

## Targeted Neighborhood Sampling: A New Approach for Recruiting Abusive Couples

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**Abstract** We conducted two studies to test the utility of a new strategy for recruiting couples experiencing intimate partner violence. This new strategy, *Targeted Neighborhood Sampling*, involves utilizing police reports of family fight calls to target particular areas within a city for recruitment efforts. Study I compared the efficacy of using this method to recruit a random versus a convenience sample. Results demonstrated that Targeted Neighborhood Sampling was most effective when recruiting a convenience sample of participants who responded to flyers left at their residences. Study II used a convenience sample and replicated the findings from Study I. Across the two studies, 40.4% of those who called after receiving a flyer experienced male-to-female partner violence within the past year. In addition, we combined data across studies and correlated types of violence the couples experienced with variables commonly associated with abuse. Psychological aggression, physical assault, and injury were all positively associated with reports of demand-withdrawal and mutual avoidance during conflict, as well as depression and symptoms of post traumatic disorder syndrome. Sexual coercion was associ-

ated with drug abuse. These results demonstrate the utility and validity of Targeted Neighborhood Sampling.

**Keywords** Intimate partner violence · Psychological aggression · Physical assault · Sampling · Conflict · Depression · PTSD

Researchers who sample couples characterized by intimate partner violence experience a number of recruitment challenges. Although random sampling remains the ideal (e.g., Tjaden and Thoennes 2000), the resources required to recruit a sample of sufficient number for meaningful analyses can be prohibitive and investigators might not always succeed (Farris and Holtzworth-Munroe 2007). In addition, random sampling risks recruiting low numbers because violent couples can be concentrated among lower SES groups within particular areas of a city (Straus and Smith 1990), concentrations that might be missed or under-sampled by random procedures.

These challenges have led many investigators to rely on convenience samples using direct solicitations. This choice, however, presents its own hurdles. Some abused women might not self-define their physical and sexual harm as abuse (Lloyd and Emery 2000) and would be unlikely to respond to direct solicitations for people experiencing relational violence. Abusive men might be even less likely than their partners to participate if recruitment includes direct calls for couples experiencing violence. Neither partner might want to call attention to their relational abuse given the social stigma attached to it (Rathus and Feindler 2004).

In light of these issues, some researchers have utilized shelter, emergency room, or intervention based samples (Archer 2000; Golding 1999). These approaches likely capture violence at the severe end of the spectrum as women either leave their homes in fear of incurring

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grievous harm or because they require immediate attention for acute injuries. Thus, targeting such sample sites potentially misses low- and mid-levels of interpersonal violence (Archer 2000). Moreover, abusive men might be reticent to participate in research because of their partners' obvious victimization. Clearly adding new sampling strategies to the repertoire of choices for investigators would help strengthen investigative efforts in the area of intimate partner violence.

Accordingly, the primary objective of our study was to test the efficacy of such a new sampling strategy, *Targeted Neighborhood Sampling*, and to explore its ability to recruit a diverse sample of abusive couples. More specifically, we (a) tested the ability of the strategy to recruit a community sample of couples characterized by the female partner experiencing intimate partner violence using both a random and a convenience procedure, and (b) explored the type of couple recruited with this strategy by examining the extent of the violence they experienced and their resulting injuries, as well as its correlates including conflict strategies the partners used, and their experiences with alcohol abuse, drug abuse, depression, and symptoms of Post Traumatic Stress Disorder syndrome (PTSD).

### Probability/Random Sampling

The study of violence in intimate relationships is hallmarked by a number of national probability surveys regarding its incidence and dynamics. The first such survey that Straus et al. (1980) conducted in 1975 alerted the scientific community to the breadth and depth of the problem. Their second survey ten years later allowed these investigators to examine how the rates of violence had changed across time (Straus and Gelles 1986).

More recently, Tjaden and Thoennes (2000) conducted the National Violence Against Women Survey (NVAWS). Several of their findings stand out, including that women (vs. men) experience more intimate partner violence and suffer more injury as a result of their partners' violence. The National Crime Survey (NCS) provides another contemporary example of a national probability survey. The NCS is an ongoing survey that focuses on experiences with a range of criminal victimization including intimate partner violence. Rand and Saltzman (2003) analyzed seven years of the NCS and, similar to the findings of Tjaden and Thoennes, reported that acts of intimate partner violence were frequently experienced more than once. Rand and Saltzman's analysis also revealed that victims contacted the police only 45.5% of the time, and that victims' calls to the police did not vary by the frequency of the violence they experienced.

Although such probability surveys offer invaluable awareness of the scope and insights into the dynamics of intimate partner violence, some scholars have levied criticisms of their

findings. As Johnson (1995) details, many feminists who have engaged in qualitative, shelter-based studies argue that national studies minimize experiences of more extreme violence against women because they focus on averaged and modal experiences characterized by exchanges of lower levels of couple violence. On the other hand, the shelter-based research shows how violence can escalate to more severe levels, a finding that differs from the national surveys that alternatively suggest that couples often attain a level of violence that remains stable.

Not all investigators have the resources needed to recruit national probability samples. Instead, some researchers have attempted to recruit probability samples of violent couples at the community level. Smith-Slep et al. (2005), for instance, used random digit dialing to recruit samples for two studies, one focused on both parent-child and partner violence and a second focused solely on violent couples. Their calls to 229,106 phone numbers resulted in 12,009 individuals (5.3% of the calls) answering their phone. Of these, 1,880 (0.8% of the calls) met the criteria for inclusion and agreed to a future contact by the research team. Ultimately, 686 couples (0.3% of the calls) participated in their studies. These investigators estimated that it cost \$450 per couple to identify dyads who met the screening criteria of experiencing two acts of violence in the previous year.

Still, not all researchers who attempt to recruit a random community sample are successful. Farris and Holtzworth-Munroe (2007) utilized three methods of recruitment: (1) random digit dialing within the community with attempted recruitment at first contact; (2) purchasing and utilizing directories of listed telephone numbers targeted to low-income census tracts with initial phone contacts followed by a mailed brochure; and (3) a hybrid approach where staff used directories to generate calling lists focused on low-income census tracts and attempted to recruit from the first phone call. Together, the three methods were highly labor intensive and generally unsuccessful at recruitment. After placing 10,598 phone calls to 4,052 phone numbers, only 30 calls (0.7% of the phone numbers) resulted in an initial screening of both couple partners. Only 21 (0.5% of the phone numbers) of the couples screened were violent.

### Convenience Samples

Because most investigators have limited resources, they frequently use convenience sampling strategies that increase the likelihood of identifying individuals or couples who have experienced intimate partner violence. Three common strategies include sampling women in abuse shelters, sampling women using medical or health care facilities, and sampling individuals or couples taking part in intervention programs designed to stop future violence.

For example, Parker-Corell and Marcus (2004) compared a sample of women from a battered women's shelter to a sample of women recruited from the community. The women at the shelter scored higher in depression and in stress. Likewise, Carlson et al. (2003) surveyed women who had appointments within a health maintenance organization to show connections between intimate partner violence and depression as well as anxiety. Cooker et al. (2002) utilized a similar strategy, sampling women from family practice facilities, and found associations between partner violence and PTSD. Taking a slightly different approach, Lipsky et al. (2005) also used a health care facility. They sampled Black and Hispanic patients in an urban emergency room and found links between intimate partner violence and depression, heavy drinking, and illicit drug use. These studies exemplify findings that characterize research based on convenience sampling.

The biases associated with sampling approaches such as these may ultimately limit the applicability of their findings. For example, Archer (2000) examined sampling bias when he conducted a meta-analysis of sex differences in couple violence. He found that the two shelter samples in his analysis were substantially higher in levels of male violence when compared to other studies (Giles-Sims 1983; Pease 1996). The single court intervention study in Archer's meta-analysis (Browning and Dutton 1986) was similarly characterized with notably higher levels of violence on the part of the male partner. Other investigations produce parallel results when responses from women in an abuse shelter and from men in prison for violent crimes were compared to those of college students (Graham-Kevan and Archer 2003).

We tested the efficacy of a new sampling strategy, *Targeted Neighborhood Sampling*, in our investigation. We conducted two studies in order to accomplish this. Study I involved identifying targeted neighborhoods and comparing the success of random versus convenience sampling at recruiting a sample of violent couples. Study II evaluated whether the success of Study I could be replicated. Finally, to help establish the validity of this approach, we combined the two samples and analyzed participants' responses to a number of measures. We initially examined the levels of intimate partner violence and injury these couples experienced. Following this, we explored whether different types of violence and level of injury were correlated in expected directions for variables previously associated with intimate partner violence. We posited that although this sampling strategy would not overcome recruitment problems associated with the stigma associated with violence, it would result in a sample characterized by a wider range of violence than shelter and health-care based studies, and would be more efficient than random sampling a large metropolitan area.

## Study I—Targeted Neighborhood Sampling

We began our test of the Targeted Neighborhood Sampling strategy by contacting the Crime Analysis Unit of a local police department of a city located in a major metropolitan area. Working in concert with the researchers, the crime analyst used the unit's database to identify districts (neighborhoods) characterized by reports of high rates of domestic violence service calls (excluding child abuse). These family fight service calls represented instances wherein a conflict at a residence reached a level where the individual calling believed police intervention was needed. The caller could have been a victim, a family member, or a neighbor alarmed by the violence they witnessed or heard. As we were interested in the relative frequency of the calls, we made no distinctions as to who contacted the police.

Simply identifying these neighborhoods, however, does not in itself offer the best metric for the *level* of domestic violence in a neighborhood as districts vary in the total number of households. Thus, research staff went to each identified police district, counted the number of residences, and then calculated the proportion of (a) the number of family fight service calls to (b) the number of households for each district. This allowed us to identify neighborhoods in the city with the highest level of family fight service calls.

The logic behind this approach rested on two assumptions. First, couples characterized by women's experiences of intimate partner violence do not live in a random distribution across a city. Instead, characteristics such as social norms, social economic status, and housing opportunities are more apt to be shared within groups where intimate partner violence may be experienced, tolerated, and/or accepted (Aldarondo and Sugarman 1996; McLaughlin et al. 1992). Hence, higher levels of abuse directed towards women disproportionately occur in certain areas of any city. Second, given the contextual support for the violence, and given that most couple violence will not result in a service call to the police (Rand and Saltzman 2003), the actual number of women experiencing intimate partner violence in such neighborhoods will be higher than the actual frequency of the family fight service calls (Fugate et al. 2005).

*Identified Neighborhoods* The local city's police crime analyst identified the 10 districts or neighborhoods in the city with the highest frequency of family fight service calls. Although the city has 407 reporting districts, these 10 districts accounted for 25% of the city's 3,128 family fight calls in 2004. These figures clearly demonstrate that domestic violence drew greater police attention in some areas of the city as compared to others.

We then calculated the proportion of family fight calls to number of residences for these neighborhoods. The top five neighborhoods' proportions varied between a high of 17%

to a low of 12% with a mean of 15%. Thus, an average of 15%, or approximately 333 of the 2,217 households in these top five districts, was reported to the police. We believe that this proportion likely under-represented the actual rate of intimate partner violence in these neighborhoods given that couple violence frequently goes unreported to the police (Fugate et al. 2005). In addition, the likelihood of police involvement in domestic abuse is lower when abuse coincides with the use of alcohol or drugs by the parties involved, a common occurrence (Hutchison 2003). Furthermore, members of minority groups might also be reluctant to come to the attention of the police even when danger of personal injury occurs, and the target city has a high proportion of minorities in its boundaries (Kaukinen 2004).

*Random versus Convenience Sampling* The next step in our study was to uncover the more efficacious approach to use in the targeted neighborhoods, a random or a convenience strategy. To accomplish this, we first developed a brief screening procedure that included a composite item from the Revised Conflict Tactics Scale (Straus et al. 1996). Specifically, screeners asked whether individuals had hit, slapped, or pushed their partner in the previous year, or whether their partner had done this to them. Other screening items asked about a range of couple interactions but did not query about abusive behaviors. Couples qualified for the study if (a) they were either married or had been living together for at least a year, and (b) *either* partner reported that the female partner was the recipient of physical violence at the hands of the male partner. We focused on the victimization of women because previous investigators reported that female partners experience significantly higher rates of violence and more injury than male partners (Tjaden and Thoennes 2000).

Following the development of the screening procedures, we divided the districts into random and convenience conditions. For the random condition, we generated a list of addresses using systematic random sampling. Research staff went to each address in an attempt to screen occupants, returning two times to households where no one answered the door at the first attempt (three attempts overall). During the initial contact with couples, screeners indicated that we were conducting a study “About relationships and how partners communicate,” and that “If you qualify for the study, based on a few questions, we would invite you to come to (the university) and pay you and your partner \$50 each for. . . your time.” At the household locations, partners were screened out of hearing of one another; staff returned if both partners were unavailable for screening. If couples qualified to be interviewed (i.e., if a violent incident was indicated), screeners recorded their phone numbers, and research staff contacted them within the week to arrange an interview at the university.

In the convenience condition, research team members attached flyers to the door of every household in a district. Flyers highlighted in English and Spanish<sup>1</sup> that we were looking for different types of couples (Happy, Sad, Mad, Satisfied Couples), listed the incentive to participate (\$100 per couple), and provided a number to call for interested couples. Individuals who called listened to a message in English and Spanish instructing them to leave their names and phone numbers. Research staff then called and screened couples in the language of their choice using the identical screening procedures to those used for the random condition. Each partner was asked to respond to the screening questions out of hearing of their partner, and partners were called at a later time if they were not present during the initial phone conversation. If a couple qualified (i.e., again, if violence was indicated), staff arranged an interview at the university. Only one qualified couple opted to have their interview in Spanish. To control the amount of time required for recruitment, a time limit of seven weeks was established for concurrently collecting the data for both conditions. Within that time frame, four neighborhoods with the highest proportion of family service calls were targeted for recruitment.

## Results

Over the seven weeks, research staff spent close to the same number of hours in the field, 31 hours for the random condition and 29.75 hours for the convenience condition. Virtually the same proportion of couples to households approached qualified to be interviewed, 1.67% ( $n=3$ ) for the random condition and 1.22% ( $n=23$ ) for the convenience condition. However, there were sizable differences in the number of households contacted in this time frame. The convenience condition ( $n=1805$ ) resulted in approaching 10 times more households than did the random procedure ( $n=181$ ). These differences carried over into identifying 7.67 times more couples in the convenience condition who qualified (convenience  $n=23$ ; random  $n=3$ ), and interviewing 18 couples from the convenience condition as opposed to a single couple recruited by random contact. Differences in numbers of couples who qualified compared to actual numbers of couples interviewed were due to (a) five couples from the flyer condition not showing for their interview after two scheduling attempts, and (b) two couples who qualified from the random condition who declined to be interviewed. It is also important to note that

<sup>1</sup> All materials we used in the project that were in Spanish were translated by an individual fluent in Spanish, and then back translated by a native Spanish speaker from Mexico.



the percentage of households who called the research project after receiving a flyer was 2.38% of the households contacted, and that fully 53.50% of the couples who called qualified for the study. The convenience sampling approach was clearly the more successful of the two at recruiting violent couples.

**Study II—Replication and Sample Characteristics**

In Study II, we replicated the convenience sampling strategy. We first sampled two additional neighborhoods from the original city. At this point, we were concerned that the proportion of service calls to number of households would be too low for successful sampling as the proportions for the remaining districts on our list fell below 10%. We therefore initially sampled a collection of four apartment complexes characterized by high proportions of family service calls (range of 14% to 26%). Following this, we calculated the proportions for the districts characterized by the highest number of family service calls for an adjoining city immediately to the east of our original city that was part of the greater metropolitan area. We targeted the top two districts; districts that had proportions of 12% and 13%. The same flyer was used as in Study I except we dropped the Spanish announcement because of the low response rate for Spanish in Study I.

As evidenced in Table 1, the rate of phone calls from individuals responding to the flyers, and the rate of couples qualifying to be interviewed, although somewhat lower than the first study, still support our contention that the Targeted Neighborhood Sampling strategy is an efficacious approach. A total of 24.29% of those who called after receiving a flyer qualified to participate in the second study; for each of the

couples, one partner reported that the woman experienced some level of abuse in the previous year. Interestingly, this total increased to 32.65% when focusing on the broader neighborhoods where flyers were distributed while excluding the more narrowly focused apartment complexes. Moreover, examining rates across the two studies lends strong support to the conclusion that the Targeted Neighborhood Sampling approach is successful in recruiting violent couples. Fully 40% of the initial phone calls represented couples who qualified to take part in the study. Moreover, 36.36% of the phone calls resulted in interviews.

**Combining the Data Across Studies—Levels and Correlates of Violence**

We used the combined responses to the survey measures we gave couples who we interviewed in Study I and II to validate further the efficacy of Targeted Neighborhood Sampling by conducting three areas of inquiry. We first explored the frequency of each type of intimate partner violence—psychological aggression, physical assault, and sexual coercion—as well as experiences with injuries that resulted from the violence. Second, we examined how the sample’s experiences with intimate partner violence correlated with three measures of conflict. Given prior research findings (Holtzworth-Munroe et al. 1998), we hypothesized that all forms of intimate partner violence would be positively related to partners’ use of the conflict strategies of demand-withdrawal and mutual avoidance. These strategies rarely lead to a successful resolution of conflict thereby increasing the likelihood of intimate partner violence as a way to exert power in a relationship. Contrarily, we hypothesized that the forms of intimate partner violence would

**Table 1** Convenience sampling for study I and study II

	Total flyers distributed	Total—percent phone calls	Total—percent couples who called qualified	Total—percent couples who called interviewed
<b>Study I</b>				
City 1 - District 1106	406	7–1.72%	3–42.86%	3–42.86%
City 1 - District 607	394	10–2.54%	4–40.00%	3–30.00%
City 1 - District 608	491	11–2.24%	7–63.64%	6–54.54%
City 1 - District 813	514	15–2.92%	9–60.00%	6–40.00%
Total	1805	43–2.38%	23–53.48%	18–41.86%
<b>Study II</b>				
City 1 - District 1601	500	8–1.60%	2–25.00%	2–25.00%
City 1 - District 1901	1067	15–1.41%	4–26.67%	4–26.67%
City 2 - District 33	1139	18–1.58%	6–33.30%	6–33.03%
City 2 - District 32	891	15–1.68%	4–26.67%	4–26.67%
Apartment Complexes	811	14–1.73%	1–7.14%	1–7.14%
Total without Apartments	3597	56–1.56%	16–32.65%	16–32.65%
Total with Apartments	4408	70–1.59%	17–24.29%	17–24.29%
Across Studies Total	6213	113–1.82%	40–40.40%	36–36.36%

be negatively related to resolving conflict by use of a mutually constructive strategy. Partners who use this strategy acknowledge each other's position, willingly compromise, and actively work towards a resolution of the conflict. Hence, there is little need to exert more forceful means of controlling one's partner.

In the third test of validity, we investigated the relationship between intimate partner violence and risk factors previously identified by scholars. Alcohol and drug abuse, for instance, have been positively associated with abuse for both men and women (Cunradi et al. 2002; Thompson et al. 2003). In addition, multiple investigative efforts demonstrate that a link exists between experiencing intimate partner violence and depression for women (Campbell 2002; Golding 1999). Being victimized can be associated with depression for upwards to five years after initial abuse reports (Zlotnick et al. 2006). Other findings suggest a link between PTSD and intimate partner violence. Estimates of PTSD among the general population of women are reported to be between 1.3% and 12.3%, while Golding (1999), in her meta-analysis, reported a mean prevalence rate of 63.8% for abused women. We hypothesized that experiencing intimate partner violence would be positively associated with each of these risk factors.

## Method

**Sample** A total of 72 individuals (36 couples) participated. On average, participants were 30.89 years old ( $SD=8.83$ ); the youngest participant was 18 and the oldest was 56 years of age. Approximately half of the sample identified themselves as White (52.8%). This was followed by Hispanic (Mexican origins 15.3%; other Hispanic origin 5.6%), African-American (13.9%), Native-American (5.6%), bi-racial (5.6%) and other (1.4%). Most, 59.7%, were employed full-time (men 66.7%, women 52.8%); fewer, 11.1%, were employed part-time (men 11.1%, women 11.1%), and 29.2% were unemployed (22.2% men, 36.1% women). The group varied in their educational attainment. Many (38%) had some college or had completed high school or a GED (25.4%). Only a small number had less than a high school education (9.9%), had completed college (7%), or had a post graduate degree (1.4%).

The types of occupations held by the participants were also varied. Those in professional positions accounted for 11.1% of the sample, managers another 5.6%. Almost 10% were involved in sales (9.3%), another 16.7% served as clerks. Thirteen percent were skilled in a trade (i.e. electricians) while operatives (16.7%) and laborers (11.1%) constituted just over one fourth of the sample. Finally, 11.1% were homemakers and 5.6% were students. Not everyone who participated reported their occupation; 25% left this item in the survey blank.

In terms of their relationships, half were cohabitating (51.4%) and about one quarter were engaged (23.6%) or married (22.3%). Although the majority of the respondents (63.8%) had children living with them, just over one-third did not (36.2%). Most had one (36.2%) or two children (19.4%) in the household; only a small proportion had three (6.4%) or four (2.1%). The average length of relationship was 1.88 years ( $SD=1.20$ ) and ranged from one to seven years.

**Procedures** Research assistants greeted couples who came for their scheduled session and escorted them to the research lab. The assistants explained the purpose of the study in broad terms to the couple, gave each partner a letter of consent, and, after each partner signed their letter, asked if they would prefer to complete the pencil and paper instruments in Spanish or English. All but two participants chose to use the English version.

Next, partners were ushered into separate rooms within the research lab. Participants were given the option of taking a break midway through completing the packet of instruments. Most declined and finished the survey in one sitting taking, on average, one hour. After finishing, the research assistants thanked the partners, paid each individual \$50, and provided each participant with a list of community counseling resources in case they felt the need to contact a professional for help after participating in the study.

**Instruments** Participants completed a number of instruments that measured individual, relational, and outcome variables. The present study focuses on responses to the measures of intimate partner violence, conflict, drug abuse, alcohol abuse, depression, and PTSD symptoms.

**Intimate Partner Violence** A revised version of Straus et al.'s (1996) Conflict Tactics Scale was used to measure intimate partner violence. Participants responded to queries about whether they (self-report) or their partner (partner report) had engaged in different violent behaviors or received particular injuries. They indicated how many times in the past year the behavior had occurred on an 8 point scale (0=never happened, 7=more than 20 times in past year). Subscales include *psychological aggression* (8 items;  $\alpha=0.87$  for self report for own behavior; 0.84 for reports for partner's behavior), *physical assault* (12 items;  $\alpha=0.90$  for self report for own behavior; 0.93 for reports for partner's behavior), *sexual coercion* (for men only<sup>2</sup>—3 items;  $\alpha=0.75$  for men's report for their own behavior; 0.63 for men's reports for their partner's behavior), and *injury* (6 items;  $\alpha=0.61$  for self report for own injuries; 0.71 for reports for partner's injuries).

<sup>2</sup> An acceptable *alpha* did not emerge for the sexual coercion measures for the women in the sample.

**Conflict Patterns** Conflict was assessed with the Communication Pattern Questionnaire, a 35 item measure that includes three scales (Christensen and Sullaway 2005). Participants respond to each item using a 9 point Likert scale (1=Very unlikely, 9=Very likely). The *demand-withdrawal* scale consisted of 20 items ( $\alpha=0.85$ ); however, 4 items were removed because they referred to acts of intimate partner violence. Examples of the remaining 16 items included “The woman tries to start a discussion while the man tries to avoid a discussion,” and “The man nags and demands while the woman withdraws, becomes silent, or refuses to discuss the matter further.” *Mutual-avoidance/withholding* consisted of 7 items ( $\alpha=0.72$ ), included items such as “Both partners avoid discussing the problem” and “Neither partner is giving to the other after the discussion.” *Mutually constructive communication* consisted of 8 items ( $\alpha=0.70$ ) including “Both members try to discuss the problem” and “Both members suggest possible solutions and compromises.”

**Alcohol Abuse** We used the short form of the Michigan Alcoholism Screening Test (Selzer et al. 1975) to measure alcohol abuse. This 12 item measure asked participants whether they had experienced certain events over the last year using a yes/no format ( $\alpha=0.78$ ). Examples of the items included “Did you get into trouble at work because of your drinking?” and “Did your drinking create problems between you and your partner, a parent, or other relative?”

**Drug Abuse** We assessed drug abuse with the Drug Abuse Screening Test (Skinner 1982). This measure was composed of 10 items ( $\alpha=0.83$ ) such as “Are you unable to stop using drugs when you want to?” and “Have you neglected your family because of your use of drugs” using a yes/no format. Participants were first asked to not think of alcohol as a drug, and then were asked to indicate whether the items were true for over the last year.

**Depression** We measured depression with the 20 item measure from the Center for Epidemiological Studies Depression Scale (Radloff 1977). Participants were asked to indicate how much they agreed (Strongly agreed=1) or disagreed (Strongly disagreed=4) with statements such as “I felt that everything I did was an effort” and “I felt sad” were descriptive of them when considering the previous month ( $\alpha=0.90$ ).

**Post Traumatic Stress Syndrome** We used the Civilian Version of the Post Traumatic Stress Syndrome Checklist (Blanchard et al. 1996) to measure three common manifestations of PTSD. Participants indicated how much they were bothered by a particular problem over the last month using a 5 point scale (1=Not at all; 5=Extremely). The *re-*

*experiencing symptoms* measure had 5 items that included problems such as “Repeated, disturbing memories, thoughts, or images of stressful experience” ( $\alpha=0.88$ ). The *avoidance symptoms* measure contained 7 problems such as “Avoiding activities or situations because they reminded you of a stressful experience” ( $\alpha=0.86$ ). Finally, the *hyper-arousal* measure listed 5 problems as exemplified by “Feeling jumpy or easily startled” ( $\alpha=0.84$ ).

## Results

**Levels of Violence and Injury** One of our validity tests for this sampling method involved exploring the range of violence and level of injury among the couples we sampled. To accomplish this, we first compared men’s and women’s mean scores on their reports for their own and their partners’ psychological aggression, physical assault, sexual coercion, and injury using a one way ANOVA. The only significant difference to emerge was for reports of one’s own acts of sexual coercion,  $F(1, 70)=4.29, p=0.04$ . Men ( $M=2.58; SD=4.34$ ) reported that they engaged in greater levels of sexual coercion than did women ( $M=0.92; SD=2.12$ ). Sex differences, however, only accounted for a small amount of the variance in self reports of sexual coercion ( $\eta^2=0.06$ ). The Revised Conflict Tactics Scale also includes a final item that asks who hit first, the respondent or the partner, the last time either partner slapped, grabbed, shoved or hit the other. Comparing the distribution of the responses (I hit first, my partner hit first, this never happened) across male and female respondents showed no significant differences,  $\chi^2=1.12, p=0.57$ .

The lack of differences for the other measures led us to analyze reports of those forms of intimate partner violence without making distinctions between partners. The low reliabilities for sexual coercion for women, combined with the very low mean score for women’s self reported sexual coercion, led us to analyze only men’s responses for this form of abuse.

The majority of the participants were psychologically aggressive to each other (see Table 2). Most (between 66.7% and 100%) insulted or swore, shouted or yelled at their partner, and did something to spite them. Moreover, it was common for respondents to disengage from a disagreement by stomping away. A high proportion destroyed something their partner owned (between 36.1% and 61.1%) and threatened to hit or throw something at their partner (between 54.3% and 68.5%).

Rates were also high for the indicators of physical assault. Roughly two-thirds of the respondents pushed, shoved, and/or grabbed their partners. Between one third and one half threw something at, slapped, punched or hit, and kicked their partner. Self-reports for choking and

**Table 2** Rates of violence

Violent behavior—at least once in the past year	Wives' report		Husband's report	
	Self (%)	Partner (%)	Self (%)	Partner (%)
<b>Psychological aggression</b>				
I insulted or swore at my partner	94.4	88.9	100.0	94.4
I shouted or yelled at my partner	97.2	91.7	100.0	97.2
I stomped out of the room or house or yard during a disagreement	94.4	68.8	91.7	91.4
I did something to spite my partner	66.7	74.3	80.6	88.9
I called my partner fat or ugly	30.6	41.7	42.9	52.8
I destroyed something belonging to my partner	61.1	41.7	36.1	41.7
I accused my partner of being a lousy lover	36.1	38.9	27.8	38.9
I threatened to hit or throw something at my partner	58.5	66.7	68.5	54.3
<b>Physical assault</b>				
I threw something at my partner that could hurt	36.1	44.4	41.7	52.8
I twisted my partner's arm or hair	27.8	47.2	38.9	41.7
I pushed or shoved my partner	72.2	77.1	72.2	66.7
I grabbed my partner	61.1	74.3	66.7	72.2
I slapped my partner	38.9	41.7	38.9	52.8
I kicked my partner	38.9	36.1	16.7	36.7
I punched or hit my partner with something that could hurt	44.4	44.4	25.0	38.9
I choked my partner	11.1	27.8	19.4	11.1
I slammed my partner against a wall	16.7	44.4	25.0	5.6
I beat up my partner	19.4	25.0	5.6	8.3
I burned or scalded my partner on purpose	11.1	8.3	2.8	8.3
I used a knife or gun on my partner	13.9	8.3	5.6	11.1
<b>Sexual coercion</b>				
I insisted on sex when my partner did not want to (but did not use physical force)	19.4	50.0	45.7	45.7
I made my partner have sex without a condom	11.4	8.6	22.2	22.2
I insisted my partner have oral or anal sex (but did not use physical force)	2.8	25.0	33.3	27.8
I used threats to make my partner have sex	2.8	13.9	8.3	8.3
I used threats to make my partner have oral or anal sex	0.0	8.3	2.8	2.8
I used force (like hitting, holding down, or using a weapon) to make my partner have sex with me	0.0	5.6	2.8	0.0
<b>Injury</b>				
I had a sprain, bruise, or small cut because of a fight with my partner	41.7	33.3	47.2	38.9
I felt physical pain that still hurt the next day because of a fight with my partner	42.9	30.6	38.9	36.1
I passed out from being hit on the head by my partner in a fight	0.0	0.0	5.6	0.0
I went to a doctor (M.D.) because of a fight with my partner	5.7	2.9	8.3	8.3
I needed to see a doctor (M.D.) because of a fight with my partner, but I didn't	2.9	0.0	2.8	0.0
I had a broken bone from a fight with my partner	0.0	0.0	8.3	2.8

slamming one's partner into a wall ranged between 11.1% and 25%. Clearly this was a physically assaultive sample.

Men were also sexually coercive. Close to half of the men self-reported that they had insisted on sex when their wives did not want to have sex. One-third admitted that they insisted on either oral or anal sex when their partner was unwilling. Just over 20% indicated that they made their partner have sex without a condom.

Injuries occurred as a result of the intimate partner violence these couples experienced. Self-reports show that 42% of women and 47% of men experienced sprains, bruises, or small cuts because of fights experienced over the previous year. Forty percent of men and 43% of women felt physical pain on the day following a fight during the same time frame.

*Conflict Strategies* Table 3 demonstrates strong support for our hypothesis that the different forms of intimate partner violence would be positively related to the strategies of demand-withdrawal. In fact, with the exception of men's reports of their own acts of sexual coercion, every report was significantly and positively related regardless of whether the report focused on one's own or one's partner behavior. Moreover, the size of the relationship closely approached Cohen's (1988) marker for moderate effect size ( $r=0.50$ ) for participants' reports of their own psychological aggression and physical assault, and exceeded it in the case of reports of their partners' psychological aggression and physical assault.

A parallel pattern of findings emerged for the conflict strategy of mutual avoidance with a single exception—



**Table 3** Correlations between intimate partner violence and conflict strategies

	Mutually constructive	Demand-withdrawal	Mutual avoidance-withholding
Report on own behavior			
Psychological aggression	-0.04	0.47***	0.49***
Physical assault	-0.13	0.45***	0.42***
Sexual coercion†	0.22	0.28	0.18
Self-injury	-0.13	0.44***	0.30**
Report on partner's behavior			
Psychological aggression	-0.33***	0.53***	0.49***
Physical assault	-0.15	0.53***	0.38***
Sexual Coercion†	0.21	0.33*	0.08
Injury	-0.17	0.40***	0.33***

†Male respondents only (n=36)  
 \*p<0.05  
 \*\*p<0.01  
 \*\*\*p<0.001

partners' use of sexual coercion. In addition, the relationship between mutual avoidance and psychological aggression approached Cohen's (1988) marker for moderate effect size for self reports and reports of partner's behavior. At the same time, only a single significant relationship emerged for use of mutually constructive communication. Reports of partner's use of psychological aggression were negatively related.

*Risk Factors* Table 4 reveals that our studies replicated many of the same relationships between risk factors and intimate partner violence revealed in previous research. Although alcohol abuse was unrelated, drug abuse was significantly and positively related to both self and partners' reports of psychological aggression and injury, as well as men's reports of engaging in sexual coercion (with a moderate effect size). Depression was similarly and consistently related to all forms of intimate partner violence and injury with the exception of sexual coercion. The significant correlations ranged from 0.26 to 0.37. This pattern also had held for all three PTSD manifestations, re-experiencing symptoms, avoidance symptoms, and hyper-arousal symptoms, with significant correlations ranging from 0.35 to 0.45. Collectively, the correlation analyses for the conflict strategies and the

risk factors suggest that the couples recruited by the Targeted Neighborhood Sampling strategy share characteristics common to other violent couples.

**Discussion**

The primary goal of our study was to test the efficacy of a new sampling strategy, *Targeted Neighborhood Sampling*, and to explore whether this strategy is effective in recruiting a diverse sample of abusive couples. We did this in two stages. Initially, we tested to see if we were able to recruit a community sample of couples characterized by intimate partner violence. Following this, we investigated whether the couples recruited with this strategy were typical of other abusive samples by examining how different forms of partner violence correlated with the respondents' conflict strategies, as well as their experiences with the risks of alcohol and drug abuse, depression, and symptoms of PTSD.

*Recruitment* Evaluating the recruitment rates of our sampling strategy is best understood by first looking at the proportion of family service calls to number of households for the districts

**Table 4** Correlations between intimate partner violence and risk factors

	Alcohol abuse	Drug abuse	Depression	Post traumatic syndrome		
				Re-experiencing symptoms	Avoidance symptoms	Hyper-arousal symptoms
Report on own behavior						
Psychological aggression		0.26*	0.30**	0.38***	0.37***	0.36**
Physical assault		0.11	0.36**	0.35**	0.36**	0.36**
Sexual coercion†	0.10	0.51***	0.23	0.04	0.16	0.23
Own injury		0.29**	0.33**	0.35**	0.35**	0.36**
Report on partner's behavior						
Psychological aggression	0.06	0.30*	0.35**	0.44***	0.43***	0.38***
Physical assault	0.21	0.16	0.26*	0.36**	0.33**	0.35**
Sexual coercion†	0.11	0.38*	0.11	0.05	0.07	0.26
Partner's injury	-0.11	0.07	0.37**	0.36**	0.45***	0.45***

†Male respondents only (n=36)  
 \*p<0.05  
 \*\*p<0.01  
 \*\*\*p<0.001

we targeted. These proportions ranged from a low of 10% to a high of 17% and averaged 14% across the two studies. Thus, approximately 1,435 households across the eight districts and apartment complexes we sampled experience family fight service calls. This is much higher than the report from the National Violence Against Women Survey (Tjaden and Thoennes 2000) of 1.3% rate for women's experiences of physical assault from intimate partners, the 0.2% annual rate for women who experienced rape at the hands of an intimate partner, or the 1.5% who experienced both. Even allowing for differences in how violence was measured, comparing the percentages from NVAWS to our strategy supports one of the basic assumptions behind Targeted Neighborhood Sampling, that higher rates of intimate partner violence typify certain neighborhoods of a city.

The recruitment statistics across our first and second study are telling as well. The fact that 40.4% of those who called qualified, and that 36.36% of those who called came to the university to complete the survey, stands in testimony to the success of this recruitment strategy. Still, there are variations within these rates that are worth exploring. First, there was a difference in these rates across the two studies; 53.48% of those who called qualified in the first study while 24.29% qualified in the second study. This difference may reflect seasonal variations. The first study was conducted in the latter part of the fall semester, just before Christmas. The second study was conducted in the middle of the spring semester. Hence, the \$100 we offered each couple for participating may have been a stronger incentive during holiday season of Study I.

Moreover, a difference in recruitment success emerged when we targeted districts or larger neighborhoods as opposed to the narrower target of apartment complexes. On first blush, it might be tempting to suggest that renting, as opposed to home ownership, might explain this difference. However, 85% of the sample rented and only 10% were home owners. Moreover, many of the districts where we successfully recruited included apartment complexes. A close look at the statistics show that although the response rate from the flyers did not differ from the districts we used in the second study, the actual proportion of participants who qualified was much lower. This suggests that the targeting strategy might work best when neighborhoods are broadly as opposed to narrowly defined for sampling purposes.

This still leaves the question of whether we recruited a diverse sample. There are a number of perspectives available to evaluate this question. Roughly half of the sample reported a minority ethnic identity, suggesting diversity from this perspective. Moreover, evaluating the mean and standard deviation for the participants' ages implies that most of the sample was between the ages of 22 and 40, another indication of diversity. The fact that half of the sample were

cohabiting, while the rest were equally divided between being engaged and married, and the fact that two-thirds the sample had children living with one another provides further testimony of a diverse sample.

Diversity can also be evaluated from a social economic status. A number of findings indicate that we over sampled from working class and those living in poverty. Forty percent of the sample listed blue collar occupations. Thirty-five percent had attained either a high school diploma or less, and almost 30% were unemployed. Given that lower class and minorities are more apt to come to attention of the police, and given intimate partner violence is more prevalent among working class and those who live in poverty (Straus and Smith 1990; Straus et al. 1980), this finding is not surprising. Still, it represents a possible limitation of Targeted Neighborhood Sampling if researchers are interested in procuring a social-economically diverse sample.

*Level of Violence* Examining the levels of violence partners reported constituted one of the more important tests of the validity of our sampling strategy. The findings provided evidence that we successfully recruited couples who were psychologically aggressive and physically assaultive. Many of the men sexually coerced their partners. Further, almost half of the women and men experienced sprains, bruises, or small cuts as a result of at least one fight in the previous year.

Comparing rates from the present study with national rates of partners' self-reports of violent acts for the previous year, the same time frame for the present study, is telling. Grandin and Lupri (1997), using the National Family Violence Resurvey (NFVR), report that 1.8% of the husbands and 4.0% of wives threw something at their partner. In stark contrast, 41.2% of the male and 36.1% of the female partners in this study reported the same act. Similarly, less than 1% of husbands and 2.3% wives in the NFVR report kicking, biting, or hitting partners while 16.7% of the male and 38.9% of the female partners engaged in these forms of violence. Thus if the sampling goal for research is simply to recruit violent couples, Targeted Neighborhood Sampling may represent a more efficient way of identifying violent couples than random sampling.

The lack of significant differences between men's and women's levels of psychological and physical violence, their experiences with lower level injuries, as well as the lack of a clear indication of who began the last physical fight suggests that many in the sample exemplified Johnson and Ferraro's (2000) concept of Situational Couple Violence. Johnson speculates that violence for these couples is often reciprocal, and emerges from situational conflict that escalates rather than conflict reflecting one partner's motivation to control the other throughout their relationship. Evidence that many of the couples in the sample may exemplify this type of

violence can be seen in the comparable rates of violence reported for specific acts by male and female partners, and by the correlations between intimate partner violence and conflict strategies that are apt to leave conflict unresolved thereby increasing the likelihood of inter-partner aggression.

There was also evidence that some partners experienced more severe levels of abuse. In spite of the fact that we interviewed a relatively small number of couples, some participants reported beatings, burns or scaldings, and the use of a knife or a gun in their relationships. Not surprisingly, a small number concurrently reported having a broken bone, and going to a doctor as an outcome of the violence. Johnson (2006) posits such levels of violence might occur with Situational Couple Violence, but may be characteristic of Intimate Terrorism where violence is an extension of control attempts by one partner across many relationship dimensions. Additional research is needed to see if this sampling technique recruits both types of couples.

Nonetheless, given the frequency and comparable level of partner-level violence in our sample, one of the implications of our study is that future investigators who use Targeted Neighborhood Sampling need not screen potential participants based solely on the wives' experiences with victimization. Although we chose this approach because prior research indicated that women are at much higher risk than men for experiencing violence and injury (Tjaden and Thoennes 2000), the levels of violence reported for self and partner within our sample suggest it would be better to screen for the occurrence of minimal levels of violence experienced by *either* the male or female partner. This broader criterion may result in having more couples ultimately qualify to participate.

*Correlates of the Violence* In our final tests of the validity of the Targeted Neighborhood Sampling strategy, we explored whether participants' violence and injuries were associated with their conflict strategies, and with their experiences with a number of risk factors. With the exception of men's use of sexual coercion, a consistent connection between psychological aggressiveness and physical assault on the one hand, and the conflict strategies of demand-withdrawal and mutual avoidance on the other hand characterized our sample. Previous investigators report links between intimate partner violence and conflict typified by one partner making demands and the other partner withdrawing (i.e., Holtzworth-Munroe et al. 1998). This strategy for managing conflict can be problematic for the partners as the conflict is left unresolved, which can lead to escalating tensions and ultimately the use of violence. Partners may alternatively choose to mutually withdraw or avoid conflict, a strategy that also results in no resolution, potentially escalates tension and possible violence as a result of this tension. Thus, the couples we sampled are similar to those in other studies of intimate partner violence

in that the findings across the studies suggest that violent couples utilize dysfunctional conflict strategies.

Other scholars have focused on risk factors and outcomes associated with intimate partner violence. These include the risk of alcohol and drug abuse (Lipsky et al. 2005), depression (Campbell 2002; Carlson et al. 2003), and PTSD (Cooker et al. 2002; Golding 1999). With the exception of alcohol abuse, our findings replicated these previous efforts. Our own findings revealed a consistent pattern of correlations between the risk factor of drug abuse and partners' psychological aggression as well as men's sexual coercion. Moreover, psychological aggression, physical assault, and injuries were all positively related to depression and the PTSD manifestations of re-experiencing symptoms, avoidance symptoms, and hyper-arousal symptoms. Furthermore, the pattern of correlations remained stable whether the focus was on reports of self or partners' violent behaviors or injuries. The consistent and similar pattern of associations for conflict strategies and risk factors across our and other studies further testifies to the viability of our sampling strategy.

## Conclusion

Our study tested the efficacy of a new sampling strategy, Targeted Neighborhood Sampling. We demonstrated that this method can be used to recruit a community sample of couples with elements of diversity who have experienced a range of intimate partner violence. Moreover, our findings demonstrated that links existed between the violence partners experienced and both the conflict strategies they used, and recognized risk factors including drug abuse, depression, and PTSD. Clearly, Targeted Neighborhood Sampling represents a viable new recruitment strategy available for future investigations of partner abuse.

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