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In-Home Access to a Firearm and Intimate Partner Violence among Female College Students

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Keywords

In-home Firearm Accessibility, Physical IPV, Intimate Partner Violence, Violence against Women, College Students

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In-Home Access to a Firearm and Intimate Partner Violence among Female College Students

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Abstract

Intimate partner violence (IPV) and firearm violence are two persistent public health issues in the United States. Because more women experience IPV than men, and more men own firearms than women, more research is needed to examine the association between in-home firearm accessibility and physical IPV among female college students. This study examined the factors associated with physical IPV among 427 unmarried, heterosexual, female college students in Florida. Cross-sectional data were collected from Fall 2012 to Summer 2013 using an internet-delivered questionnaire. The outcome was self-reported physical IPV, and the primary predictor was in-home firearm access. Binary logistic regression with backwards listwise entry method was applied fitting age, ethnicity, race, relationship status, residency status, sorority affiliation, having ≥4 binge drinking episodes, and experience of unwanted sex. Over 10% of participants reported experiencing physical IPV, 19.0% had in-home firearm access, and 8.2% reported unwanted sex. The final logistic regression model indicated that participants with in-home firearm access (OR=2.54, p=0.011), in a single, committed/steady relationship (OR=2.35, p=0.023), and those who experienced unwanted sex (OR=1.18, p<0.001) had significantly greater odds of experiencing physical IPV compared to their reference categories. Findings from this cross-sectional study suggest that female college students in situations prone to IPV may involve the presence of a firearm. Alternatively, findings may suggest that those who experienced IPV may seek security by having access to a firearm in their homes. Future research is needed to examine this relationship and develop appropriate IPV prevention interventions for female college students.

Keywords: Firearm Accessibility, Physical IPV, Intimate Partner Violence, Violence against Women, College Students

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Introduction

Intimate partner violence (IPV) is a pervasive and persistent public health issue in the United States (U.S.), affecting millions of individuals each year. An intimate partner refers to a current or former dating partner or spouse (Centers for Disease Control and Prevention [CDC], 2024a; World Health Organization [WHO], 2024). IPV encompasses physical, sexual, and psychological aggression, stalking, and controlling behaviors (CDC, 2024a; S. Smith et al., 2018; WHO, 2024).

An estimated 111.1 million people in the U.S. encountered IPV in 2016-2017 (Leemis et al., 2022). Women are disproportionally affected, with national estimates suggesting

that over 47.3% (59 million) of women and 44.2% (52.1 million) of men in the U.S. have reported experiencing some form of IPV in their lifetime (Leemis et al., 2022). Among women, a substantial percentage (i.e., 72.3%) reported that their IPV experiences began before the age of 25 years, underscoring the heightened vulnerability of young individuals (Leemis et al., 2022). Research among young individuals echoes this concern. Specifically, more than 25.6% of female college students (i.e., ages between 18-24 years) indicated experiencing sexual victimization and 14.8% reported physical IPV in the past 12 months (Blasdell et al., 2021).

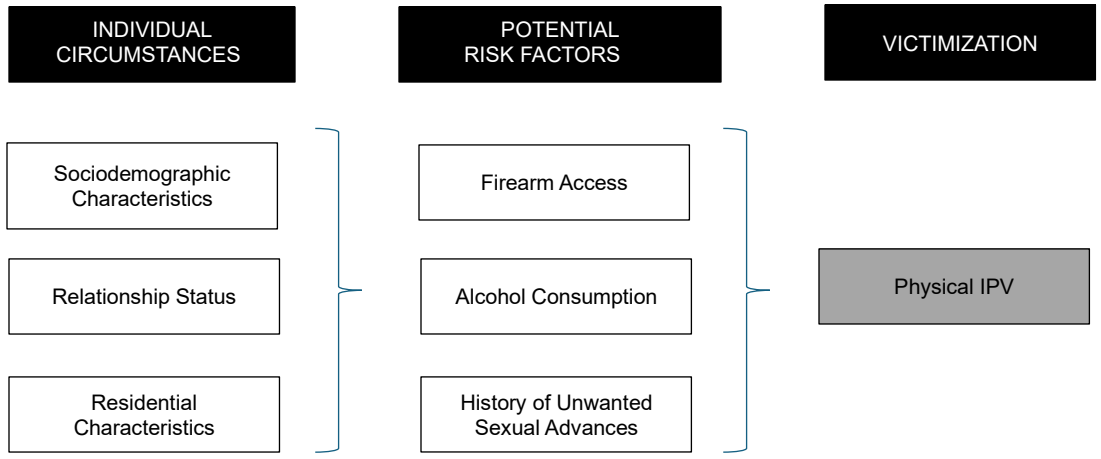
The consequences of IPV extend well beyond the immediate physical harm. Physical and neurological injuries (Esopenko et al., 2024; Pebole et al., 2024), chronic illnesses (Chandan et al., 2021; Goldberg et al., 2021), reproductive health complications (Agarwal et al., 2023), and femicide (Garcia-Vergara et al., 2022) have all been associated with IPV. Mental health outcomes are similarly profound, including elevated risk for depressive symptoms, perinatal-related depression, insomnia, and post-traumatic stress disorder (Gibson et al., 2024; Naismith, Ripoll-Nuñe, & Henao, 2024; Paulson, 2022).

Research has identified that IPV victimization is associated with a number of factors including heavy alcohol use (Shorey, Dunsiger, & Stuart, 2024; Holmes et al., 2020), prior sexual violence exposure (Caamano-Isorna et al., 2021), staying away from on-campus housing (Marco, Gracia, & López-Quílez, 2018), being a member of a sorority (Franklin, 2016; Hoxmeier et al., 2023), and being in an unmarried/cohabiting relationship (Johnson et al., 2015; Lafontaine et al., 2021; Rhoades, Stanley, & Markman, 2012; Rhoades et al., 2010). Specifically, the unmarried/cohabiting female college students are vulnerable to physical IPV victimization (Johnson et al., 2015), especially if they are sorority members (Franklin, 2016; Hoxmeier et al., 2023) and/or have attachment insecurity and expectation of perfectionism during the relationship (Lafontaine et al., 2021). Yet, considerations about the impact of collective risk factors, including in-home firearm access on physical IPV victimization among female college students was lacking.

Firearms, when present in the context of IPV, significantly escalate the risk of non-fatal injuries or fatal outcomes (Spencer & Stith, 2018; Giffords Law Center, 2025). Research indicates that over 50% of intimate partner homicide cases (Adhia et al., 2021) and 92% of murder-suicide cases of intimate partners (Violence Policy Center, 2020) involved firearms. About 4.5 million women have been threatened with a firearm by an intimate partner (Sorenson & Schut, 2018), adversely impacting their well-being and mental health (Lynch & Logan, 2018).

Firearm culture in the U.S. complicates efforts to reduce IPV-related firearm violence. Firearm access is deeply embedded in American identity, often associated with self-defense, freedom, tradition, and autonomy (Azrael et al., 2017; Parker et al., 2017). Approximately 42% of U.S. households reported having a firearm (Schaeffer, 2024), and most current firearm owners were raised in households with firearms present (Parker et al., 2017). Both men (40%) and women (25%) own firearms (Shaeffer, 2024) for different reasons, including protection, hunting, and sport shooting (Azrael et al., 2017; Parker et al., 2017), as well as a sense of belongingness, safety, and control (Buttrick, 2020). While some women report keeping firearms for personal safety, research suggests that access

Figure 1. Conceptual Framework of Physical IPV Victimization



to these weapons may increase vulnerability – particularly when the firearms are stored loaded and easily accessible (Horowitz, 2017).

Interestingly, among college students, 68.8% reported storing firearms at their permanent residences, usually within an hour's drive from the campus, while 4.3% owned a firearm on or near campus (Adams, Gong, & Heinze, 2024). Specifically, college students who had perceived risks or experienced physical assaults (Adams, Gong, & Heinze, 2024), or had prior experience with firearms, (Price & Khubchandani, 2022) were more likely to own a firearm. Although these studies identified firearm ownership, the study focusing on firearm in-home access was lacking. Additionally, it was not clear how intimate relationship type (i.e., heterosexual or homosexual), and relationship/cohabiting status (i.e., committed/steady relationship or not) impact physical IPV, especially in the presence of firearms.

Despite growing research on IPV and firearms (Lynch & Logan, 2018; Yelland et al., 2010), few studies have explicitly focused on unmarried, female college students—a population at heightened risk for both IPV victimization and exposure to household firearms. As seen in Figure 1, the authors developed a conceptual framework based on the literature to frame and justify variables examined in the current study. This conceptual framework illustrates that physical IPV victimization against female college students could be influenced by participants circumstances such as sociodemographic, relationship status (Brown & Bulanda, 2008; Lafontaine et al., 2021), being a sorority member (Franklin, 2016; Hoxmeier et al., 2023) and residential characteristics (Tsui & Santamaria, 2015; Marco, Gracia, & López-Quílez, 2018) in the presence of potential risk factors (i.e., in-home firearm access (Adams, Gong, & Heinze, 2024), alcohol consumption (Bonnesen & Swartout, 2024; Johnson et al., 2015; Shorey, Dunsiger, & Stuart, 2024; Holmes et al., 2020), and prior unwanted sexual advances (Caamano-Isorna et al., 2021)).

This study aims to fill the gap by: (1) identifying characteristics of female college

students who reported in-home firearm access and experienced physical IPV; and (2) examining if in-home firearm access and other covariates are associated with physical IPV among this population.

Methods

Study participants were undergraduate students enrolled in an introductory health education course at a Florida university. As reported in other parallel studies (Menn et al., 2020, Menn et al., 2021; M. Smith et al., 2017), data were collected over three academic semesters between Fall 2012 to Summer 2013 and used a cross-sectional, internet-delivered questionnaire. The questionnaire consisted of approximately 30 close-ended items about demographic information and self-report measures relating to firearms in the home, sexual violence, physical violence, and relationship status. Participants were required to acknowledge an embedded information sheet to indicate consent to participate in the study prior to being able to access the questionnaire. The online questionnaire took participants about 15 minutes to complete. Participation in this study was voluntary, and participants could withdraw from the study at any time. The University of Florida Institutional Review Board approved all components of the study.

Approximately 1,002 participants initiated the questionnaire. Given the study's focus on heterosexual, unmarried, female college students, participants were omitted for being men (n=423), outside of the age range of 18 to 24 years (n=31), married (n=8), and homosexual/bisexual/asexual (n=27). Of the remaining 513 women, additional participants were omitted for missing data on race and ethnicity (n=53), sorority affiliation (n=7), experience with IPV (n=15), and firearm access in the home (n=10). Cases were omitted using listwise deletion. Characteristics of the women included in the study (n=427) were compared to those omitted from the study due to missing data (n=89) using chi-square tests and independent sample t-tests. Women omitted from the analyses were significantly older (age 20.5 vs. 19.9 years) and a significantly larger proportion were Hispanic (50.0% vs. 16.9%). The resulting analytic sample included 427 heterosexual female college students who were unmarried.

Measures

Outcome variable

Physical IPV. Physical IPV served as the outcome variable in this study. Participants were asked: "Has an intimate partner EVER hit, slapped, pushed, kicked, or hurt you in any way?" Response choices for this question included "no" and "yes." This item was asked verbatim from the 2007 Behavioral Risk Factor Surveillance System (BRFSS) Intimate Partner Violence segment (CDC, 2007).

Primary predictor variable

In-Home Firearm Access. Firearm access was the primary predictor variable included in analyses. Participants were asked about firearm access using an item from the 2004 BRFSS Firearms segment (CDC, 2004). Participants were provided with the following text for context about firearm access, "Please include weapons such as pistols, shotguns, and rifles; but not BB guns, starter pistols, or guns that cannot fire. Include those kept in a garage, outdoor storage area, or motor vehicle" (CDC, 2004). Participants were asked, "Are there any firearm kept in or around your home?" Response options for this question included "no" and "yes."

Other covariates

All covariates included in the current study, and described in detail below, were guided by conceptual framework depicted in Figure 1.

Binge Drinking. Participants identifying as female were asked to report the number of times they consumed four or more alcoholic beverages in a single sitting within the two weeks prior to survey completion (CDC, 2024b). This was a continuous variable indicating the number of times the participant binge-drank in the past two weeks. Priory literature has found a positive association between alcohol consumption and physical IPV (Bonnesen & Swartout, 2024; Shorey, Dunsiger, & Stuart, 2024; Holmes et al., 2020).

Unwanted Sexual Activity. Participants were asked: "Has anyone EVER had sex with you after you said or showed that you didn't want them to or without your consent?" Response choices for this question included "no" and "yes." This variable has found to be positively associated with IPV (Caamano-Isorna et al., 2021)

Personal Characteristics. Other covariates included socio-demographic variables such as aged 18-24 years, ethnicity (i.e., Hispanic or not), race (i.e., White, Black, another race), relationship status (i.e., single/not dating, single/dating, committed/steady relationship) (Brown & Bulanda, 2008; Johnson et al., 2015), reside on campus (no, yes) (Tsui & Santamaria, 2015; Marco, Gracia, & López-Quílez, 2018), and affiliated with a sorority (no, yes) (Franklin, 2016; Hoxmeier et al., 2023).

Statistical Analysis

All statistical analyses for this descriptive study were performed using SPSS (version 29). Descriptive analyses were calculated for all study variables. Sample characteristics were then compared across in-home firearm access and physical IPV to identify bivariate differences, respectively. Pearson's chi-squared tests were used to identify proportional differences for categorical variables. Independent sample t-tests were used to identify mean differences for continuous variables. A binary logistic regression with backwards listwise entry was fitted to identify factors associated with physical IPV experiences. Never experiencing physical IPV served as the reference group. To find the most parsimonious model explaining factors associated with physical IPV, all variables were included in the initial model, and non-contributing variables were omitted from the model at each iteration until a final reduced model was achieved. At each iteration, the least statistically significant variable (i.e., with the largest p-value) was omitted and the model was refitted. Both the initial and final models are reported.

Results

Table 1 reports sample characteristics by firearm access and physical IPV experiences. Of the 427 participants, 10.1% reported experiencing physical IPV, and 19.0% reported that a firearm was kept in or around their primary residence. On average, participants were aged 19.93 (±1.26) years. Most participants self-identified as non-Hispanic (83.1%) and White (71.7%). About half of the participants (50.6%) were single and not dating, 35.1% were in a committed and steady relationship, and 14.3% were single and dating. Most participants lived off-campus (80.3%) and were not affiliated with

Table 1. Participant Characteristics by Firearm Access and Physical IPV Experiences

		Firearm Access in the Home				Physical IPV Experiences			
	Total (n = 427)	**No (n = 346)**	**Yes (n = 81)**	**χ^2 or *t***	**P**	**No (n = 384)**	**Yes (n = 43)**	**χ^2 or t**	**P**
Experience Physical IPV				7.88	0.005			--	--
No	89.9%	91.9%	81.5%			--	--		
Yes	10.1%	8.1%	18.5%			--	--		
Access to Firearm in the Home				--	--			7.88	0.005
No	81.0%	--	--			82.8%	65.1%		
Yes	19.0%	--	--			17.2%	34.9%		
Age	19.93 (±1.26)	19.87 (±1.20)	20.16 (±1.51)	-1.60	0.113	19.88 (±1.21)	20.35 (±1.66)	-1.80	0.078
Hispanic				0.60	0.440			0.29	0.591
No	83.1%	83.8%	80.2%			82.8%	86.0%		
Yes	16.9%	16.2%	19.8%			17.2%	14.0%		
Race				14.69	0.001			1.26	0.534
White	71.7%	67.6%	88.9%			71.6%	72.1%		
African American	14.5%	16.8%	4.9%			14.1%	18.6%		
Another Race	13.8%	15.6%	6.2%			14.3%	9.3%		
Relationship Status				3.99	0.136			8.64	0.013
Single/Not Dating	50.6%	52.9%	40.7%			52.9%	30.2%		
Single/Dating	14.3%	13.9%	16.0%			14.1%	16.3%		
Committed/Steady Relationship	35.1%	33.2%	43.2%			33.1%	53.5%		

Residence Location				0.36	0.548			0.03	0.853
Off-Campus	80.3%	79.8%	82.7%			80.2%	81.4%		
On-Campus	19.7%	20.2%	17.3%			19.8%	18.6%		
Sorority Affiliation				0.00	0.998			1.71	0.191
No	67.9%	67.9%	67.9%			66.9%	76.7%		
Yes	32.1%	32.1%	32.1%			33.1%	23.3%		
Times Binge Drank in Past 2 Weeks	1.25 (±0.87)	1.23 (±0.84)	1.30 (±1.05)	-0.27	0.789	1.27 (±0.89)	1.00 (±0.75)	0.91	0.366
Had Sex After Showing Did Not Want To				0.08	0.774			19.20	<0.001
No	91.8%	91.6%	92.6%			93.8%	74.4%		
Yes	8.2%	8.4%	7.4%			6.3%	25.6%		

Table 2. Binary Logistic Regression Describing Factors Associated with Physical IPV Experiences (n = 427)

	Full Model (iteration 1)				Final Model (iteration 7)			
			95% CI				95% CI	
	P	OR	Lower	Upper	P	OR	Lower	Upper
Access to Firearm in Home (vs. Not)	0.018	2.49	1.17	5.29	0.011	2.54	1.24	5.20
Age (18 to 24)	0.152	1.22	0.93	1.60	--	--	--	--
Hispanic (vs. Non-Hispanic)	0.355	0.63	0.23	1.69	--	--	--	--
Race: White	--	1.00	--	--	--	--	--	--
Race: Black or African American	0.391	1.51	0.59	3.85	--	--	--	--
Race: Other	0.590	0.73	0.23	2.30	--	--	--	--
Relationship Status: Single, Not Dating	--	1.00	--	--	--	1.00	--	--
Relationship Status: Single, Dating	0.170	2.03	0.74	5.55	0.156	2.04	0.76	5.48
Relationship Status: Single, Committed/Steady Relationship	0.032	2.30	1.07	4.93	0.023	2.35	1.12	4.94
Reside on Campus (vs. Off Campus)	0.434	1.47	0.56	3.86	--	--	--	--
Affiliated with Sorority (vs. Not)	0.268	0.61	0.26	1.46	--	--	--	--
Number of Binge Drinking Episodes in Past 2 Weeks (4+ drinks)	0.882	0.98	0.79	1.23	--	--	--	--
Ever had Sex After Showing Did Not Want To (vs. Never)	<0.001	1.18	1.08	1.29	<0.001	1.18	1.08	1.28
Reference Group: Not Encountering Physical IPV	Nagelkerke R Square = 0.158				Nagelkerke R Square = 0.127			

a sorority (67.9%). On average, participants reported binge drinking 1.25 (±0.87) times in the two weeks prior to survey completion. Over 8% of participants reported having an unwanted sexual encounter.

When comparing sample characteristics by firearm access, significantly larger proportions of women who self-identified as White (χ^2=14.69, P=0.001) and who experienced physical IPV (χ^2=7.88, P=0.005) reported having a firearm kept in or around their home. When comparing sample characteristics by having experienced physical IPV, significantly larger proportions of female college students who were in a committed/steady relationship (χ^2=8.64, P=0.013), had access to a firearm (χ^2=7.88, P=0.005), and had an unwanted sexual encounter (χ^2=19.20, P<0.001) reported a physical IPV experience.

Table 2 reports the initial and final binary logistic regression models. In the final model, compared to women without access to a firearm in their homes, women with in-home firearm access had higher odds of reporting a physical IPV experience (odds ratio [OR]=2.54, P=0.011). Non-married women in a committed/steady relationship had higher odds of reporting a physical IPV experience compared to single, non-dating women (OR=2.35, P=0.023). Compared to women who reported never an unwanted sexual encounter, women who reported experiencing at least one unwanted sexual encounter had higher odds of reporting a physical IPV experience (OR=1.18, P<0.001).

Discussion

This study investigated the determinants of physical IPV among unmarried, heterosexual female college students aged 18-24 in Florida. It revealed that a notable proportion (10.1%) of female college students encountered physical IPV and about one-in-five had in-home firearm access. The analysis confirmed the positive relationship between physical IPV and having in-home firearm access. Further, being in a committed/steady relationship and reporting past unwanted sexual contact was associated with reporting physical IPV.

The present study found that 19.0% of female college students had in-home firearm access, which is lower compared to 25.0% within a general female population (Schaeffer, 2024). Our findings indicated a statistically significant relationship between in-home firearm access and physical IPV, demonstrating that those with in-home firearm access had higher odds of experiencing physical IPV compared to those without in-home firearm access. Perhaps female college students perceived a lack of safety, prompting a need for firearm for self-protection (Lynch, 2020), or they may feel a sense of security from firearm ownership (Lynch & Jackson, 2021). This association between firearm access and physical IPV, and the context and temporality of their occurrence, requires additional investigation because prior research has identified that intimate partner homicides are preceded by instances of abuse and threats, particularly when the perpetrator has direct access to a firearm (Braga et al., 2021; Spencer & Stith, 2020). Additional research is necessary to determine if in-home firearm access equates to firearm ownership, the reasons for firearm ownership, and if both partners have access to a firearm. Nonetheless, having in-home firearm access highlights a potentially unsafe situation for those in intimate relationships (Kruis et al., 2021).

In the present study, over 8% of the students reported encountering unwanted sexual acts, and those who had such

experiences were more likely to experience physical IPV. Our findings partially support those from a prior study, which identified that female college students experienced poly-victimization, suggesting that females may experience more than one type of violence including IPV (Dekeseredy et al., 2019). Although not directly tested in the current study, one interpretation may be that the female colleges students who had prior experiences of physical assault, or perceived themselves to be at-risk for IPV, intentionally made a firearm accessible (or purchased one) to protect themselves from unsafe situations (Price & Khubchandani, 2022). Although not directly comparable to the current study, previous studies found that undergraduate students who experienced prior unwanted sexual advances are at-risk for experiencing sexual victimization in the future (Campbell et al., 2017; Caamano-Isorna et al., 2021), warranting a need for further research among female college students who had prior experiences with different types of IPV victimization. Female college students may refrain from reporting IPV incidents for various reasons, including limited access to resources, inadequate means to report to law enforcement, or concerns about retribution, retaliation, or re-victimization (Belisle et al., 2024; Caron & Mitchell, 2021; Murphy-Oikonen et al., 2022). Ultimately, our study's findings support Wolfe's (2018) argument that violence or abuse never happens in a vacuum, highlighting the necessity for further research on multiple violent acts experienced by female college students, especially those with access to firearms and/or prior experiences of intimate partner victimization.

In the current study, unmarried female college students in a committed/steady relationship had increased odds of experiencing physical IPV. This finding supported the previous studies that found that women in cohabiting or non-marriage relationships may encounter higher rates of IPV compared to single women due to various reasons, including infidelity, lack of trust, and frequency of disagreements (Sorenson & Schut, 2018). Sorenson and Schut's (2018) study found that over 80% of IPV survivors who called the police were from non-married couples.

The present study's finding regarding a higher physical IPV prevalence especially among female college students highlighted that current interventions policies are insufficient. Many policies (i.e., federal policies such as the 1994 Violence Against Women Act (VAWA) and the Gun Control Act of 1968 seek to restrict firearm access for IPV offenders (United States Department of Justice [USDJ], 2016; USDJ, n.d.), attempted to address violence issues. Yet, crucial gap exists. An example of gap was that the protections under 18 U.S.C. § 922(g)(9)—which prohibits firearm ownership by individuals convicted of misdemeanor domestic violence—exclude many dating relationships (Everytown, 2025; USDJ, 2024). This could lead the aggressor to own firearms, which in turn leads women to have their own or access to firearms for self-protection. Although the IPV victims own a firearm for protection purpose, it still has risk of injury by a firearm, which required alternative solution for protection of any type of IPV (Hink, Atkins, & Rowhani-Rahbar, 2022).

Limitations

Despite many pertinent findings, our study has some limitations. This study used self-reported data, which may have introduced social desirability bias (Krumpal, 2024) or resulted in underreporting (Boskovic, 2024), due to the sensitive nature of IPV, unwanted

sexual advances, and in-home firearm accessibility. However, our survey was conducted anonymously, with clearly worded questions, which can encourage honest responses from participants. Given participants' self-selection into this voluntary study, and that this study was conducted at a single university in a single state, the sample may not be representative of all female college students. Relative to the analytic sample of this study, women omitted from analyses because of missing data were older and a larger proportion self-identified as Hispanic. This may have introduced some bias in the results, which should be considered. As such, additional studies should expand the scope to include students to include other universities across the country, students of both sexes, and students representing diverse ethnicities/races, relationship statuses, and sexual orientations.

This cross-sectional study did not assess the bidirectional relationship between physical IPV and in-home firearm access, specifically whether women own firearms for self-defense due to previous IPV or if firearm ownership contributes to victimization (Lynch & Logan, 2018). Furthermore, our study did not account for the bidirectional perpetrator-victim dynamic, as noted in a systematic literature review indicating that substantial proportions of clinical and university students reported bi-directional IPV with male partners (Lysova, Hanson, & MacKay, 2024). Moreover, our survey questions did not specifically include the frequency and duration of cohabitation among couples and commitment level, suggesting that trust may be an issue in having a firearm at home. Firearm ownership was not ascertained; thus, in cohabitation unmarried situations, the firearm could have been the participant's or their partner's. Finally, the present study did not ask if the IPV was caused by a current or former partner, meaning post-separation abuse involving a firearm could have been an issue (Spearman et al., 2024). Future studies should strive to incorporate the mentioned items to better contextualize IPV, firearm accessibility, and ownership.

Conclusion

This study highlights an urgent public health concern at the intersection of firearm access and IPV among female college students. Findings revealed that heterosexual, unmarried women who reported access to firearms in or around their homes had significantly higher odds of experiencing physical IPV. The increased risk was compounded for those in committed relationships and those who had experienced unwanted sexual advances.

Implications for Health Behavior Research

The current study findings underscore the interplay between relationship violence and in-home firearm access among female college students in the U.S. The public health professionals, health educators, and policymakers must work collaboratively to implement evidence-based strategies that reduce IPV risk and mitigate the exacerbated risk resulting from the presence of firearms in settings prone to domestic violence. Prevention efforts must include culturally responsive education, campus-based safety initiatives, and policy reforms that center on the lived experiences of young women.

Discussion Questions

Our findings suggest that in-home firearm access had a positive relationship with the IPV. What should be the best strategies to minimize the IPV in the situation where

many young people have access to firearms especially in their homes?

The results indicate that non-married women in a committed/steady relationship were more likely than single, non-dating women to report a physical IPV experience. What would be the safe and best strategies for non-married women in a committed/steady relationship to report their IPV experiences?

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

Adams, M., Gong, C., & Heinze, J. E. (2024). Firearm ownership and storage among US college students: Results from the healthy minds study, 2021–2022. *Journal of Behavioral Medicine*, *47*(4), 662-671. https://doi.org/ 10.1007/s10865-024-00467-5.

Adhia, A., Lyons, V. H., Moe, C. A., Rowhani-Rahbar, A., & Rivara, F. P. (2021). Nonfatal use of firearms in intimate partner violence: Results of a national survey. *Preventive medicine*, *147*, 106500. https://doi.org/10.1016/j.ypmed.2021.106500

Agarwal, S., Prasad, R., Mantri, S., Chandrakar, R., Gupta, S., Babhulkar, V., Srivastav, S., & Wanjari, M. B. (2023). A comprehensive review of intimate partner violence during pregnancy and its adverse effects on maternal and fetal health. *Cureus*, *15*(5). https://doi.org/ 10.7759/cureus.39262

Azrael, D., Hepburn L., Hemenway D., & Miller M. (2017). The stock and flow of U.S. firearms: Results from the 2015 National Firearms Survey. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 3(5), 38–57. https://doi.org/10.7758/RSF.2017.3.5.02

Belisle, L. A., Reed, S., Clark, E. R., & Pinchevsky, G. M. (2024). Diverse intimate partner violence survivors' experiences seeking help from the police: A Qualitative research synthesis. *Trauma, Violence, & Abuse*, *25*(5), 4045-4061. https://doi.org/10.1177/15248380241270083

Blasdell, R. (2021). The co-occurrence of physical and sexual intimate partner violence among US college females. *International Journal of Criminal Justice Sciences*, *16*(1), 97-109. https://doi.org/ 0.5281/zenodo.4762461 / IJCJS

Bonnesen, K., & Swartout, K. M. (2024). A Bayesian study of drinking and intimate partner violence across two-and four-year colleges. *Journal of Aggression, Maltreatment & Trauma*, 33(11), 1299-1315. https://doi.org/10.1080/10926771.2024.2382821

Boskovic, I., Giromini, L., Katsouri, A., Tsvetanova, E., Fonse, J., & Merckelbach, H. (2024). The spectrum of response bias in trauma reports: Overreporting, underreporting, and mixed presentation. *Psychological Injury and Law*, 1-12. https://doi.org/10.1007/s12207-024-09503-w

Braga, A. A., Griffiths, E., Sheppard, K., & Douglas, S. (2021). Firearm instrumentality: Do guns make violent situations more lethal? *Annual Review of Criminology*, *4*(1), 147-164. https://doi.org/10.1146/annurev-criminol-061020-021528

Brown, S. L., & Bulanda, J. R. (2008). Relationship violence in young adulthood: A comparison of daters, cohabitors, and

marrieds. *Social Science Research*, 37(1), 73-87. https://doi.org/10.1016/j.ssresearch.2007.06.002

Buttrick, N. (2020). Protective gun ownership as a coping mechanism. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, *15*(4), 835–855. https://doi.org/10.1177/1745691619898847

Caamano-Isorna, F., Adkins, A., Moure-Rodríguez, L., Conley, A. H., & Dick, D. (2021). Alcohol use and sexual and physical assault victimization among university students: Three years of follow-up. *Journal of Interpersonal Violence*, *36*(7-8), NP3574-NP3595. https://doi.org/10.1177/0886260518780413

Campbell, J. C., Sabri, B., Budhathoki, C., Kaufman, M. R., Alhusen, J., & Decker, M. R. (2017). Unwanted sexual acts among university students: Correlates of victimization and perpetration. *Journal of Interpersonal Violence*, *36*(1-2), NP504-NP526. https://doi.org/10.1177/0886260517734221

Caron, S. L., & Mitchell, D. (2021). "I've Never Told Anyone": A qualitative analysis of interviews with college women who experienced sexual assault and remained silent. *Violence against Women*, *28*(9), 1987-2009. https://doi.org/10.1177/10778012211022766

Centers for Disease Control and Prevention. (2024a, May). About intimate partner violence. https://www.cdc.gov/intimate-partner-violence/about/index.html

Centers for Disease Control and Prevention. (2024b, October). Facts about excessive drinking: Understanding excessive drinking. https://www.cdc.gov/drink-less-be-your-best/facts-about-excessive-drinking/index.html

Chandan, J. S., Thomas, T., Raza, K., Bradbury-Jones, C., Taylor, J., Bandyopadhyay, S., & Nirantharakumar, K. (2021). Intimate partner violence and the risk of developing fibromyalgia and chronic fatigue syndrome. *Journal of Interpersonal Violence*, *36*(21-22), NP12279-NP12298. https://doi.org/10.1177/0886260519888515

DeKeseredy, W. S., Schwartz, M. D., Nolan, J., Mastron, N., & Hall-Sanchez, A. (2019). Polyvictimization and the continuum of sexual abuse at a college campus: Does negative peer support increase the likelihood of multiple victimizations? *The British Journal of Criminology*, 59(2), 276-295. https://doi.org/10.1093/bjc/azy036

Esopenko, C., Jain, D., Adhikari, S. P., Dams-O'Connor, K., Ellis, M., Haag, H., ... & Wilde, E. A. (2024). Intimate partner violence-related brain injury: Unmasking and addressing the gaps. *Journal of Neurotrauma*, *41*(19-20), 2219-2237. https://doi.org/10.1089/neu.2023.0543

Everytown. (2025). Every town gun law ranking: Which states prohibit convicted domestic abusers from having guns? Retrieved February 16, 2025, from https://everytownresearch.org/rankings/law/prohibition-for-convicted-domestic-abusers/

Franklin, C. A. (2016). Sorority affiliation and sexual assault victimization: Assessing vulnerability using path analysis. *Violence against Women*, *22*(8), 895-922. https://doi.org/10.1177/1077801215614971

Garcia-Vergara, E., Almeda, N., Martin Rios, B., Becerra-Alonso, D., & Fernandez-Navarro, F. (2022). A comprehensive analysis of factors associated with

intimate partner femicide: A systematic review. *International Journal of Environmental Research and Public Health*, *19*(12), 7336. https://doi.org/10.3390/ijerph19127336

Goldberg, X., Espelt, C., Porta-Casteràs, D., Palao, D., Nadal, R., & Armario, A. (2021). Non-communicable diseases among women survivors of intimate partner violence: Critical review from a chronic stress framework. *Neuroscience & Biobehavioral Reviews*, *128*, 720-734. https://doi.org/10.1016/j.neubiorev.2021.06.045

Gibson, C. J., Bahorik, A., Xia, F., Peltz, C., & Yaffe, K. (2024). Intimate partner violence, mental health, and aging-related health among men and women veterans across the lifespan. *Journal of General Internal Medicine*, *39*(6), 931-939. https://doi.org/10.1007/s11606-023-08466-z

Giffords Law Center (n.d). Domestic violence and firearms. Retrieved Feb 12, 2025, from https://giffords.org/lawcenter/gun-laws/policy-areas/who-can-have-a-gun/domestic-violence-firearms/

Herrera-Escobar, J. P., de Jager, E., McCarty, J. C., Lipsitz, S., Haider, A. H., Salim, A., & Nehra, D. (2021). Patient-reported outcomes at 6 to 12 months among survivors of firearm injury in the United States. *Annals of Surgery*, 274(6), e1247–e1251. https://doi.org/10.1097/SLA.0000000000003797

Hink, A. B., Atkins, D. L., & Rowhani-Rahbar, A. (2022). Not all survivors are the same: Qualitative assessment of prior violence, risks, recovery and perceptions of firearms and violence among victims of firearm injury. *Journal of Interpersonal Violence*, *37*(15-16), NP14368-NP14396. https://doi.org/10.1177/08862605211005157

Holmes, S. C., Johnson, N. L., Zlotnick, C., Sullivan, T. P., & Johnson, D. M. (2020). The association between demographic, mental health, and intimate partner violence victimization variables and undergraduate women's intimate partner violence perpetration. *Journal of Interpersonal Violence*, *37*(1-2), 33-57. https://doi.org/10.1177/0886260520907354

Horowitz, J.M. (2017). How male and female gun owners in the U.S. compare. PEW Research Center. https://www.pewresearch.org/fact-tank/2017/06/29/how-male-and-female-gun-owners-in-the-u-s-compare

Hoxmeier, J. C., O'Connor, J., & McMahon, S. (2023). Sexual violence among sorority women: Victimization experiences, contexts, and disclosure. *Violence against Women*, *29*(6-7), 1123-1143. https://doi.org/10.1177/10778012221108417

Johnson, W. L., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2015). The age–IPV curve: Changes in the perpetration of intimate partner violence during adolescence and young adulthood. *Journal of Youth and Adolescence*, 44(3), 708-726. https://doi.org/ 10.1007/s10964-014-0158-z

Kruis, N. E., Wentling, R. L., Frye, T. S., & Rowland, N. J. (2021). Firearm ownership, defensive gun usage, and support for gun control: Does knowledge matter? *American Journal of Criminal Justice*, 1-30. https://doi.org/10.1007/s12103-021-09644-7

Krumpal, I. (2024). Social desirability bias and context in sensitive surveys. In *Encyclopedia of quality of life and well-*

being research (pp. 6527-6532). Cham: Springer International Publishing

Lafontaine, M. F., Azzi, S., Bell-Lee, B., Dixon-Luinenburg, T., Guérin-Marion, C., & Bureau, J. F. (2021). Romantic perfectionism and perceived conflict mediate the link between insecure romantic attachment and intimate partner violence in undergraduate students. *Journal of Family Violence*, *36*, 195-208. https://doi.org/10.1007/s10896-020-00130-y

Leemis, R.W., Friar, N., Khatiwada, S., Chen, M.S., Kresnow, M., Smith, S.G., Caslin, S., & Basile, K.C. (2022). The National intimate partner and sexual violence survey: 2016/2017 Report on intimate partner violence. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention

Lynch, K. R. (2020). Female firepower: Gun ownership for self-protection among female intimate partner violence victims. *Violence and Gender*, *7*(1), 19-26. https://doi.org/10.1089/vio.2019.0037

Lynch, K. R., & Jackson, D. B. (2021). Firearm exposure and the health of high-risk intimate partner violence victims. *Social Science & Medicine (1982)*, *270*, 113644. https://doi.org/10.1016/j.socscimed.2020.113644

Lynch, K. R., & Logan, T. K. (2018). "You better say your prayers and get ready": Guns within the context of partner abuse. *Journal of Interpersonal Violence*, *33*(4), 686-711. https://doi.org/10.1177/0886260515613314

Lysova, A., Hanson, K., & Mackay, J. (2024). Bidirectional and unidirectional intimate partner violence: A Comprehensive review. *Partner Abuse*. https://doi.org//10.1891/PA-2024-0039

Marco, M., Gracia, E., & López-Quílez, A. (2018). The university campus environment as a protective factor for intimate partner violence against women: An exploratory study. *Journal of Community Psychology*, *46*(7), 903-916. https://doi/org/ 10.1002/jcop.21980

Menn, M., Payne-Purvis, C., Alber, J., Chaney, J.D., Chaney, B.H., Stellefson, M., & Sneed-Murphy, S. (2020). The health education research experience (HERE) program metadata dataset. Data in Brief, 29. https://doi.org/10.1016/j.dib.2020.105180

Menn, M., Payne-Purvis, C., Chaney, B. H., & Chaney, J. D. (2021). When minutes matter: A university emergency notification system dataset. Data in Brief, 35, 106910. https://doi.org/10.1016/j.dib.2021.106910

Murphy-Oikonen, J., McQueen, K., Miller, A., Chambers, L., & Hiebert, A. (2022). Unfounded sexual assault: Women's experiences of not being believed by the police. *Journal of Interpersonal Violence*, *37*(11-12), NP8916-NP8940. https://doi.org/10.1177/0886260520978190

Naismith, I., Ripoll-Nuñez, K., & Henao, G. B. (2024). Depression, anxiety, and posttraumatic stress disorder following intimate partner violence: The role of self-criticism, guilt, and gender beliefs. *Violence against Women*, *30*(3-4), 791-811. https://doi.org/10.1177/10778012221142991

Parker, K., Horowitz, J. M., Igielnik, R., Oliphant, J. B., & Brown, A. (2017). America's complex relationship with guns. PEW Research Center. https://www.pewresearch.org/social-

trends/2017/06/22/americas-complex-relationship-with-guns/

Paulson, J. L. (2022). Intimate partner violence and perinatal post-traumatic stress and depression symptoms: A systematic review of findings in longitudinal studies. *Trauma, Violence, & Abuse*, 23(3), 733-747. https://doi.org/10.1177/1524838020976098

Pebole, M. M., Iverson, K. M., Fortier, C. B., Werner, K. B., Fonda, J. R., Currao, A., Whitworth, J.W., McGlinchey, R.E., & Galovski, T. E. (2024). Associations between head injury, strangulation, cardiometabolic health, and functional disability among female survivors of intimate partner violence. *Women's Health Issues*, *34*(2), 208-216. https://doi.org/10.1016/j.whi.2023.11.002

Price, J. H., & Khubchandani, J. (2022). Firearms on college campuses: An empirical review of support and opposition. *Violence and Gender*, *9*(2), 63-72. https://doi.org/10.1089/vio.2021.0046

Rhoades, G. K., Stanley, S. M., Kelmer, G., & Markman, H. J. (2010). Physical aggression in unmarried relationships: The roles of commitment and constraints. *Journal of Family Psychology*, *24*(6), 678. https://doi/org/10.1037/a0021475

Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2012). The impact of the transition to cohabitation on relationship functioning: Cross-sectional and longitudinal findings. *Journal of Family Psychology*, *26*(3), 348. https://doi.org/10.1037/a0028316

Shaeffer, K. (2024, July 24). *Key Facts about Americans and guns*. Pew Research Center. https://www.pewresearch.org/short-reads/2024/07/24/key-facts-about-americans-and-guns/

Shorey, R. C., Dunsiger, S. I., & Stuart, G. L. (2024). Alcohol use as a predictor of intimate partner violence in emerging adulthood: A dyadic daily diary investigation. *Addiction*, *120*(1), 77-85. https://doi.org/10.1111/add.16681

Sorenson S. B., Schut R. A. (2018). Nonfatal gun use in intimate partner violence: A systematic review of the literature. *Trauma, Violence, & Abuse*, 19(4), 431-442. https://doi.org/10.1177/1524838016668589

Smith, M. L., Bergeron, C. D., Cowart, C., Ahn, S., Towne Jr, S. D., Ory, M. G., Menn, M.A., & Chaney, J. D. (2017). Factors associated with ageist attitudes among college students. *Geriatrics & gerontology international*, *17*(10), 1698-1706. https://doi.org/ 10.1111/ggi.12894

Smith, S. G., Zhang, X., Basile, K. C., Merrick, M. T., Wang, J., Kresnow, M. J., & Chen, J. (2018). The national intimate partner and sexual violence survey: 2015 data brief–updated release. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Spearman, K. J., Marineau, L., Owolabi, A., Alexander, K. A., & Campbell, J. (2024). Firearms and post-separation abuse: Providing context behind the data on firearms and intimate partner violence. *Journal of Advanced Nursing*, *80*(4), 1484-1496. https://doi.org/ 10.1111/jan.15933

Spencer, C. M., & Stith, S. M. (2020). Risk factors for male perpetration and female victimization of intimate partner homicide: A meta-analysis. *Trauma, Violence, & Abuse*, *21*(3), 527-540.

https://doi.org/10.1177/1524838018781101

Tsui, E. K., & Santamaria, E. K. (2015). Intimate partner violence risk among undergraduate women from an urban commuter college: The role of navigating off-and on-campus social environments. *Journal of Urban Health*, *92*(3), 513-526. https://doi.org/10.1007/s11524-014-9933-0United States Department of Justice. (2016, June). About the office on violence against women. https://www.justice.gov/ovw/media/858106/dl?inline=

United States Department of Justice. (n.d). Criminal resource manual 1101-1199. Restrictions on the possession of firearms by individuals convicted of a misdemeanor crime of domestic violence. Retrieved February 12, 2025 from https://www.justice.gov/archives/jm/criminal-resource-manual-1117-restrictions-possession-firearms-individuals-convicted

United States Department of Justice [USDJ]. (2024, June 25). *Fact sheet: Two years of the bipartisan safer communities act: Narrowing the boyfriend loophole* [Press release]. https://www.justice.gov/archives/opa/pr/fact-sheet-two-years-bipartisan-safer-communities-act

Violence Policy Center. (2020). American Roulette: Murder-suicide in the United States. Retrieved February 12, from https://vpc.org/studies/amroul2020.pdf.

Wolfe, D. A. (2018). Why Polyvictimization Matters. *Journal of Interpersonal Violence*, 33: 832–37. https://doi.org/10.1177/0886260517752215

World Health Organization (WHO). (2024, March 25). *Violence against Women.* https://www.who.int/news-room/fact-sheets/detail/violence-against-women

Yelland, C., Robinson, P., Lock, C., La Greca, A. M., Kokegei, B., Ridgway, V., & Lai, B. (2010). Bushfire impact on youth. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *23*(2), 274-277. https://doi.org/10.1002/jts.20521