] greater understanding of the potential early life psychosocial contributors to elevated blood pressure is warranted.

Prior research on the relationship between IPV and elevated blood pressure has focused on adult violence exposure and has found limited,[6] or no support for the association.[7–12] Existing research on the topic, however, is hindered by a predominance of cross-sectional designs and a lack of objectively measured blood pressure outcomes. Sex differences in the relationship between IPV and hypertension have been largely unexplored due to female-only samples which comprise a majority of the literature. The impact of being in a mutually violent relationship, a defining feature in up to half of violent relationships,[13–15] and the role of
perpetration have not been examined. Therefore, more questions
than answers remain as to whether IPV is related to blood pressure
and hypertension status.

This study addresses these gaps by investigating sex differences
in the relationship between exposure to IPV victimization and
perpetration in adolescence and young adulthood (between
average ages 16 and 22) and blood pressure outcomes (systolic
blood pressure (SBP), diastolic blood pressure (DBP), incident
hypertension) in adulthood (average age 29).

Materials and Methods
Sample
The study sample included participants of Waves 3 (2001–2002)
and 4 (2008–2009) of the National Longitudinal Study of
Adolescent Health (Add Health). Add Health is a longitudinal
study of a nationally representative sample of adolescents in grades
7–12 in the U.S. during the 1994–95 school year.[16] Of the
12,288 participants who participated in baseline and waves 3 and
4, 10,058 reported a relationship at the Wave 3 interview in which
IPV status was ascertained and of these 9,699 were selected for this
analysis because they had non-missing values on covariates. For
the incident hypertension analyses, the sample size was restricted
to participants without a self-reported health provider diagnosis of
high blood pressure or hypertension at Wave 3 (N = 9,157).

Ethics Statement
Participants provided written informed consent. The original
study was approved by the institutional review board of the
University of North Carolina, Chapel Hill.

Measures
Blood Pressure and Hypertension. Blood pressure was
measured at Wave 4. A detailed description of the methods
involved, including cuff size, arm position and observer training
has been published elsewhere.[17] Briefly, three readings at 30-
second intervals were taken after a 5-minute seated rest using a
factory calibrated, Microlife BP3MC1-PC-IB oscillometric blood
pressure monitor; the last two readings were averaged and used in
analyses. Three percent (n = 296) of participants reported using
antihypertensive medication per a medication review;[18] there-
fore, their underlying blood pressure is unknown. It is common to
remove such observations from analyses. However, doing so has
been shown to introduce negative bias and reduce power.[19]
Adding a constant that represents a realistic estimate of the
treatment effect has been shown to substantially mitigate these
limitations.[19] Therefore, a constant was added to the treated
blood pressure measurements representing the average efficacy of
a standard dose of antihypertensive medication (9 mmHg for SBP
and 6 mmHg for DBP).[20] Hypertension was defined by SBP≥
140 mmHg, DBP≥90 mmHg, or taking antihypertensive medica-
tion.

Intimate Partner Violence. Frequency of physical and
sexual IPV and IPV-related injury was assessed at the Wave 3
interview using 4 items measuring victimization (threatened by
partner with violence, pushed or shoved, or had something thrown
at you that could hurt; partner slapped, hit or kicked you; partner
made you have sexual relations when you did not want to; you had
an injury, such as a sprain, bruise, or cut because of a fight with
your partner) and 4 parallel items measuring the participant’s
perpetration of IPV based on the Revised Conflict Tactics Scales.[21] IPV was assessed in relationships that had occurred
between summer 1995 (average participant age 16 years) and the
Wave 3 interview (average participant age 22 years). Relationships
chosen for assessment involved sexual intercourse, were current
relationships of individuals selected for a couple’s sub-sample, or
were considered “important” which was defined as those being
longer term, recent, or involved marriage, co-habitation, or
resulted in a pregnancy.

Rasch modeling was used to construct continuous scales of
violence victimization and perpetration by modeling the condi-
tional probabilities of responding yes to each item given its severity
and the true but unobserved violence exposure level of each
person. Items that are less frequently reported are treated as being
more severe than those more frequently reported. The nature of
physical violence supports this treatment since acts of low/
moderate violence severity are the most common forms of IPV
among dating and married couples in the U.S.[22,23] The model
is generalized to account for whether the event occurred in more
than one relationship and more than once in a relationship.[24]
Incorporating all available information creates a more parsimo-
nious model that better discriminates between adolescents with
low and high violence exposure and produces more adequate
spread of items along the linear measurement summary scale.
Rasch modeling has been used to create scales of violence
exposure among children, and for war related trauma and
IPV.[24–26]

The victimization and perpetration scores were combined into
one variable with the following categories: no exposure; moderate
victimization and/or perpetration; severe victimization but not
severe perpetration; severe perpetration but not severe victimiza-
tion; and both severe victimization and perpetration. Since there
are no defined cut points for severe IPV using Rasch modeling,
severe IPV was delineated by the 66th percentile of the score
among those reporting any exposure determined separately for
men and women. Additional cut points were also examined to
ascertain whether study findings were dependent upon the cut
point.

Other Covariates. Sociodemographic variables included sex,
self-reported race/ethnicity (categorized by the authors as
Hispanic, Non-Hispanic white, black and other) and Wave 3
measures of age, educational attainment, and financial distress,
defined by an affirmative response to any of 7 situations in which
the respondent’s household was unable to pay for various
household and medical expenses.

Statistical Analysis
Study variables were tabulated by exposure to IPV and sex.
Chi-square tests were used to examine sex differences in IPV
victimization and perpetration. Multivariable linear regression
was used to test the relationship between IPV reported at Wave 3
and blood pressure assessed at Wave 4 adjusting for confounders (age,
race-ethnicity, education, financial distress). Analyses were per-
formed separately by sex given documented differences in
women’s and men’s exposure to IPV[27,28] and sex differences
in emotional, behavioral, and physiologic responses to
stress.[23,28] Logistic regression was used to test the relationship
between IPV and incident hypertension among participants who
had not reported a health provider diagnosis of high blood
pressure or hypertension at Wave 3. All models were repeated
using alternate cut points for severe IPV (50th and 80th percentiles).
Design effects and unequal probability of selection were accounted
for according to Add Health user guidance.[29]

Results
Mean age at baseline (Wave 3) was 21.83 (95% CI: 21.60,
22.06) years. Blood pressure measurement occurred approximate-

ly 7.01 (95% CI: 6.99, 7.03) years later (Wave 4). Participants were 50.56% female (N = 5388), 69.70% non-Hispanic white (N = 5626), 14.73% non-Hispanic black (n = 1932), 4.09% non-Hispanic other (n = 690), and 11.48% Hispanic (n = 1451). Thirty-three percent (n = 1430) of males and 46.90% (n = 2527) females reported IPV exposure. Women were more likely than men to report any victimization (women 34.42%, n = 1872; men 29.47%, n = 1227, Chi-square p-value = .01) and any perpetration (women 37.96%, n = 2094; men 20.83%, n = 896, Chi-square p-value = .01).

Tables 1 and 2 provide participant characteristics by sex and exposure to IPV. Compared to whites, blacks and Hispanics were more likely to be in the severe perpetration category and blacks and Hispanic women were more likely to have experienced both severe victimization and perpetration than no IPV exposure. Those who reported no violence exposure also reported less financial distress and greater educational attainment than those exposed to IPV. Compared to men exposed to IPV, men not exposed to IPV had lower mean SBP and DBP. Mean SBP and DBP did not significantly differ across levels of IPV exposure for women.

In models adjusting for confounders (Table 3), men experiencing both severe victimization and severe perpetration had a 2.66 mmHg (95% CI: 2.59, 2.73) higher SBP compared to those with no IPV exposure. Findings were similar for DBP although the magnitude of the effect was smaller and not statistically significant. The other categories of IPV were not statistically associated with blood pressure in men and IPV was not associated with blood pressure in women. Findings were robust to choice of severity cut point (Figures 1 & 2).

Among 9,157 participants not reporting hypertension in Wave 3, 1,671 (19.32%) had hypertension at Wave 4 (males: 26.40%, N = 1072; females: 12.21%, N = 599) (Table 4). In adjusted models, men who had experienced both severe victimization and perpetration had a 59% higher odds (OR = 1.59, 95% CI: 1.07, 2.37) of hypertension in adulthood compared to those who had not experienced IPV. The other categories of IPV were not statistically associated with blood pressure or incident hypertension in men and IPV was not associated with incident hypertension in women. The increased odds of hypertension among men exposed to both victimization and perpetration was robust to the choice of severity cut point.

### Table 1. Participant Characteristics by Sex and Level of Intimate Partner Violence Exposure, Men (N = 4,311).

<table>
<thead>
<tr>
<th>Category</th>
<th>Total (N = 4311)</th>
<th>None (N = 2881)</th>
<th>Moderate Victimization and/or Perpetration (N = 845)</th>
<th>Severe Victimization* (N = 265)</th>
<th>Severe Perpetration* (N = 131)</th>
<th>Severe Victimization + Severe Perpetration* (N = 189)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, yrs, mean (95% CI)</td>
<td>21.94 (21.69, 22.18)</td>
<td>21.88 (21.63, 22.14)</td>
<td>22.08 (21.80, 22.37)</td>
<td>21.76 (21.34, 22.18)</td>
<td>22.21 (21.75, 22.68)</td>
<td>22.18 (21.79, 22.57)</td>
</tr>
<tr>
<td>Race/ethnicity, n (%)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Non-Hispanic White</td>
<td>2537 (69.94)</td>
<td>1751 (71.76)</td>
<td>474 (68.91)</td>
<td>165 (71.09)</td>
<td>60 (57.61)</td>
<td>87 (54.67)</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>769 (14.19)</td>
<td>477 (13.05)</td>
<td>167 (15.14)</td>
<td>42 (14.78)</td>
<td>27 (13.01)</td>
<td>56 (26.21)</td>
</tr>
<tr>
<td>Non-Hispanic Other</td>
<td>326 (4.09)</td>
<td>211 (3.82)</td>
<td>65 (3.91)</td>
<td>24 (6.10)</td>
<td>13 (4.82)</td>
<td>13 (5.41)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>679 (11.78)</td>
<td>442 (11.37)</td>
<td>139 (12.03)</td>
<td>34 (8.03)</td>
<td>31 (24.56)</td>
<td>33 (13.71)</td>
</tr>
<tr>
<td>Education, yrs, mean (95% CI)</td>
<td>13.00 (12.81, 13.19)</td>
<td>13.18 (12.99, 13.38)</td>
<td>12.64 (12.42, 12.85)</td>
<td>12.89 (12.60, 13.29)</td>
<td>12.80 (12.61, 13.44)</td>
<td>12.08 (11.61, 12.56)</td>
</tr>
<tr>
<td>Financial Distress, n (%)</td>
<td>1292 (29.95)</td>
<td>733 (25.40)</td>
<td>298 (35.56)</td>
<td>120 (43.71)</td>
<td>56 (39.28)</td>
<td>85 (46.88)</td>
</tr>
<tr>
<td>SBP, mean (95% CI)</td>
<td>129.94 (129.32, 130.55)</td>
<td>129.58 (128.77, 130.28)</td>
<td>130.32 (129.00, 131.64)</td>
<td>130.12 (128.10, 132.14)</td>
<td>130.66 (128.18, 133.13)</td>
<td>132.74 (130.00, 135.48)</td>
</tr>
<tr>
<td>DBP, mean (95% CI)</td>
<td>81.86 (81.35, 82.37)</td>
<td>81.50 (80.95, 82.04)</td>
<td>82.44 (81.45, 83.42)</td>
<td>82.14 (80.24, 84.03)</td>
<td>82.84 (81.04, 84.65)</td>
<td>83.53 (81.16, 85.90)</td>
</tr>
</tbody>
</table>

Note: *Severe IPV defined by the 66th percentile; SBP = systolic blood pressure; DBP = diastolic blood pressure.

doi:10.1371/journal.pone.0092204.t001

### Discussion

This study found that joint exposure to both severe victimization and severe perpetration during adolescence or young adulthood is associated with higher blood pressure and incident hypertension in men. These findings make a unique contribution to the literature on the physical health impact of IPV and are strengthened by the use of data from a large, nationally representative sample, objectively assessed blood pressure outcomes, and assessment of IPV prior to the measurement of blood pressure. Additional strengths include the examination of sex differences and joint modeling of IPV severity and directionality.

In this study, women were more likely than men to report victimization and perpetration. The finding that more women than men report IPV victimization is similar to criminal justice statistics[30] and numerous large nationally-representative studies,[15,23,31] including prior research using Add Health data.[13,32] The finding that women were more often perpetrators of IPV is consistent with a meta-analysis on sex differences in perpetration,[27] other studies using nationally representative data,[15] and prior Add Health research.[13] Gendered differences in reporting may account for this finding.

In prior research, men have been shown to underreport their exposure to IPV compared to women which is consistent with existing literature.[3] However, 19% of the sample had hypertension, which is higher than other nationally representative samples of young adults ages 25–32 including NHANES (4.60%).[33] Prior Add Health research on this topic suggests that masked hypertension, measurement techniques, and sample composition might account for these differences.[33]
Findings regarding women are consistent with prior research demonstrating no association between IPV and hypertension [7–12] but are contrary to what was expected. Women generally report greater distress[23] and are more likely to smoke[34] and drink alcohol[35] in response to violence – plausible mediators of the hypothesized violence – blood pressure relationship. While not significant, study findings did suggest that when a very high cut point is used to determine severity, that blood pressure might be elevated among women who have been severely victimized. This finding was not statistically significant potentially due to low power given the small number of women reporting this level of exposure. IPV related changes in blood pressure have been noted in an older cohort of women (ages 25–42).[6] Older women are at greater risk of high blood pressure than younger women[3] and may have had longer-term exposure to IPV. Hemodynamic impacts of IPV may be detectable only among older women. The measurement of IPV used in this study might also have hampered this exploration. While the study did incorporate IPV items that disproportionately impact women, such as sexual violence and injuries, it did not measure emotional abuse. The only prior study to find a

<table>
<thead>
<tr>
<th>Table 2. Participant Characteristics by Sex and Level of Intimate Partner Violence Exposure, Women (N = 5,388).</th>
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<tr>
<td>Race/ethnicity, n (%)</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
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<tr>
<td>Non-Hispanic Black</td>
</tr>
<tr>
<td>Non-Hispanic Other</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>Financial Distress, n (%)</td>
</tr>
<tr>
<td>SBP, mean (95% CI)</td>
</tr>
<tr>
<td>DBP, mean (95% CI)</td>
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</tbody>
</table>

Notes: * p-value < .05. a severe IPV defined by the 66th percentile.
doi:10.1371/journal.pone.0092204.t002

Figure 1. Difference in Blood Pressure by IPV Type and Cut Point, Men (N = 4311).
doi:10.1371/journal.pone.0092204.g001
relationship between IPV and incident hypertension did so with a measure of current severe emotional abuse; no relationship was detected for lifetime physical or sexual IPV.[6] The present study did not distinguish between current and past abuse and none of the prior studies investigated the relationship between IPV and SBP or DBP limiting the ability to compare findings. On balance, study findings do not provide strong support for a relationship between IPV and blood pressure outcomes in young women. Further research that includes emotional abuse and that followed women into middle age could clarify this relationship.

In the present study, the most robust associations were among men. The only prior examination of sex differences found no relationship between IPV victimization and self-reported diagnosis of high BP in men[35] similar to the findings of the present study. However, among men exposed to both severe victimization and perpetration, blood pressure levels and the odds of incident hypertension were consistently higher than in those without IPV exposure. The more consistent findings among men might be explained by prior research on acute stress that found greater blood pressure responses in males than females.[36,37] However, prior research on marital stress has shown the opposite.[38] or no sex effect.[39,40] Prior research has not simultaneously modeled violence victimization and perpetration and has examined sex differences in blood pressure in cohorts older than the Add Health participants. Since men are more likely than women to develop high blood pressure before the age of 45,[3] the impact of IPV may be detectable only among men in this young cohort. Sex differences in violence reporting, combined with a high prevalence of relationships in which there is both victimization and perpetration suggest that research is needed that accounts for nuanced differences in men’s and women’s experiences of violence and how they relate to blood pressure outcomes. This study is a step in that direction, but clearly additional research is needed.

The study’s findings are tempered by several factors. Residual confounding is possible and potential mediators such as smoking, excessive alcohol usage, and body mass index were not examined. Further research is needed to examine potential pathways linking severe victimization and perpetration in men and blood pressure related outcomes. IPV was self-reported since most violent incidents are not disclosed to verifiable sources such as service providers.

**Table 3. Relationship Between Intimate Partner Violence and Systolic and Diastolic Blood Pressure by Sex (N = 9,699).**

<table>
<thead>
<tr>
<th></th>
<th>Systolic Blood Pressure</th>
<th></th>
<th>Diastolic Blood Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate (95% CI)</td>
<td>Estimate (95% CI)</td>
<td>Estimate (95% CI)</td>
</tr>
<tr>
<td>No Violence Exposure</td>
<td>Ref</td>
<td>Ref</td>
<td>ref</td>
</tr>
<tr>
<td>Moderate Victimization and / or Perpetration</td>
<td>.50 (−.89, 1.88)</td>
<td>.39 (−.78, 1.56)</td>
<td>.67 (−.30, 1.64)</td>
</tr>
<tr>
<td>Severe * Victimization</td>
<td>.42 (−1.85, 2.68)</td>
<td>.59 (−1.51, 2.68)</td>
<td>.55 (−1.47, 2.56)</td>
</tr>
<tr>
<td>Severe * Perpetration</td>
<td>.93 (−1.67, 3.54)</td>
<td>−.27 (−2.28, 1.74)</td>
<td>1.10 (−.85, 3.06)</td>
</tr>
<tr>
<td>Severe * Victimization and Perpetration</td>
<td>2.66 (0.05, 5.28)*</td>
<td>−.62 (−2.36, 1.12)</td>
<td>1.57 (−.74, 3.87)</td>
</tr>
</tbody>
</table>

Notes: * p-value<.05. *severe IPV defined by the 66th percentile.

doi:10.1371/journal.pone.0092204.t003

![Figure 2. Difference in Blood Pressure by IPV Type and Cut Point, Women (N = 5338).](doi:10.1371/journal.pone.0092204.g002)
providers or law enforcement.[31,41,42] The present study used items from subscales of the CTS to measure physical and sexual IPV as well as IPV related injury, but did not assess severe emotional violence, which in prior research was associated with incident hypertension among a sample of women.[6] The items also do not measure the context of violence which could impact the individual’s emotional and physiologic reaction. The limited number of items used to measure IPV precludes the creation of separate scores for physical and sexual violence. Since physical and sexual IPV frequently co-occur the study team chose to jointly measure these forms of violence to maximize the amount of data used to determine IPV exposure status. However, heterogeneity in the impact of violence by type cannot be ruled out. This study did not distinguish heterosexual from bi- or homosexual relationship, which is a noteworthy focus of future research. Finally, not all forms of abuse are measured by the CTS. Emotional violence, which in prior research was associated with IPV as well as IPV related injury, but did not assess severe emotional violence, which in prior research was associated with incident hypertension among a sample of women.[6] The items also do not measure the context of violence which could impact the individual’s emotional and physiologic reaction. The limited number of items used to measure IPV precludes the creation of separate scores for physical and sexual violence. Since physical and sexual IPV frequently co-occur the study team chose to jointly measure these forms of violence to maximize the amount of data used to determine IPV exposure status. However, heterogeneity in the impact of violence by type cannot be ruled out. This study did not distinguish heterosexual from bi- or homosexual relationship history, which is a noteworthy focus of future research. Finally, blood pressure was only measured at Wave 4 so blood pressure change from Wave 3 cannot be examined and the incident hypertension outcome used in this manuscript is based on measurements at a single point in time. A diagnosis of hypertension requires elevated blood pressure levels during at least 2 clinic visits,[43] highlighting the need for clinical research on this topic.

Conclusions

This study provides evidence that exposure to IPV is linked to elevated blood pressure and incident hypertension in men. While only severe IPV was investigated in this study, the effect sizes range from 2 to 5 mmHg suggesting public health relevance since average reductions of as little as 2 mmHg on a population basis can meaningfully reduce cardiovascular disease and all-cause mortality.[44] Including men in IPV screening efforts and assessing both victimization and perpetration may provide a more nuanced understanding of individuals at increased risk of hypertension.

Acknowledgments

Dr. Cari Jo Clark had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. This research uses data from Add Health, a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (http://addhealth.cpc.unc.edu/). The author(s) declare that they have no competing interests. The sponsor had no role in the study design, data collection, data analysis, data interpretation, or writing of the report.

Author Contributions

Conceived and designed the experiments: CJC SER AA RAS SSB MDR. Performed the experiments: MDR SFS SSB RK. Wrote the paper: CJC AA RAS JEC RK SFS. Analyzed the data: CJC AA RAS JEC. Contributed new reagents/materials/analysis tools: MDR SFS. Contributed to the writing of the manuscript: CJC SER AA RAS SSB MDR.

References


Table 4. Relationship between Intimate Partner Violence Exposure and Incident Hypertension by Sex (N = 9,157).

<table>
<thead>
<tr>
<th></th>
<th>WOMEN (N = 5067)</th>
<th>MEN (N = 4090)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50th 66th 80th</td>
<td>50th 66th 80th</td>
</tr>
<tr>
<td>No Violence Exposure</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Moderate Victimization and / or Perpetration</td>
<td>1.23 (.86, 1.77)</td>
<td>1.17 (.86, 1.59)</td>
</tr>
<tr>
<td>Severe Victimization</td>
<td>1.10 (.70, 1.71)</td>
<td>1.08 (.68, 1.71)</td>
</tr>
<tr>
<td>Severe Perpetration</td>
<td>1.23 (.83, 1.83)</td>
<td>.97 (.60, 1.56)</td>
</tr>
</tbody>
</table>

Notes: * p-value<.05.
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