

Non-fatal gun use in intimate partner violence: A systematic review of the literature

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### Abstract

Guns figure prominently in the homicide of women by an intimate partner. Less is known, however, about their non-fatal use against an intimate partner. Following PRISMA guidelines, we searched eight electronic databases and identified 10 original research articles that reported the prevalence of the non-fatal use of firearms against an intimate partner. Results indicate that:

- 1) There is relatively little research on the subject of intimate partners' non-fatal gun use against women.
- 2) The number of U.S. women alive today who have had an intimate partner use a gun against them is substantial: About 4.5 million have had an intimate partner threaten them with a gun and nearly one million have been shot or shot at by an intimate partner. Whether non-fatal gun use is limited to the extreme form of abuse (battering) or whether it occurs in the context of situational violence remains to be seen. Regardless, when it comes to the likely psychological impact, it may be a distinction without a difference; because guns can be lethal quickly and with relatively little effort, displaying or threatening with a gun can create a context known as coercive control, which facilitates chronic and escalating abuse. Implications for policy, practice, and research are discussed, all of which include expanding an implicit focus on homicide to include an intimate partner's non-fatal use of a gun.

*Keywords:* coercive control, domestic violence, firearms, guns, intimate partner violence, policy

## Non-Fatal Gun Use in Intimate Partner Violence: A Systematic Review of the Literature

Weaponry is a key way to create influence and assert dominance in interpersonal relationships as well as international conflicts. Weapons used in interpersonal incidents include hands, fists, and feet, as well as a wide range of external objects, some of which are designed specifically to be weapons.

This paper presents the first systematic review of a topic that has received relatively little attention from researchers interested in violence against women: the prevalence of intimate partners' non-fatal use of guns. We begin with a synopsis of the role of non-fatal gun use in intimate partner violence (IPV), namely, to facilitate coercive control, a hallmark of chronic and escalating abuse. This summary is followed by sections on the fatal use of guns by an intimate partner and on policies designed to keep guns out of the hands of abusers.

### **Framework for the Present Study**

Studies of the fatal use of guns in IPV have focused on the outcome, that is, the homicide, as a variable of primary interest. But guns can be used against an intimate partner in multiple ways that result, not in death, but in injury and intimidation. Shooting or shooting at an intimate partner has multiple negative ramifications for all involved (e.g., injury and recovery of the victim, criminal charges against the perpetrator, traumatic exposure for children and others who witness the incident, property damage). However, a gun does not need to be shot for there to be a negative outcome. An abuser can simply display his gun during an argument or otherwise exhibit the gun in a hostile manner in order to imply a threat, which understandably elicits acquiescence from an intimate, as it often does in a robbery or other criminal act against a stranger. Making an actual threat with a gun (e.g., pointing it at an intimate partner, placing the barrel on her head) escalates the intimidation. Moreover, simply knowing that an abusive partner

has access to a gun can signal a credible risk that instills fear regardless of whether the partner has been physically violent.

These non-fatal uses of a gun can reasonably be expected to facilitate a context long known among service providers and advocates as coercive control (e.g., Pence and Paymar, 1986 [cited in Pope & Ferraro, 2006]). Coercive control, an intentional pattern of repeated behavior by an abuser to control, denigrate, intimidate, monitor, and restrict an intimate partner, facilitates the occurrence and continuation of physical and sexual IPV. Scholars and researchers have expanded upon the concept and some have integrated it into their understandings of intimate partner violence. For example, Stark shifted the field from a focus on the effects on the victim to the behavior of the abuser when he wrote "...the unique profile of 'the battered woman' arises as much from the deprivation of liberty implied by coercion and control as it does from violence-induced trauma" (Stark, 1995, pg. 986). Johnson (1995) integrated the concept in his explication of different types of IPV, which shed light on the discrepancy between findings obtained by family conflict researchers (e.g., Straus & Gelles, 1990) and the experience of law enforcement, hospital emergency room, and domestic violence agency personnel. In Johnson's typology, coercive control plays a central role in extreme and chronic abuse.

Dutton and Goodman (2005) moved toward operationalization of the construct when they identified three types of short-term responses of a victim to coercive behavior by an intimate partner: "(1)...cognitive appraisal of a coercive threat as signaling credible risk, (2) compliance or resistance as a behavioral response to an abuser's demands, and (3) fear arousal" (pg. 751). All three reactions – cognitive, behavioral, and physiological arousal – likely occur when an abuser uses a gun against his partner. Evidence for this possibility can be seen in a recent study of over 35,000 IPV incidents to which police were called (Sorenson, in press). First, when a gun was involved, most often the abuser used it to threaten the woman, an act that can reasonably

interpreted as a credible risk. Second, victims were substantially more likely to be frightened when a gun was used. And, third, victims were substantially more likely to be injured when a gun was used yet less likely to be injured when another (non-gun) weapon was used, suggesting that victims acquiesced when confronted with a gun (vs. a less lethal weapon).

In sum, in addition to being a discrete event, non-fatal gun use against an intimate partner facilitates coercive control. Having a more complete picture of the full scope of gun use against an intimate partner – non-fatal as well as fatal uses – will help us understand IPV more fully.

### **Fatal Use of Guns by Intimate Partners**

Research consistently shows that women are more likely than men to be killed by an intimate partner, and guns are the most commonly used weapon in such killings in the U.S. (e.g., Cooper & Smith, 2011). In 2013, the most recent year for which national law enforcement data are available, 966 U.S. women were killed by a husband, boyfriend, or ex-husband and over half of these murders involved a gun (USDOJ, n.d.). When taking into account collateral victims (family members, new intimate partners, friends, acquaintances, police officers, and strangers killed in the same incident), the number of people murdered in these incidents increases by about one-fifth (Smith, Fowler, & Niolon, 2014).

Relative to being killed by a stranger, women's risk of being killed by an intimate partner with a gun has been high for more than a generation (e.g., Kellermann and Mercy, 1992). As Figure 1 documents, with the most recent data available, women are two to two-and-a-half times as likely to be murdered by a male intimate with a gun than to be killed by having been shot, stabbed, strangled, bludgeoned, or attacked in any other way by a stranger. As noted in the figure, a substantial majority of the guns used in intimate partner homicides are handguns.

The observation that guns play a central role in the intimate partner homicide of women is not new, and research shows that guns are a unique risk factor. Over two decades ago, a case

control study documented that having a gun in the home is associated with an increased risk of a homicide occurring in the home (Kellermann et al., 1993). Although much has been made of this particular finding of the study, less attention has been given to its other findings; specifically relevant here are results related to violence in the home. After controlling for having a gun in the home and several other factors, living in a home where someone had been hurt in a fight that occurred in the home was associated with a more than four-fold increased risk of homicide. Comparable analyses found that having a gun in the home also was associated with a higher risk of homicide in the home. The final set of analyses in the paper found a substantial (twenty-fold) association between prior violence in the home and being killed by an intimate partner or family member.

A subsequent matched case control study in three U.S. cities (Bailey et al., 1997) examined homicide by a “spouse, lover, or close relative” and identified four substantial risk factors: Prior domestic violence, keeping one or more guns in the home, illicit drug use by any member of the household, and renting (vs. owning) the home represented independent risks (AOR=14.6, 7.2, 28.4, and 10.4, respectively). By contrast, none of these variables were statistically significant when the authors analyzed the risk of women being killed in the home by an acquaintance, stranger, more distant relative, or an unidentified person. Specific to our interests here, having a gun in the home was a substantial (seven-fold) risk factor for being killed by a spouse, lover, or close relative but was not a risk factor for being killed by anyone else.

A later case control study conducted in 11 U.S. cities (Campbell et al., 2003) examined risk factors specifically for intimate partner homicide by comparing victims of fatal and non-fatal IPV and found that an abuser’s use of a gun was important. Even when taking into account multiple demographic, abuse, and incident characteristics, abusers’ use of a gun (vs. another weapon, including physical assault) was associated with a marked increased risk of women’s

homicide. Campbell and colleagues found that the risk posed by a gun was over forty-fold, a risk substantially higher than those reported in other studies. Men's use of a gun was the largest risk factor by far: The second highest risk factor was that the victim left the abuser for another relationship, a finding consistent with prior research that found that women are at highest risk of being killed by an intimate partner when trying to end the relationship (Wilson & Daly, 1993).

Whether the gun used to kill the woman belongs to the murdered woman or to the abuser might not matter. In a unique study of women in one U.S. state who had purchased a handgun, researchers examined their risk of becoming a homicide victim for six years following the purchase: Women who had (versus had not) purchased a handgun were more than twice as likely to be killed by an intimate partner (Wintemute, Wright, & Drake, 2003). The risk of being killed by anyone else (i.e., a stranger, acquaintance, or family member) did not differ between women who had and had not purchased a handgun. Although self-protection is the primary reason for purchasing a handgun (Hepburn, Miller, Azrael, & Hemenway, 2007), it appears that purchasing a handgun does not protect women from homicide by an intimate partner.

Findings from these large, typically federally-funded, studies (three of the four were federally-funded) document the scope and risk of guns in fatal IPV and have been noted in prior systematic reviews of intimate partner homicide (Campbell, Glass, Sharps, Laughon, & Bloom, 2007; Garcia, Soria, & Hurwitz, 2007). The present review expands upon prior work in that, regardless of the weapon used, most homicides by an intimate partner are preceded by abuse by that partner (Campbell et al., 2003; Kellermann et al., 1993). Guns likely play a critical role in the abuse.

### **Policies Designed to Keep Guns out of the Hands of Abusers**

Several policies have been designed to keep guns out of the hands of those who society has determined should not have them. In recognition of the risk presented by armed abusers, two relate to domestic violence.

In 1994, the Violence Against Women Act (VAWA) amended the Gun Control Act so that persons subject to a domestic violence restraining order are prohibited from purchasing and possessing firearms and ammunition. The restriction applied to restraining orders that were issued after the alleged abuser was given notice and had the opportunity to appear at a hearing. Two years later, the Lautenberg Amendment was enacted, which extended the same prohibitions to those convicted of a domestic violence misdemeanor assault. (Persons convicted of a felony assault already were among those prohibited from purchasing and possessing firearms.) The expansion to include misdemeanor domestic violence assaults acknowledged how the nature of an intimate relationship created the potential for on-going risk. It also was widely perceived as tacit acknowledgment of the difficulty of obtaining an aggravated assault (felony) conviction when an assault is committed by an intimate partner compared to, for example, an assault by a stranger, even when the resulting injury is similar.

To be consistent with federal laws, states needed to pass enabling legislation. Some states had such restrictions in place already, but many did not. About two decades after enactment of the federal laws, many states still do not have enabling legislation in place: 15 have no such laws about domestic violence restraining orders, and 29 have no laws that would cover domestic violence misdemeanors (Law Center to Prevent Gun Violence, 2014). In contrast, some states have gone beyond federal law. For example, 13 states require (and an additional five states authorize) the removal of at least some guns at the scene of a domestic violence incident (Law Center to Prevent Gun Violence, 2014).



Some states have moved in the opposite direction. For example, in 2014, Kentucky enacted a law that allows a court issuing an emergency restraining order to automatically issue a concealed carry permit to the person who is to be protected by the order (Legiscan, n.d.) at the same time as, unlike federal law, they do not prohibit individuals convicted of domestic violence misdemeanors or subject to a domestic violence restraining order from possessing a firearm (Law Center to Prevent Gun Violence, 2015). The intended effect appears to be to maintain and increase the number of guns available to those who abuse and who are abused.

### **Methods**

Following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009), we conducted a systematic review of the published literature to identify articles reporting the prevalence of non-fatal gun use against an intimate partner. The electronic databases of Criminal Justice Abstracts, Econ Lit, ISI Web of Science, PsycINFO, PubMed, Social Science Research Network, Sociological Abstracts, and PAIS (Public Affairs Information Service) were searched for articles that were posted in the databases prior to February 15, 2015 and that contained the 18 pairs of words listed in Table 1. We explored and decided not to use the Lexis-Nexis database. Searches of Lexis-Nexis yielded many articles (e.g., 217 for one word pair – “domestic violence” and “gun”– in law reviews and law journals in 2014 alone); with 18 paired search terms, it was neither reasonable nor feasible to review decades of legal scholarship. Also, a cursory review of several dozen articles indicated that most included a single mention of domestic violence (typically, the domestic violence related restrictions on the purchase and possession of firearms) and focused on matters broadly related to law rather than its implementation or evaluation. The eight databases that were searched include many journals and disciplines (e.g., the ISI Web of Science reports

that it covers more than 18,000 journals in 55 disciplines). The wide range of disciplines covered is particularly important given that the literature on violence against women spans many fields.

Fields that can be searched vary and we used the broadest search field available in each database. Boolean searching sometimes allowed for all search terms to be used in a single query. Most often, however, databases limited the number of terms that could be used in a single search. Case studies, commentaries, and other types of articles that did not report original quantitative research were excluded when the option to do so was available in the database. Citation management software was used to identify duplicates across the searches.

We restricted the searches to research conducted in the U.S., a decision based on the fact that U.S. civilians are more likely to have guns than are residents of other high-income countries. As one, albeit arguable, indicator of quality, we also limited our search to the peer-reviewed literature. Articles were screened to identify those that asked questions in a way that allowed for the estimation of the phenomenon of interest, that is, gun use (as opposed to those that asked, for example, about the use of “a gun or knife”). We included those that were based on samples of women in the general population or women using emergency services (i.e., police, hospital emergency room, battered women’s emergency shelters).

A total of 376 unduplicated articles were identified (see Figure 2) and screened to remove those that were not relevant to the two content areas under study; 344 articles were removed. The remaining 32 articles were considered potentially relevant, and a copy of each was obtained. A total of 8 articles met inclusion criteria and were deemed to be relevant.

We next conducted a citation search, using ISI Web of Knowledge, to identify subsequent research that cited each of the 8 articles. These searches yielded 161 other potentially relevant articles. We reviewed the title and abstract of each to determine those thought to be potentially relevant. As before, a copy of each potentially relevant article was obtained and a

full-text word search was conducted. The references-cited search yielded one unduplicated new article and a federal report including information about non-fatal gun use was added, resulting in a total of 10 publications that report the prevalence of non-fatal gun use against an intimate partner (Addington & Peurmean-Chaney, 2014; Azrael & Hemenway, 2000; Berrios & Grady, 1991; Frye, Manganello, Campbell, Walton-Moss, & Wilt, 2006; Kernsmith & Craun, 2008; Mathew, Marsh, Smith, & Houry, 2012; Rothman, Hemenway, Miller, & Azrael, 2005; Sorenson & Wiebe, 2004; Tjaden & Thoennes, 2000; Wiebe, 2003).

The 10 articles were read and reviewed in depth. Several had reporting or methodological limitations (e.g., did not report the year the data were gathered, lacked a clear definition of gun use), characteristics for which they might be excluded from a systematic review of a long-established field with a large number of publications. We chose, instead, to include all 10 articles so as to reflect the current state of the literature.

A table was constructed to report the key methodological characteristics and findings of the 10 studies. A meta-analysis was precluded by the low number of articles and the fact that few studies reported standard deviations for their prevalence estimates.

## **Results**

There is relatively little research about the non-fatal use of guns in the context of IPV. Key information about the methods and findings of each study is presented in Table 2; the general pattern of findings and methodological aspects of the studies are described in the text.

As can be quickly deduced from the table, a direct comparison of findings from the 10 studies is not possible because of their methodological differences, which will be addressed later in this section. However, one can conclude that non-fatal gun use by an intimate partner is relatively rare. Following a pattern that is observed in research on a wide variety of social and personal problems, rates of non-fatal gun use by an intimate partner are lowest in the general

population, higher among those seeking help or involved in some sort of intervention, and highest among those who are in a residential institution (e.g., battered women's emergency shelter). The obtained estimates range from 0.8% for being the recipient of the hostile display of a gun by an intimate partner in the past five years to 3.5% for being the recipient of a threat by an intimate partner with a gun ever in one's life (both estimates are for general population) to, among residents of a battered women's shelter, 36.7% for having a gun be used against them in their most recent relationship (Azrael & Hemenway, 2000; Tjaden & Thoennes, 2000; Sorenson & Wiebe, 2004).

Findings suggest that it is relatively common for an abusive partner to have access to a gun (Frye et al., 2006; Sorenson & Wiebe, 2004) and for there to be a gun in the home where abuse is occurring (Sorenson & Wiebe, 2004). This is not unexpected given the prevalence of guns in civilian households in the U.S. One study reported a substantial disparity between victims of IPV and women in the general population in terms of having a gun in the home: Compared to the reports of women in the general population of the state where the study was conducted, residents of a battered women's shelter were more than twice as likely to report that there was a gun in the home (Sorenson & Wiebe, 2004; state-level population estimates obtained from the California Health Interview Survey [Center for Health Policy & Research, 2001]). In another study (Frye et al., 2006), the nature of the violence was important: Gun access by a partner was 15% among those who were victims of episodic (i.e., situational couple) violence and 31% among those experiencing battering (i.e., intimate terrorism with multiple controlling behaviors).

Threats with a gun were less common than gun access: About 3.5% of U.S. women in the general population reported that they have been threatened with a gun by an intimate partner (Tjaden & Thoennes, 2000). Gun use – which was not defined in most studies and, therefore,

might include gun threats as well as being pistol whipped and being shot at or shot – against an intimate partner was low in the general population (Tjaden & Thoennes, 2000), higher among those who were suspected of murder or aggravated assault (Addington & Perumean-Chaney, 2014) or admitted to a hospital (Wiebe, 2003), and highest among women residing in shelters for battered women (Sorenson & Wiebe, 2004). According to shelter-residing women, nearly two-thirds (64.5%) of the abusers who had a gun had used it against them (Sorenson & Wiebe, 2004).

Two other comparisons merit mention. First, in the three studies that provided gun use prevalence estimates for men as well as women, intimate partner gun use was higher against women than men (Addington & Perumean-Chaney, 2014; Tjaden & Thoennes, 2000) and a higher percentage of women than men were hospitalized for having been shot or pistol whipped by a current or former spouse (Wiebe, 2003). The hospitalization disparity was substantial. As Wiebe (2003) noted, “Compared with male patients, female patients were 3.6 times...more likely to have been shot and 3.9 times...more likely to have been struck with a gun wielded by a spouse or ex-spouse than by a stranger” (pg. 405). Gun use estimates by other demographic characteristics (e.g., age, ethnicity) were not reported in any of the studies.

Second, when information about the use of other weapons was available, women in the general population were more likely to report that they were threatened by an intimate partner with a gun rather than an intimate partner with a knife (3.5% and 2.8%, respectively); the prevalence of the actual use of guns and knives against a woman by an intimate partner was similar (0.7% and 0.9%, respectively) (Tjaden & Thoennes, 2000). A study of residents of 67 battered women’s shelters (Sorenson & Wiebe, 2004) found similar rates of gun and knife use by the partner against the woman. However, in research conducted in health care and criminal justice settings (Addington & Perumean-Chaney, 2014; Berrios & Grady, 1991; Kernsmith & Craun, 2008), gun use was lower than knife use by women’s intimate partners. Additionally,

according to the self-report of men in a batterers' treatment program, they were more likely to use a knife against a partner if they did not have a gun and, if they had a gun, more likely to display, threaten to use, and actually use a gun (vs. a knife) against their partner (Rothman et al., 2005).

Methodological concerns evident in the above reporting of findings from the reviewed articles include the lack of an agreed-upon definition of gun use and the absence of a common time frame by which to estimate prevalence. Moreover, who reports and records the gun use might be important; victim disclosure to a researcher might yield different rates than victim disclosure to a health care provider or law enforcement officer, both of whom, in turn, must record the information in an official document in order for it to be counted.

Moreover, it may be relevant to note that, in most cases, the gun use finding was part of a broader study about guns or about domestic violence. Only four of the 10 studies identified were designed specifically to examine non-fatal gun use in IPV (Kernsmith & Craun, 2008; Rothman et al., 2005; Sorenson & Wiebe, 2004; Wiebe, 2003) and that three of these four drew upon administrative data that were collected for another purpose (Kernsmith & Craun, 2008; Rothman et al., 2005; Wiebe, 2003). We have learned that studies specifically about violence against women tend to have lower participation rates but yield higher victimization rates. Additional research will be needed to explore if this same pattern holds for research about non-fatal gun use in IPV, particularly given the sensitivities associated with responding to questions about guns in general.

Data collection methodologies were appropriate to the study design. Random-digit dial telephone interviews were used in all three general population surveys (Azrael & Hemenway, 2000; Frye et al., 2006; Tjaden & Thoennes, 2000) whereas administrative data were the basis for others (Addington & Perumean-Chaney, 2014; Kernsmith & Craun, 2008; Rothman et al.,

2005; Wiebe, 2003). The quality of such administrative data has not been established and like many other sensitive topics, the validity of self-report about non-fatal gun use will be very difficult to establish.

In closing, we note that time was relevant in two ways. First, the studies used different time frames when asking about incidents – now (i.e., a specific incident), the past year, the past two years, the past three years, the last incident in the previous five years, during the current or most recent relationship, lifetime. Second, there are few recent studies: Six of the 10 studies are based on data collected 15 or more years ago; none are based on data from the past five years.

### **Discussion**

Information routinely collected by law enforcement agencies provides an on-going assessment of the scope of intimate partner homicide with a gun. Given that there is not a comparable mechanism by which to estimate nonfatal gun use by an intimate partner, we undertook this systematic review of the published literature to provide an overview of what is currently known about the topic. We found that the non-fatal use of a gun against an intimate partner is relatively rare in the general U.S. population, but the sheer number is substantial. Estimates from the most recent nationally-representative study of IPV that asked about guns (Tjaden & Thoennes, 2000) means that about 4.5 million U.S. women have been threatened by an intimate partner with a gun and nearly one million have had an intimate actually use a gun against them (calculations by the author [SBS] using Tjaden & Thoennes, 2000, and U.S. Census, 2015).

At this point in time, there is limited information about the context of the gun use, that is, whether it was used in the context of situational couple violence or the extreme form of abuse that involves coercive control (i.e., intimate terrorism or battering). When it comes to the likely psychological impact on the victim, it may be a distinction without a difference: Guns can be

lethal quickly and displaying or threatening an intimate partner with a gun can convey a particularly pernicious threat, elicit compliance, and create extreme fear. All are hallmarks of coercive control.

This is the first, to our knowledge, systematic review of the role of guns in non-fatal IPV, and it documents how sparse the literature is. There likely will be more studies in the coming years given that, after a hiatus on gun research by several federal agencies (e.g., Kellermann & Rivara, 2013); some have funded research on guns and IPV. Research conducted since our review includes a large study of gun use in IPV incidents, work that was funded by a private philanthropic foundation (Sorenson, in press).

Research on non-fatal gun use in IPV is in its nascence. The existing literature is hampered by the lack of an agreed-upon definition of gun use and the absence of consistent time frames by which to estimate prevalence, two foundational requirements in epidemiological research. These concerns are expected to become less relevant as the field matures and more investigations are conducted by more researchers. As the field grows, we can anticipate having greater substantive knowledge by which to address questions that are likely to be of interest to policy makers and the general public as well as researchers.

### **Study Strengths and Limitations**

Our work shares the limitations of all systematic reviews based on searches of electronic data bases. Sources of possible error in the search include underreporting the number of relevant articles on a topic through inadequacies in the search algorithm of the electronic data base. Specifically, article indexes sometimes have a search field option of “anywhere” which in reality searches only specific fields (e.g., article title and abstract) rather than the entire text. Therefore, an article that reports a prevalence estimate in the text or a table would not be identified. Thus, current data base search mechanisms could be improved to better capture certain phenomenon,



including non-fatal gun use. And, of course, despite our carefulness, human error is possible in the review of hundreds of articles.

### **Implications for Future Research**

Future research on IPV and guns may choose to address methodological and human subject protections issues. First, many surveys of IPV use the Conflict Tactics Scale (Straus, 1979; Straus, Hamby, Boney-McCoy, & Sugarman, 1996), which includes the double-barreled question of “Used a knife or fired a gun,” which precludes developing estimates of gun use. We suggest that investigators create two separate questions so that future research will be able to quantify individual estimates of knife and gun use. When possible, findings about “family” and “intimate partner” assault should be reported separately as well. And, the nature of the gun use itself merits more complete investigation than it has received to date.

A second issue concerns participant safety and subsequent implications for response rates and prevalence estimates. These matters are illustrated by the fact that 7.4% of the 38,729 participants in the 2006 administration of the national Behavioral Risk Factor Surveillance Survey responded “No” when asked at the beginning of the domestic violence module, “Are you in a safe place to answer these questions?” (Ranney, Madsen, & Gjelsvik, 2012). When a respondent answers “No,” the module is skipped. Thus, those who might be most likely to be experiencing abuse are excluded, which lowers obtained estimates of abuse and gun use. On a related matter, survey response rates have plummeted such that telephone interviewing may soon be largely supplanted by panels of individuals completing an occasional survey in exchange for, for example, a laptop computer or Internet access (Baker et al., 2010; Yeager et al., 2011). Established protocols to assess respondent safety cannot be implemented, and, if embedded into an online survey, electronic participation can be tracked by an abuser. The response rate and safety implications of the on-going shift in data collection method remain to be seen. These

concerns are particularly relevant for research on IPV and guns in that abusers isolate and control their partners (behaviors that have implications for response rates and for who ends up in the sample) and participant safety is paramount in surveys about gun use in IPV and guns. We recommend that the percentage of respondents who say “no” when asked if they are in a safe place to answer questions and the implications for study findings should be reported in all studies of IPV.

Finally, with one exception (Dugan, 2003), initial evaluations of domestic violence related gun policies have examined intimate partner homicide as the outcome. For a variety of reasons, fatalities are a reasonable place to start. As some of the aforementioned issues (funding, a separate question for gun use, the definition of “gun use,” participant safety, and response rates) begin to be addressed, researchers will be able to conduct primary data collection about non-fatal gun use, which will provide another opportunity to examine policy efficacy. Doing so will shed light on non-fatal gun use in IPV and its role in coercive control.

### **Implications for Practice and Policy**

A substantial number of U.S. women alive today have had an intimate partner threaten them with or use a gun against them and lived to tell about it. To better serve these roughly five million women (again, calculations by the author [author initials added after review] using Tjaden & Thoennes, 2000, and U.S. Census, 2015), both practice and policy would benefit from expanding the focus on guns and homicide to include the non-fatal use of a gun against an intimate partner. It is important to acknowledge that non-fatal gun use can facilitate and intensify an environment rife with intimidation and coercion.

**Asking about gun use.** Persons working with victims and perpetrators of IPV (police, prosecutors, judges, physicians, nurses, mental health professionals, domestic violence agencies, and more) should be trained to ask multiple questions about guns – access to, presence of,

implied and stated threats to use, as well as whether the gun was fired. Asking clear and direct questions will increase the likelihood that the interveners have more complete information and can improve the quality of their interventions accordingly. For example, treating a battered woman's post-traumatic stress disorder is likely to be more successful if the range of gun use by the abuser is more fully understood. And simply asking such questions may help the survivor of such experiences to more fully acknowledge the abusive nature of the acts and the coercive control they create.

It is important to note, however, that many front-line responders are not particularly competent in asking about IPV let alone IPV and guns. For example, many physicians ask questions and offer interventions that could be considered unhelpful (Morse, Lafleur, Fogarty, Mittal, & Cerulli, 2012; Rhodes, Frankel, Levinthal, Prenoveau, Bailey, & Levinson, 2007) or erroneously believe that they are not allowed to ask about guns (Wintemute, Betz, & Ranney, 2016). Education and training is needed to address this misperception and improve skills. Evaluations of such training and resulting protocols will provide useful information in assessing responder skill and the usefulness of such intervention in treating victims.

**Efficacy and improvement of purchase and possession prohibitions.** Four studies (Bridges, Tatum, & Kunselman, 2008; Dugan, 2003; Vigdor & Mercy, 2006; Zeoli & Webster, 2010) have examined the efficacy of policies designed to curb the use of guns in IPV and at least one such policy appears to have merit. Firearm purchase and possession prohibitions associated with domestic violence restraining orders (also known as protection from abuse orders) are associated with fewer intimate partner homicides (Bridges et al., 2008; Vigdor & Mercy, 2006; Zeoli & Webster, 2010). It remains to be seen whether a reduction non-fatal gun use against an intimate partner is an outcome of purchase and possession restrictions associated with domestic violence restraining orders or domestic violence misdemeanor convictions.

The existing purchase and possession related policies can be improved by expanding and standardizing who is deemed to merit a restraining order and when they are deemed to warrant protection. Although a legal remedy available across the U.S., some states limit restraining orders to only adults or only those in a heterosexual relationship or only those who are currently or formerly married, and so on. The time period during which the protection is afforded varies as well. Few states extend the firearm prohibitions to orders that are issued on an emergency or temporary basis.

**Relinquishment and seizure.** More effective procedures for gun relinquishment and seizure related to domestic violence merit exploration. This is important because if batterers have guns, they continue to use them against their intimate partners: Convicted abusers who have (vs. do not have) a gun in or around the home are more likely to make a gun-related threat against their partner (Rothman, Johnson, & Hemenway, 2006). And the overwhelming majority of battered women reported that having a gun in the home made them feel less safe (Sorenson & Wiebe, 2004). Thus, it might not be a surprise when, in a recent study of a pilot program regarding IPV-related firearm relinquishment, most women reported feeling safer after the guns were relinquished (Vittes, Webster, Frattaroli, Claire, & Wintemute, 2013). Some U.S. states require law enforcement to remove guns under certain circumstances related to IPV, and the available research indicates that improvement is merited (e.g., Parker, 2015; Sorenson, in press).

**Policy implementation.** To state the obvious, in order to be effective, policies must be implemented. Unfortunately, although a few exist (Frattaroli & Teret, 2006), studies of the implementation of domestic violence related gun policies are rare. The information that is available points to poor and uneven implementation. For example, as of April 30, 2015, the National Instant Check System (NICS), which is used to conduct background checks for gun purchases, contained 3,919,468 active records regarding mental illness adjudications and 49,017

active records regarding domestic violence restraining orders (FBI, 2015). The latter number suggests, given an estimated 882 active restraining orders per 100,000 persons (Sorenson & Shen, 2005), that the federal background check system contains a small fraction of the active domestic violence restraining orders in the country.

**Background checks as prevention.** Existing policies about guns and domestic violence focus on those who the court system has found to be in violation of a criminal or civil law (i.e., those convicted of an assault against an intimate partner or subject to a domestic violence restraining order). Court involvement sometimes follows a single, severe incident but typically comes after a long history of abuse. Rather than waiting until that point, policy options in addition those that require court involvement merit consideration. One such option involves background checks.

By law, federally-licensed firearms dealers are required to initiate, prior to a sale, a background check on persons wanting to purchase a gun. Many states use the National Instant Check System (NICS) that is run by the FBI and allows qualified buyers to obtain a gun quickly. A few states conduct an expanded background check and some require a permit or license. For example, New Jersey has established additional criteria that disqualify people from being able to legally purchase a gun. In addition, the review procedure can include contacting the applicant's intimate partner and others to notify them that the individual has applied to buy a gun and to ask about his or her suitability for such a purchase. Thus, proof-of-concept and feasibility have been documented for a policy option that does not depend on the IPV reaching the point of a court decision against the abuser.

The type of firearm might be important as well when considering expanded background checks for the purchase and possession of a gun. Keeping personalized firearms, sometimes

called “smart guns,” out of the hands of abusers will be particularly important for women’s safety and well-being.

### **Conclusion**

Our review focuses on the gun, specifically the non-fatal (mis)use of a gun, in the context of an intimate relationship. Our systematic review of the epidemiology of non-fatal gun use against an intimate partner is grounded in awareness of the importance of the context, not just the outcome, of the gun use. A gun needn’t be fired to be an effective weapon against an intimate partner; displaying or threatening with a gun can facilitate coercive control, a foundation of chronic and severe abuse.

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Table 1

*Terms used to Search 8 Databases*

	gun	guns	firearm	firearms	handgun	handguns
domestic violence						
intimate partner violence						
violence against women						

Table 2. *Surveys of Gun Use Against an Intimate Partner* (left side of table)

Author(s), publication year	Year(s) studied	Sample	Data collection method
<u>General population</u>			
Azrael & Hemenway (2000)	1996	1,906 U.S. adults in nationally-representative U.S. sample	random-digit dial telephone
Frye et al. (2006)	1999-2000	331 women physically assaulted by a male intimate in 11 U.S. cities	random-digit dial telephone
Tjaden & Thoennes (2000)	November 1995 – May 1996	8,000 women and 8,000 men in nationally-representative U.S. sample	random-digit dial telephone
<u>Medical settings</u>			
Berrios & Grady (1991)	not reported	218 women who sought social services after reporting to San Francisco ED with injuries due to domestic violence	in-person interview
Mathew et al. (2012)	March 2009-December 2009	832 adult women in 3 Atlanta-area emergency department waiting rooms	survey after computer screening
McFarlane et al. (1998)	not reported	199 pregnant women seeking public clinic care who had been abused; location not reported	in-person interview
Wiebe (2003)	1993-1999	566,148 persons seen in Eds of U.S. hospitals participating in the National Electronic Injury Surveillance System	hospital record abstraction
<u>Law enforcement reports</u>			
Addington & Perumean-Chaney (2014)	2008	28,534 intimate partner aggravated assaults in the FBI's National Incident-based Reporting System	police reports to the FBI
Kern-Smith & Craun (2008)	July 1998 – March 1999	369 randomly sampled San Diego Sheriff's cases	record abstraction
<u>Domestic violence services</u>			
Rothman et al. (2005)	1999-2003	8,529 men enrolled in a Massachusetts batterers' treatment programs	intake interview
Sorenson & Wiebe (2004)	not reported	417 residents of 67 California battered women's shelters	in-person interview

Table 2. *Surveys of Gun Use Against an Intimate Partner* (right side of table)

	Time frame	Intimate partner and gun(s)
<u>General population</u>		
Azrael & Hemenway (2000)	last incident in previous five years	8 (~0.8%) of women and 0 men reported a hostile gun display by an intimate partner
Frye et al. (2006)	past two years	24% reported partner had access to a gun
Tjaden & Thoennes (2000)	lifetime	3.5% of women and 0.4% of men reported they were threatened with a gun [2.8% and 1.6% with a knife]; 0.7% of women and 0.1% of men reported a gun was used against them [0.9% and 0.8% said a knife was used]
<u>Medical settings</u>		
Berrios & Grady (1991)	when sought ED care	2% of the cases involved a gun [11% involved knife; 13% involved household object]
Mathew et al. (2012)	when sought ED care	15.9% of IPV victims and 7.7% of non-abused controls reported having access to a handgun
McFarlane et al. (1998)	current partner	41.2% reported partner had access to a gun; of these, most often gun was in the home (39%) or on his person (17%)
Wiebe (2003)	when sought ED care	4.7% of women & 0.5% of men were shot and 7.4% of women and 0.3% of men were pistol-whipped by spouse/ex-spouse
<u>Law enforcement reports</u>		
Addington & Perumean-Chaney (2014)	incident-specific	10.9% of women and 5.0% of men had a gun used against them [knife: 16.1% and 43.1%]
Kern-Smith & Craun (2008)	incident-specific	0.8% reported a gun was used against them [3.1% knife]
<u>Domestic violence services</u>		
Rothman et al. (2005)	past three years	11.8% of the 612 who reported owning guns said they threatened partner with gun 1 or more times; 2.1% among those who did not own a gun
Sorenson & Wiebe (2004)	most recent relationship	39.1% reported partner owned a gun; 36.7% reported having gun in home; 36.7% reported a gun was used against them (32.1% with handgun and 15.9% with long gun); 23.5% reported partner threatened to shoot or kill them, 5.1% reported being shot at



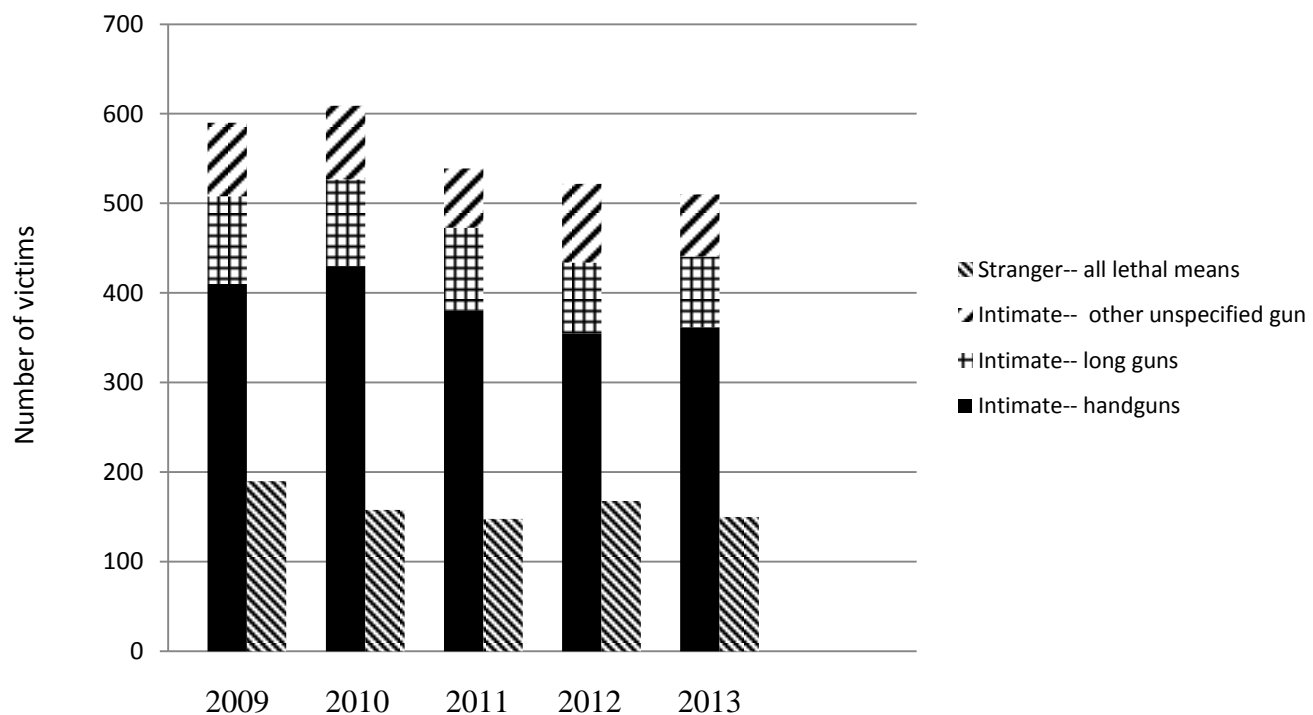


Figure 1. Homicides of women, U.S., male intimates with firearms vs. strangers regardless of means, 2009-2013

Source: United States Department of Justice. Federal Bureau of Investigation. Uniform Crime Reporting Program Data: Supplementary Homicide Reports, 2009-2013. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor]. Accessed May 25, 2015 from data files at <http://www.icpsr.umich.edu/icpsrweb/NACJD/>

**Identification**

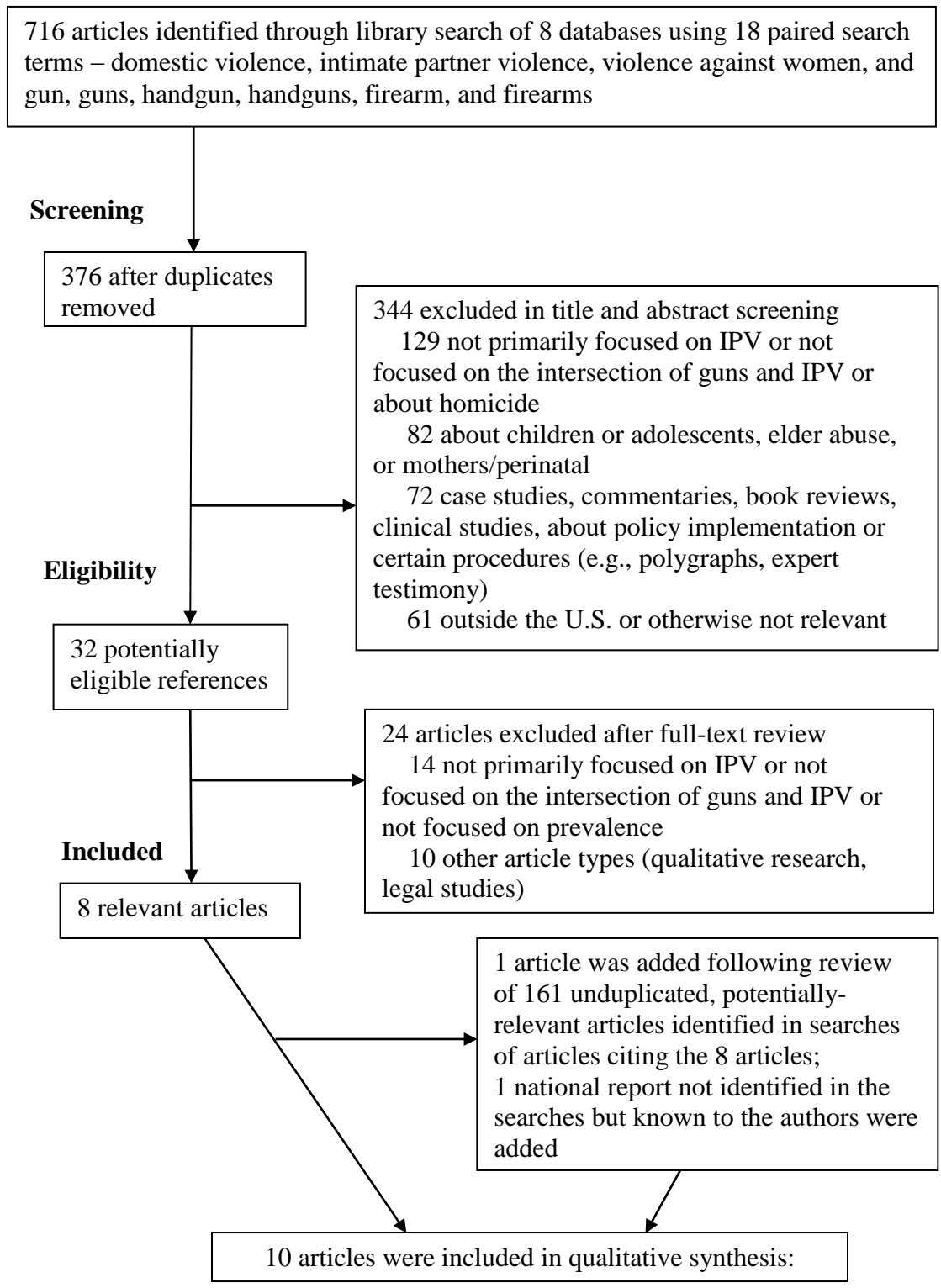


Figure 2. Phases of article identification

**Key Points of the Research Review**

- Armed abusers are a risk to women and little research has focused on abusers' non-fatal use of guns against an intimate partner.
- Non-fatal gun use can create coercive control, a context that facilitates chronic and escalating violence.
- The survey instrument most widely used to assess the prevalence of intimate partner violence asks a double-barreled question that does not allow researchers to estimate non-fatal gun use.
- The various non-fatal ways to use a gun against an intimate partner – implied and stated threats as well as firings and pistol whippings – have received relatively little attention and merit additional investigation.
- Victimization by an abuser with a gun is higher among those receiving emergency services than in the general population.
- Practice, policy, and research may benefit from expanding an implicit focus on homicide to include an intimate partner's non-fatal use of a gun.

## **Implications for Practice, Policy, and Research**

### **Practice**

- The risk presented by an intimate partner with a gun should be expanded from a focus on homicide to include the non-fatal use of a gun.
- Persons working with victims and perpetrators of intimate partner violence (police, prosecutors, judges, physicians, nurses, mental health professionals, domestic violence agencies, and more) should ask multiple questions about guns – access to, presence of, and implied and stated threats to use as well as the actual use of a gun.
- Education and training of the aforementioned individuals should include information about the non-fatal use of guns, in particular, how it can facilitate coercive control, a central component of chronic and escalating abuse.

### **Policy**

- As with practice, policies designed to keep guns out of the hands of abusers should be expanded to consider the non-fatal use of a gun.
- More effective procedures to implement existing domestic-violence-related laws about gun purchase and possession merit exploration.
- The implementation of expanded background checks might reduce an abuser's opportunity to obtain and use a gun against an intimate partner and, thus, increase women's safety and well-being.
- Evaluations of policies and procedures to reduce abusers' access to guns need to assess the degree to which the policies and procedures were implemented as intended.

## **Research**

- Given the few studies, additional research is needed to assess the nature and scope of non-fatal use of a gun against an intimate partner.
- In order to quantify non-fatal gun use, researchers need to use a separate question rather than widely-used double-barreled questions (e.g., “use a knife or gun”).
- The nature of the gun use merits closer examination than it has received to date.
- The percentage of respondents who say “no” when asked if they are in a safe place to answer questions and the implications for study findings should be reported in all studies of intimate partner violence.