

Kent Academic Repository

Full text document (pdf)

Citation for published version

Strand, Susanne J.M. and Storey, Jennifer E. (2019) Intimate Partner Violence in Urban, Rural, and Remote Areas: An Investigation of Offense Severity and Risk Factors. *Violence Against Women*, 25 (2). pp. 188-207. ISSN 1077-8012.

DOI

<https://doi.org/10.1177/1077801218766611>

Link to record in KAR

<https://kar.kent.ac.uk/81174/>

Document Version

Author's Accepted Manuscript

Copyright & reuse

Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

Versions of research

The version in the Kent Academic Repository may differ from the final published version.

Users are advised to check <http://kar.kent.ac.uk> for the status of the paper. **Users should always cite the published version of record.**

Enquiries

For any further enquiries regarding the licence status of this document, please contact:

researchsupport@kent.ac.uk

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at <http://kar.kent.ac.uk/contact.html>

INTIMATE PARTNER VIOLENCE IN URBAN, RURAL AND REMOTE AREAS: AN
INVESTIGATION OF OFFENSE SEVERITY AND RISK FACTORS

Susanne J.M. Strand & Jennifer E. Storey

Susanne J.M. Strand, Associate professor, School of Law, Psychology and Social Work,
Örebro University, 701 82 Örebro, Sweden, and Centre for Forensic Behavioural Science at
Swinburne University of Technology, Melbourne, Australia. phone: +46 19 30 36 85, e-mail:
susanne.strand@oru.se

Jennifer E. Storey, Ph.D., School of Law, Royal Holloway University of London, Egham,
Surrey, UK. e-mail: jennifer.storey@rhul.ac.uk

ACKNOWLEDGEMENT

The authors would like to thank the police officers in the counties of Stockholm,
Västernorrland and Jämtland for their valuable help in this research.

FUNDING

This research project was funded by the Swedish Crime Victim Compensation and Support
Authority (Brottsoffermyndigheten).

KEY WORDS

Intimate Partner violence, risk factors, Urban, rural and remote areas

ABSTRACT

This study compared the severity of intimate partner violence (IPV) and the relationship between risk factors for IPV and overall risk judgements of future IPV in urban, rural and remote areas. IPV risk assessments conducted by the Swedish police between 2010 and 2014 in urban ($n = 564$), rural ($n = 456$), and remote ($n = 196$) areas were examined. Rurality was associated with the severity of IPV reported, as well as the presence of risk factors and their relationship to overall risk judgements. Cases in remote areas included more severe IPV as well as more risk factors.

INTRODUCTION

Intimate partner violence (IPV) is a global problem impacting one third of women over the age of 15 (Devries et al., 2013). It is a cause or contributor to serious problems with the mental and physical health of victims, which can lead to severe short and long-term consequences including death (Devries et al., 2013; García-Moreno et al., 2013). Although prevalent around the world, rates of IPV vary by country. For instance, Devries and colleagues (2013) found the lowest rates of IPV in East Asia (16.3%) and the highest rates in Central Sub-Saharan Africa (65.6%). The prevalence of IPV can also vary within a country based on population density. Although we tend to think of densely populated urban areas as being most dangerous, in the case of IPV, there is evidence that rates of violence in rural communities are similar to or greater than those in urban communities (Edwards, 2015; Breiding, Ziembroski, & Black, 2009; Lanier & Maume, 2009; Peek-Asa et al., 2011; Van Hightower & Gorton, 1998). For example, Peek-Asa and colleagues (2011) found that reported rates of IPV over the preceding year were highest in small rural towns (22.5%) followed by isolated rural areas (17.9%), urban areas (15.5%) and large rural towns (13.5%). Studies have also identified increases in the frequency and severity of IPV in rural areas as

compared to urban areas (Logan, Cole, Shannon, & Walker, 2007; Peek-Asa et al., 2011; Websdale & Johnson 1998). Logan, Walker, Cole, Ratliff, and Leukefeld (2003) found that women living in rural areas reported continuous and more severe IPV prior to obtaining a restraining order compared to women in urban areas. Research has also shown rates of intimate partner homicide to be higher in rural areas (Edwards, 2015). A study of intimate partner homicide rates over a 20-year period (1980 to 1999) in the United States revealed heightened rates of intimate partner homicide in rural areas where homicides occurred at rates of 8.3 per 100, 000 compared to 2.0 per 100, 000 in metropolitan areas (Gallup-Black, 2005). Further, over the 20-year period examined, rates of intimate partner homicide decrease in urban areas and increased in rural areas by more than 60%. As a result of these identified differences in the prevalence, frequency and severity of IPV in urban and rural areas researchers believe community context to be critical to our understanding of IPV (Logan, Walker, & Leukefeld, 2001).

Despite differences in IPV based on rurality and calls for research that considers community context, IPV research that reports or compares findings from urban and rural locations is relatively rare (Peek-Asa et al., 2011). As a result, our understanding of how and why communities differ is limited and our treatment and criminal justice models tend to be developed for urban areas alone (Logan et al., 2001). With that said, a small number of studies have tried to identify and test various hypotheses for the observed differences in IPV across urban and rural areas. Edwards (2015) conducted a literature review of these studies focusing on several key variables where differences between urban and rural IPV have been examined. One important variable covered in the literature review was whether differences existed in risk factors related to perpetrators and victims. Identifying risk factors that differ in urban and rural areas serves an important purpose since an understanding of these risk factors

could help to improve the assessment and management of risk, and thereby help to reduce region-specific barriers to reporting and safety faced by victims.

A study by Logan and colleagues (2001) found several risk factors to be more prevalent among IPV perpetrators in rural areas compared to those in urban areas. Perpetrators in rural areas had significantly lower levels of employment, and educational attainment, and were significantly more likely to use psychoactive medication and to combine their use of such medication with alcohol. Perpetrators in rural areas were also more likely to have previously been convicted of IPV, and more likely to have a subsequent conviction for IPV, indicating higher rates of recidivism. Lanier and Maume (2009) also found unemployment to be a risk factor for IPV in rural areas.

Several studies have found that attitudes that may be more tolerant to IPV, such as those that stem from patriarchal ideology or those supportive of traditional gender roles, tend to be more prevalent in rural areas (Goeckermann, Hamberger, & Barber, 1994; Eastman, Bunch, Williams, & Carawan, 2007; Websdale, 1995). For instance, Eastman and colleagues (2007) found victim blaming to be more common in rural areas. Access to resources for perpetrators and victims of IPV that might reduce rates of IPV, such as substance abuse treatment and transportation, have been found to be more limited in rural areas than in urban areas (Booth, Ross, & Rost, 1999; Dudgeon & Evanson, 2014; Logan, Stevenson, Evans, & Leukfeld, 2004; Websdale, 1995).

Factors that place victims at greater risk of IPV have also been examined. Social support was found to be a protective factor against IPV for victims living in rural areas, but not for those living in urban areas (Lanier & Maume, 2009). Victims with more children were at greater risk of IPV in urban areas but not rural areas (Lanier & Maume, 2009). Conflicting results have been found regarding substance abuse with some studies finding that rural victims of IPV are more likely to abuse substances, some studies finding urban victims to be

more likely to abuse substances, and other studies finding no significant difference in substance abuse by rurality (Cole & Logan, 2010; Logan et al., 2003; Shannon, Logan, Cole, & Walker, 2008).

The findings of Edwards (2015) on risk factors for IPV suggest that there is good reason to be concerned about and investigate the presence of differences between urban and rural areas. Further, previous research has generally failed to distinguish between rural and remote communities. Given prior results showing fewer resources and increased risk factors in rural locations, as compared to urban ones, it would be expected that remote communities might place victims at even greater risk of severe and continued IPV.

The present study compares cases of IPV reported to police in urban, rural and remote areas, to identify differences in offence severity and in the presence of and weight placed on risk factors for IPV. The identification of systematic differences in these variables based on rurality could inform criminal justice procedure including the assessment and management of IPV risk, which to date has been primarily informed by studies using urban samples. The objectives of this study are threefold. First, to confirm whether the severity of IPV increases with increasing rurality. Second, to identify whether differences exist in the prevalence of empirically supported risk factors for IPV based on rurality. Third, to determine whether rurality influences how police officers weigh IPV risk factors when assessing the overall level of risk in a case.

METHOD

Procedure

Definitions of what constitutes urban, rural and remote communities vary by country. The United States Census Bureau (2016) defines urbanized areas as those where the population density exceeds 1000 individuals per square mile (sqmi) (which is approximately 386 individuals per square kilometre (Sqkm)) and where the total population is greater than

50,000 inhabitants. Urban clusters are defined as areas with more than 50,000 inhabitants and surrounding clusters of 2,500 to 50,000 inhabitants. All other areas are considered rural and no definition is provided for what constitutes a remote area (The United States Census Bureau, 2016).

For the present sample, collected in Sweden, rurality was defined according to the definitions provided by the Swedish Board of Agriculture (Swedish Board of Agriculture, 2016). Urban areas are defined as areas where 100% of the area being considered consists of a city with a population of more than 10 000 inhabitants. In Sweden, only Stockholm, Gothenburg and Malmö meet this definition. The Swedish definition of urban areas is similar to the U.S. definition, although it has no lower limit on total population in the city. Urban clusters are areas with at least 30,000 inhabitants and cities with more than 25,000 inhabitants. Rural areas are defined as areas with at least 5 inhabitants per sqkm and cities with up to 25,000 inhabitants. Remote areas are defined as areas with less than 5 inhabitants per sqkm. In 2015, 34% of the Swedish population lived in areas considered to be rural or remote (Swedish Board of Agriculture, 2016). By comparison, in 2010, 19% of Americans lived in rural areas (The United States Census Bureau, 2016).

The total land mass of Sweden is 407,310 sqkm. In 2015, the population of Sweden was 9,851,017, meaning that on average there were 24.2 individuals per sqkm (62.7 per sqmi). Naturally, individuals were not spread evenly throughout the country, Approximately 23% of the population lived in the urban area of Stockholm, which had 342 persons per sqkm (885.8 per sqmi), 3% of the population lived in the rural area of Västernorrland, which had 11.3 persons per sqkm (29.3per sqmi), and 1% of the population lived in the remote area of Jämtland, which had 2.6 persons per sqkm (6.7 per sqmi) (SCB, 2016). These three areas comprise the urban, rural, and remote samples used in this study, respectively.

For all cases in the rural and remote areas an IPV risk assessment was conducted; however, for the urban sample a triage for IPV was conducted before completing the IPV risk assessment. This additional screening may have impacted the total number of low, moderate and high risk cases for which an IPV risk assessment was completed in the urban sample but the additional screen would have no impact on the association between overall risk judgements and individual risk factors.

A total of 1434 cases of IPV, where a violence risk assessment was conducted by police, were drawn from the three areas. The cases had been reported to the police between August 1, 2009 and December 27, 2014. 218 cases were excluded from the sample for one of three reasons, (a) the case had the same perpetrator as another case (i.e., it was a case of recidivism) ($n = 111$, 8%), (b) the perpetrator was female ($n = 51$, 4%), or (c) the violence risk assessment was not complete because it was missing an overall risk judgement ($n = 56$, 4%). The total sample for the study therefore included 1216 cases of IPV; 564 (46%) cases were from the urban district of Stockholm, 456 (38%) cases were from the rural district of Västernorrland, and 196 (16%) cases were from the remote district of Jämtland. The 218 excluded cases were equally represented across the three districts examined.

Urban Sample

The urban sample consisted of 564 IPV cases reported to police between August 8, 2008 and December 27, 2010. The mean age of the perpetrators was 40 years ($SD = 11.40$, range: 15-77). In 338 cases (67%, missing $n = 60$) children under the age of 18 were living in the home. Seven of the victims (1%) already had a restraining order in place against the perpetrator prior to making the current report to police.

Rural Sample

The rural sample consisted of 456 IPV cases reported to police between November 17, 2010 and December 14, 2014. The mean age for the perpetrators was 39 years

($SD = 12.58$, range: 17-86). In 228 cases (51%, missing $n = 5$) children under the age of 18 were living in the home. Prior to reporting the IPV to the police 21 victims (5%, missing $n = 5$) had a restraining in place against the perpetrator.

Remote Sample

The remote sample consisted of 196 IPV cases reported to police between March 7, 2010 and November 29, 2014. The mean age of the perpetrators was 40 years ($SD = 13.63$, range: 18-85). In 94 cases (49%, missing $n = 2$) children under the age of 18 were living in the home. Prior to reporting the most recent incident of IPV to the police five victims (3%, missing $n = 1$) already had a restraining order against the perpetrator.

Sample Comparisons

No significant differences existed between urban, rural and remote areas with respect to perpetrator age. A significant difference existed in the number of children under the age of 18 living in the home, with more children in urban areas (67%) compared to rural (51%) and remote (49%) areas, ($\chi^2(2, 1149) = 34.25, p = 0.001$, Cramer's $V = 0.17$). Pre-existing restraining orders were significantly more common in rural areas (5%) compared to urban (1%) and remote (3%) areas, ($\chi^2(2, 1209) = 11.01, p = 0.004$, Cramer's $V = 0.10$).

Material

This study used violence risk assessments completed by the Swedish police using the Brief Spousal Assault Form for the Evaluation of Risk (B-SAFER; Kropp, Hart, & Belfrage, 2008; 2010). The B-SAFER is a structured professional judgement violence risk assessment tool designed to assist users in the assessment and management of IPV. The Swedish translation of the B-SAFER (SARA:SV; Kropp et al., 2008) was used by police officers in this study as part of their daily work. In Sweden, the B-SAFER is the standard tool used by police when assessing risk for intimate partner violence.

A total of eight studies have assessed the validity of the B-SAFER in cases of male perpetrated IPV. Results show that ratings can be made with good interrater reliability and concurrent validity (Au et al., 2008; Belfrage & Strand, 2008; de Reuter, de Jong, Reus, & Thijssen, 2008; Kropp, 2008; Kropp & Belfrage, 2004; Soeiro & Almeida, 2010; Storey, Kropp, Hart, Belfrage, & Strand, 2014; Winkel, 2008). The predictive validity of the B-SAFER has been examined in three studies and has shown AUC values around .70 and significant associations between B-SAFER total scores and subsequent psychological and physical violence (de Reuter et al., 2008; Soeiro, & Almeida 2010; Storey et al., 2014).

The B-SAFER was developed based on a review of the empirical literature on IPV, existing clinical standards and relevant law. The B-SAFER includes ten perpetrator risk factors (items 1-10) in two domains and five victim vulnerability factors (items 11-15) in one domain (see Table 1). Victim vulnerability factors are meant to guide police in identifying and offering the most appropriate risk management strategies to victims. The presence of vulnerability does not imply blame. Victims are never to blame for the actions of the perpetrator. The B-SAFER includes 15 risk factors in three sections (see Table 1). Risk factors are scored on a nominal three-point scale by police officers and for the purposes of research these ratings were translated into numerical ratings (*no/absent* = 0, *possibly/partially present* = 1, and *yes/present* = 2). Items were then dichotomised and scored as *present* or *absent* by combining ratings of *present* with ratings of *possibly/partially present*. Perpetrator risk factors were assessed for presence by police officers for both the current situation, which includes the most recent four weeks, and for the past, which includes any time prior to the last four weeks. Victim vulnerability factors were only assessed for the current situation. The results report only the ratings for the current risk factors. This decision was made for two reasons. First, since the present study focuses on rurality we chose to examine current ratings so that we could say with a high degree of certainty that the perpetrator and victim lived in an

urban, rural or remote area at the time that the ratings were made. Second, past item ratings included a large amount of missing or omitted items (between 16% and 69% per item), which could have impacted the validity of the findings. Based on the presence of risk and vulnerability factors, police officers made overall risk judgements on a 3-point nominal scale which was converted to a numerical scale for research purposes (*low risk* = 0, *moderate risk* = 1, or *high risk* = 2). Officers made two overall risk judgments in each case, one to indicate the risk of imminent violence and one to indicate the risk of severe/lethal violence.

The B-SAFER was used in the present study as a means of defining the risk factors considered. This was done for two reasons. First, the risk factors in the B-SAFER were developed and defined based on the empirical literature on IPV. Second, all Swedish police officers are trained to use the B-SAFER and mandated to use the B-SAFER in all cases of IPV, thus the resulting risk assessments provide consistent and comparable data across urban, rural, and remote areas. Further, studies have shown that police officers are able to use the B-SAFER consistently and correctly in their work on IPV cases (Belfrage & Strand, 2008; Storey et al., 2014). The data for this study were drawn from two larger research studies examining the evaluation and implementation of structured violence risk assessment tools within the Swedish national police. Portions of the data were included in Storey and Strand (2013; 2017), Petersson, Strand and Selenius (2016) and Petersson and Strand (2017).

Rurality has not previously been examined.

To analyse the severity of the IPV committed in the cases sampled, the index crime reported to police was examined. Since in many cases several index offences were reported, the most severe offence was recorded as the index offence. The index offences reported in order of severity were: attempted murder, gross violation of a woman's integrity, assault (defined as physical assault), sexual crimes, unlawful threats, and other crimes (i.e., kidnapping, harassment, stalking, break and enter, breach of restraining order). The offence of

gross violation of a woman's integrity is unique to Sweden and was codified in the Swedish penal code in 1998. A perpetrator is charged with this offence when there is evidence of repeated IPV. The offence takes into consideration that a victim of IPV will have been normalized to the violence and is therefore more vulnerable to abuse. To reflect the severity of the criminal acts committed, this offence category allows the court to sentence the perpetrator to a longer sentence than would otherwise be possible if each individual index offence were sentenced as a separate crime.

For the purposes of further analysis offences were grouped into three levels (low, moderate or high), that reflected degree of severity. The high severity category included index offences of attempted murder, and gross violation of a woman's integrity. The latter was included because its definition requires multiple incidents of IPV, which can include assault and/or similar violent crimes. The moderate severity category included single instances of, assault and/or sexual violence. The low severity category was defined as psychological violence (e.g., unlawful threats or other crimes that did not include physical violence).

Chi-square analysis was conducted for descriptive data analysis. Kendall's tau-b was used to analyse the relationship between the risk factors and the overall assessed risk. Odds ratio, Phi and Cramer's V were used to measure effect sizes accordingly.

RESULTS

IPV Severity

The type of index offence committed varied by sample ($\chi^2 (10, 1188) = 53.75, p = 0.001, \text{Cramer's } V = 0.15$). Further analysis showed that differences in prevalence were found in the rates of the following reported crimes; assault (urban 60%, rural 49% and remote 43%, $\chi^2 (2, 1188) = 21.45, p < 0.001, \text{Cramer's } V = 0.10$), gross violation of a woman's integrity (urban 18%, rural 31% and remote 39%, ($\chi^2 (2, 1188) = 42.39, p < 0.001, \text{Cramer's } V = 0.15$)).

$V = 0.13$), and sexual crimes (urban 2%, rural 1% and remote 4%, $\chi^2(2, 1188) = 8.94, p < 0.05$, Cramer's $V = 0.06$). No differences were identified in rates of; attempted murder (urban 1%, rural 1% and remote 1%), unlawful threats (urban 15%, rural 14% and remote 11%) or other crimes (urban 5%, rural 5% and remote 4%). Information for each analysis was missing in 27 rural cases and one remote case.

A total of 1169 cases were categorized into the three levels of severity (low, moderate or high). As represented in figure 1, there was a significant difference in the severity of violence reported to police across the three samples ($\chi^2(4, 1169) = 40.75, p < 0.001$, Cramer's $V = 0.13$). Further analyses showed a difference between groups in the high severity category (urban 18%, rural 31% and remote 39%, $\chi^2(2, 1169) = 38.83, p < 0.001$, Cramer's $V = 0.13$) and the moderate severe category (urban 63%, rural 50% and remote 47%, $\chi^2(2, 1169) = 23.55, p < 0.001$, Cramer's $V = 0.10$), but not the low severity category (urban 18%, rural 18% and remote 14%). However, the rural sample had significantly more high severity cases reported than the urban sample ($\chi^2(1, 975) = 22.33, p < 0.001, \phi = 0.15$) and the urban sample had significantly more moderate severity cases than the rural sample ($\chi^2(1, 975) = 16.85, p < 0.001, \phi = 0.13$). Similar differences between the urban and the remote samples were found, where the remote sample had significantly more high severity cases than the urban sample ($\chi^2(1, 745) = 32.87, p < 0.001, \phi = 0.21$) and the urban sample had significantly more cases of moderate severity than the remote sample ($\chi^2(1, 745) = 15.05, p < 0.001, \phi = 0.14$). Overall the results indicate that in urban areas the IPV reported was most often moderate in severity, and that more severe IPV was reported in rural and remote areas.

Figure 1 about here

Prevalence of Risk Factors

As shown in table 1, the presence of IPV risk factors differed by rurality. Significant differences were found for seven of ten perpetrator risk factors and for all victim vulnerability factors. Post hoc analyses, using odds ratios, showed that perpetrators from remote areas were more likely to have present risk factors than perpetrators from rural or urban areas.

Specifically, individual risk factors were 1.58 to 5.46 times more likely to be present in remote areas. In addition, results showed that perpetrator risk factors were more often present in urban areas than in rural areas. Victim vulnerability factors also differed by rurality. In general, victims from urban and remote areas had more vulnerability factors present than victims from rural areas.

Table 1 about here

Association Between Risk Factors and Overall Risk Level by Rurality

A comparison of the three samples, as described in table 2, showed significant differences in the assessed level of overall risk for both the risk of imminent violence (χ^2 (1216, 4) = 118.09, $p = 0.001$, Cramer's V = 0.22) and the risk of severe/lethal violence (χ^2 (1216, 4) = 41.63, $p = 0.001$, Cramer's V = 0.13). Post hoc analyses demonstrated that police officers in rural areas assessed more cases as low risk of imminent violence (58%) compared to officers in urban (31%) and remote (39%) areas, χ^2 (1216, 2) = 73.32, $p = 0.001$, Cramer's V = 0.17. Police officers in urban areas assessed more cases as high risk (30%) compared to officers in rural (6%) and remote (19%) areas, χ^2 (1216, 2) = 92.30, $p = 0.001$, Cramer's V = 0.19. Post hoc analyses for the risk of lethal violence showed that police officers in rural areas assessed more cases as low risk (76%) compared to officers in urban (62%) and remote (56%) areas, χ^2 (1216, 2) = 35.26, $p = 0.001$, Cramer's V = 0.12. Rural areas also had significantly fewer high-risk cases of lethal violence (3%) compared to urban (10%) and remote (9%)

areas, $\chi^2(1216, 2) = 18.67, p = 0.001$, Cramer's $V = 0.09$. Police officers in remote areas assessed more cases as moderate risk (35%) compared to police officers in urban (29%) and rural (21%), $\chi^2(1216, 2) = 16.88, p = 0.001$, Cramer's $V = 0.08$.

The associations between present risk factors and overall risk judgements were generally consistent across the three samples (see table 2). Four of the five risk factors in the *Intimate Partner Violence* section showed significant correlations with overall risk judgements across all four samples that were moderate in strength. Item 4 (*Violation of Court Orders*) differed, where significant results were only present for the urban sample. Within the *Psychosocial Adjustment* section, significant correlations of moderate strength between risk factors and overall risk judgements were found for all five items in the urban and rural samples. Within the remote sample fewer significant correlations were identified. In the remote sample, three of five risk factors were associated with imminent risk of IPV, these associations were low in strength, and four risk factors were associated with severe/lethal risk of IPV, these associations were low to moderate in strength. Items in the *Victim Vulnerability* section were significantly correlated with the overall risk judgements of imminent and severe/lethal IPV in all three samples, with one exception. Item 11 (*Inconsistent Attitudes or Behaviour*) was not associated with the risk of severe/lethal violence in the rural sample. Correlations within this section ranged in strength from low to moderate.

Table 2 about here

DISCUSSION

The present study compared offence severity and the presence of risk factors for IPV across three samples of IPV cases that differed in their level of rurality. The overall findings show that the most severe IPV and the most risk factors for IPV were reported in the remote area, which is in line with the work by Edwards (2015). The results also show that the

presence and importance of risk factors differed based on the rurality of the sample, suggesting that risk factors may be differentially weighted by police officers in rural and remote areas.

The severity of reported IPV was found to be higher in remote and rural areas than in urban areas. The high IPV severity category included the offence of gross violation of a woman's integrity. Thus, in addition to identifying that less populated samples experienced more severe IPV, the results also suggest that they experienced IPV for longer periods of time. Limited access to services could account for the delay in reporting by these groups. For instance, victims of IPV in less populated areas have reduced access to community services that can support them in reporting abuse, and reduced access to police (e.g., no public transportation to a police station) compared to victims in urban areas. The lack of access to health care and shelters can also delay reporting because these resources provide opportunities to escape an abusive relationship and obtain protection from the perpetrator. Further, a lack of access to services can force victims to rely on informal social networks, which many victims may not have. Thus, limited access to resources in less populated areas, may partially explain the heightened severity of IPV found here and in other studies (Logan et al., 2007; Peek-Asa et al., 2011).

The presence of some B-SAFER risk factors differed based on rurality. In remote areas, perpetrators were up to five times as likely to have certain risk factors be rated as present than were perpetrators in urban and rural areas. This is very much in the line with the finding that IPV in remote areas was more severe, as we would expect more severe cases of IPV to have more risk factors. This finding has two possible implications; first, the results may again reflect the fact that victims in remote areas wait longer to report IPV, and are therefore coming to police attention once their situation is severe. Second, perpetrators in

remote areas are in substantial need of management strategies to mitigate the risk factors they possess.

Specifically, the two risk factors Item 5 (*Violent Attitudes*) and item 7 (*Intimate Relationship Problems*) were more common in remote areas than in both rural and urban areas, which is in line with the report of the most severe index crime gross violation of a woman's integrity (see figure 1). Although risk factors were generally more prevalent in remote areas, Item 2 (*Violent threats or thoughts*) and Item 12 (*Extreme Fear of Perpetrator*) were more common in urban areas. One possible reason for this finding, is that since victims in urban areas have the potential for greater contact with other individuals, perpetrators may use threats to keep them from disclosing the abuse to others and the threats they use may result in high levels of victim fear.

Police officers' ratings of overall risk differed by rurality. Similar to the results reported by Peek-Asa and colleagues (2011), cases in urban areas were most often judged to be at the highest risk for IPV, followed by remote areas. These results would appear to be at odds with our findings regarding severity, where less populated areas had more severe IPV. One possible explanation for this incongruity, is that because assistance is more limited in less populated areas, victims who make the considerable effort to seek out support and report IPV to authorities, are more determined to leave the abuser and are therefore viewed as being at reduced risk despite the heightened severity of the IPV reported. Although this may be a reasonable assumption for police to make when evaluating imminent risk, is it not reasonable when evaluating the risk of severe/lethal risk. One of the most dangerous times for a victim of IPV is when they try to leave an abusive relationship (Kropp et al., 2010).

A second possible reason for the incongruity is a methodological difference in how officers were assigned cases in each area. Police in rural and remote areas completed B-SAFER assessments on all reported cases of IPV. By contrast, IPV cases in urban areas were

first subject to a triage assessment where cases assessed as no or very low risk were managed differently and not assessed using the B-SAFER. This procedure is necessary in urban areas due to the volume of IPV cases reported to police, however, it may have artificially inflated the proportion of high risk cases in the urban sample and therefore could explain our results.

A large number of significant correlations were found between risk factors and overall risk judgements, indicating that the B-SAFER risk factors assisted police in assessing risk for IPV across all three samples. Specifically, the urban sample showed consistent significant associations between risk factors and overall risk judgements, the rural sample showed significant associations for all but two risk factors and overall risk judgements, and the remote sample showed significant associations for all but four risk factors and overall risk judgements. Item 4, *Violation of Court Orders*, was not significantly associated with overall risk judgements in either the rural or the remote samples, this is likely due to the low rates of no-contact orders in those areas (5% and 3%, respectively). It is notable that the three other risk factors not related to overall risk judgements in remote areas are all within the *Psychosocial Adjustment* section of the B-SAFER. Specifically, items 7 and 9 (*Intimate relationship problems* and *Substance use problems*, respectively) were more common in remote areas, than in rural and urban areas. Nevertheless, police officers did not consider those items to be the most important risk factors when evaluating overall risk for IPV. Instead, the strongest associations with overall risk judgements were found for Item 3 (*Escalation*), Item 12 (*Extreme fear*), Item 13 (*Inadequate support or resources*), and Item 14 (*Unsafe living situation*). This suggests that officers in remote areas were relying to a greater extent on risk factors related to the IPV perpetrated and the victim to determine the overall risk for future IPV, as opposed to risk factors related to perpetrator's psychosocial adjustment. In the urban and rural samples however, risk factors across all three sections of the B-SAFER

were more evenly associated with overall risk judgements, indicating that officers thought each contributed equally to the overall determination of risk.

Practical Implications

The results have several practical implications for law enforcement. Increased rurality was related to an increase in the severity of IPV. As such, police officers in less populated areas should have clear routines that allow them to quickly respond to and manage IPV cases once they are reported. It was suggested that one reason for the increased severity in less populated areas may be delayed reporting of IPV. One possible reason for delayed reporting, is that in less populated areas victims may have personal connections with the individuals to whom they are supposed to report the abuse (e.g., in a small town they may know or be related to one of the few police officers in town), making them too embarrassed or afraid to seek help. In fact, through contact with police for the purpose of this study, we were told that some victims were travelling into more populated areas to report IPV. Travel like this would be quite lengthy, whereas in urban centres it can be much easier to access different police stations. To encourage reporting in remote locations one possible protocol might be to allow victims to report IPV by phone in a town that is not their hometown. Future meetings between the victim and police could then be arranged or even set up over video conferencing. Regardless of which specific method is chosen, what is key is that victims have alternative methods by which to report IPV, that they feel safe in reporting via those methods, and that they are made aware of how to use the methods.

After a report has been made, another practical problem that arises is that victims in urban areas will receive services faster than victims in less populated areas due to low staff numbers in the latter. In fact, in some rural and remote areas there might not even be enough police officers available to begin working on a case once it is reported because other more serious cases will have taken priority. Often if cases are not life threatening or otherwise

urgent they will be prioritized behind other violent crimes that are, this might lead to a decrease in reporting IPV for victims. If the police in more rural areas have a strong collaboration with other social services, like women shelters etc., that can be available for the victims when reporting a crime, that might increase the possibility for victims to report. If they know that at least they will get some help at the time for the report, even if the investigation of the crime will not be instant, they might feel secure enough to file the report.

The high severity offence of gross violation of a woman's integrity was found to be more common in less populated areas. This suggests that police and other service providers in these areas should be trained in assisting victims of long-term abuse and should be sensitized to the types of cognitive distortions that victims may hold as a result of prolonged victimization. This can be difficult in less populated areas, as professionals in such areas often wear many different hats. As such, it might be helpful to establish formal connections between small departments in less populated areas and specialized departments in urban areas so that knowledge and support can be shared. Sweden recently moved to a system where the entire country is policed by one unified police force, which could make such knowledge and work sharing possible. Another possible solution would be for police officers in rural and remote areas to have access to other types of professionals with expertise regarding IPV, such as social workers or psychologists who could provide guidance to officers.

The results support the use of the B-SAFER in IPV cases in urban, rural and remote areas. Police officers in all three areas were able to identify the presence of risk factors, and in the vast majority of cases those risk factors were associated with the judgements they made regarding overall risk. Although fit for use in all areas, the results suggest that police officers considered certain B-SAFER risk factors to be more relevant to judgements of overall risk in certain areas. Specifically, in urban areas all risk factors were found to be associated with overall risk judgements, in rural areas items 4 (*Violation of court*

orders) and 11 (*Inconsistent attitudes or behavior*) were not related to overall risk judgements and in remote areas items 4 (*Violation of Court Orders*), 7 (*Intimate relationship problems*), 8 (*Employment problems*) and 9 (*Substance use problems*) were not related to overall risk judgements. If officers were correct in their weighting of these risk factors the results may indicate that certain risk factors are more or less important depending on rurality. Future research examining the predictive validity of the risk factors across rurality is required to corroborate the results. If validated, it would indicate that officers in rural or remote areas can improve their risk management efforts by focusing on the risk factors most related to future IPV and create more effective risk management plans for the perpetrator and victim.

Strengths and Limitations

This study has several strengths. First, it is one of only two studies to specifically examine IPV in remote areas. Further, the sample size of our remote group is double that of the only other study to examine remote IPV (i.e., Peek-Asa et al., 2011). Second, risk factors not previously compared by rurality were examined, and those factors that were examined were derived from a standardized violence risk assessment instrument used for over a decade by the Swedish Police (Belfrage & Strand, 2012). As such, the results provide unique information on risk factors that were operationally defined and rated in a consistent manner. In addition, because the risk factors are from a commonly used violence risk assessment instrument, we know that they have been validated and used in Sweden as well as in several other countries (e.g., Canada, Hong Kong, the Netherlands, and Portugal). One of the strengths of this study is that it examined IPV across different areas of population density. Prior studies have shown that rurality can impact IPV (i.e., Edwards, 2015; Breiding, Ziembroski, & Black, 2009; Lanier & Maume, 2009; Peek-Asa et al., 2011; Van Hightower & Gorton, 1998). As such, the results can be generalized to countries with similar geographical

landscapes. Finally, this was the first study to consider how risk factors present in urban, rural and remote areas are considered in police officers' overall risk judgements.

One limitation of the present study is that although it examined differences in the severity of IPV by rurality, cases of intimate partner homicide were not included in the sample. The reason for this, is that in cases of intimate partner homicide officers do not conduct violence risk assessments or develop risk management plans, and the present study only examined cases where a B-SAFER was completed. The second limitation, is the additional triage procedure that was undertaken by police departments in urban areas in order to deal with the high volume of IPV reports. The potential impact of this finding is discussed above, but while this procedure may have increased the number of high-risk cases in the urban sample, it will not have impacted the association between risk factors and overall risk judgements.

CONCLUSION

Rurality impacted IPV severity, the presence of risk factors and overall risk ratings for future IPV. Victims of IPV in remote areas reported more severe IPV than victims in rural and urban areas. This may be caused by delayed reporting due to a lack of community services, but regardless of origin, indicates a need to support victims in less populated areas quickly and efficiently once IPV is reported. The presence of perpetrator risk factors for IPV also differed by rurality. The B-SAFER is a validated and widely used risk assessment instrument for IPV, but the validation research conducted in Sweden has mostly been done within urban areas (Belfrage & Strand; 2008, 2012). The present results support the use of the B-SAFER in cases of IPV in urban, rural and remote areas; however, it may be valuable for evaluators to understand that certain risk factors may be of greater importance in remote and rural areas when assessing the overall risk for future IPV.

REFERENCES

- Au, A., Cheung, G., Kropp, R., Yuk-chung, C., Lam, G. L. T., & Sung, P. (2008). A preliminary validation of the Brief Spousal Assault Form for the Evaluation of Risk (B-SAFER) in Hong Kong. *Journal of Family Violence, 23*, 727-735. doi: 10.1007/s10896-008-9198-z
- Belfrage, H., & Strand, S. (2008). Structured spousal violence risk assessment: Combining risk factors and victim vulnerability factors. *International Journal of Forensic Mental Health, 7*(1), 39-46.
- Belfrage, H. & Strand, S. (2012). Measuring the Outcome of Structured Spousal Violence Risk Assessments using the B-SAFER: Risk in Relation to Recidivism and Intervention. *Behavioral Sciences and the Law 30*(4), 420-430. DOI: 10.1002/bsl.2019.
- Booth, B. M., Ross R. L., & Rost, K. (1999). Rural and urban problem drinkers in six southern states. *Substance Use & Misuse, 34*, 471–493.
- Breiding, M. J., Ziembroski J. S., & Black, M. C. (2009). Prevalence of rural intimate partner violence in 16 US states, 2005. *Journal of Rural Health, 25*, 240-246.
- Cole, J., & Logan, T. K. (2010). Nonmedical use of sedative-hypnotics and opiates among rural and urban women with protective orders. *Journal of Addictive Diseases, 29*, 395–409.
- de Reuter, C., de Jong, E., Reus, M., & Thijssen, J. (2008). *Risk assessment in perpetrators of relational violence: A comparison of RISC and B-SAFER*. Netherlands Institute of Mental Health and Addiction.
- Devries, K. M., Mak, J. Y. T., Garcia-Moreno, C., Petzold, M., Child, J. C., Falder, G., Lim, S., Bacchus, L. J., Engell, R. E., Rosenfeld, L., Pallitto, C., Vos, T., Abrahams, N. & Watts, C. H. (2013). The global prevalence of intimate partner violence against women. *Science, 340*, 1527–1528. doi: 10.1126/science.1240937

- Dudgeon, A., & Evanson, T. (2014). Intimate partner violence in rural U.S. areas: What every nurse should know. *American Journal of Nursing, 114*(5), 26-35. doi: 10.1097/01.NAJ.0000446771.02202.35
- Eastman, B. J., Bunch, S. G., Williams, A. H., & Carawan, L. W. (2007). Exploring the perceptions of domestic violence service providers in rural localities. *Violence Against Women, 13*(7), 700-716. doi: 10.1177/1077801207302047
- Edwards, K. M. (2015). Intimate partner violence and the rural–urban–suburban divide: Myth or reality? A critical review of the literature. *Trauma, Violence, & Abuse, 16*(3), 359-373. doi: 10.1177/1524838014557289
- Gallup-Black, A. (2005). Twenty years of rural and urban trends in family and intimate partner homicide: Does place matter? *Homicide Studies, 9*(2), 149-173.
- García-Moreno, C., Pallitto, C., Devries, K., Stöckl, H., Watts, C., Abrahams, N., & Petzold, M. (2013). Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence. Geneva, Switzerland: World Health Organization.
- Goeckermann, C., Hamberger, K., & Barber, K. (1994). Issues of domestic violence unique to rural areas. *Wisconsin Medical Journal, 93*, 473–479.
- Kropp, P. R. (2008). Development of the spousal assault risk assessment guide (SARA) and the brief spousal assault form for the evaluation of risk (B-SAFER). In A. C. Baldry, & F. W. Winkel (Eds.), *Intimate partner violence prevention and intervention* (pp. 19-31). New York: Nova Science Publishers, Inc.
- Kropp, P. R., & Belfrage, H. (2004). *The Brief Spousal Assault Form for the Evaluation of Risk: B-SAFER*. Paper presented at the 2nd International Conference – Toward a Safer Society. Edinburgh, Scotland.

- Kropp, P. R., Hart, S. D., & Belfrage, H. (2008). *Bedömning av risk för upprepat partnervåld (SARA:SV: Version 2). Användarmanual*. Sundsvall: Rättspsykiatriska Regionkliniken.
- Comment: Swedish translation of the Brief spousal assault form for the evaluation of risk (B-SAFER). User manual. Vancouver: Proactive Resolutions.
- Kropp, P. R., Hart, S. D., & Belfrage, H. (2010). *Brief spousal assault form for the evaluation of risk (B-SAFER) Version 2: User manual*. Vancouver: Proactive Resolutions.
- Lanier, C., & Maume, M. O. (2009). Intimate partner violence and social isolation across the rural/urban divide. *Violence Against Women, 15*(11), 1311-1330. doi: 10.1177/1077801209346711
- Logan, T. K., Cole, J., Shannon, L., & Walker, R. (2007). Relationship characteristics and protective orders among a diverse sample of women. *Journal of Family Violence, 22*(4), 237-246. doi: 10.1007/s10896-007-9077-z
- Logan T. K., Stevenson, E., Evans, L., & Leukfeld, C. (2004). Rural and urban women's perceptions of barriers to health, mental health, and criminal justice services: implications for victim services. *Violence and Victims, 19*(1), 37-62. doi: 10.1891/088667004780842877
- Logan, T. K., Walker, R., Cole, J., Ratliff, S., & Leukefeld, C. (2003). Qualitative differences among rural and urban intimate violence victimization experiences and consequences: A pilot study. *Journal of Family Violence, 18*, 83-92. doi:10.1023/A:1022837114205
- Logan, T. K., Walker, R., & Leukefeld, C. G. (2001). Rural, urban influenced, and urban differences among domestic violence arrestees. *Journal of Interpersonal Violence, 16*(3), 266–283. doi: 10.1177/088626001016003006
- Peek-Asa, C., Wallis, A., Harland, K., Beyer, K., Dickey, P. & Saftlas, A. (2011). Rural disparity in domestic violence prevalence and access to resources. *Journal of Women's Health, 20*, 1743-1749. doi:10.1089/jwh.2011.2891.

- Petersson, J., Strand, S., & Selenius, H. (2016). Risk factors for intimate partner violence: A comparison of antisocial and family-only perpetrators. *Journal of Interpersonal Violence*. Advance online publication. doi: 10.1177/0886260516640547.
- Peterson, J. & Strand, S. (2107). Recidivism of intimate partner violence among antisocial and family-only perpetrators. *Criminal Justice & Behavior: An International Journal*. 44(11). 1477-1495. doi: 10.1177/0093854817719916
- Shannon, L., Logan, T., Cole, J., & Walker, R. (2008). An examination of women's alcohol use and partner victimization experiences among women with protective orders. *Substance Use & Misuse*, 43, 1110–1128.
- Soeiro, C., & Almeida, I. (2010). *Spousal assault risk assessment and police intervention: Application to the Portuguese population*. Paper presented at the 10th Annual Meeting of the International Association of Forensic Mental health Services, Vancouver, Canada.
- SCB, Statistics Sweden. (2016). *Statistics Sweden, in Swedish Statistiska Centralbyrån SCB*. Retrieved from <http://www.scb.se/sos>
- Storey, J. E., Kropp, R. P., Hart S. D. Belfrage, H., & Strand, S. (2014). assessment and management of risk for intimate partner violence by police officers. Using the brief spousal assault form for the evaluation of risk. *Criminal Justice and Behavior*, 41(2), 256-271. doi: 10.1177/0093854813503960
- Storey, J. E., & Strand, S. (2013). Assessing violence risk among female IPV perpetrators: An examination of the B-SAFER. *Journal of Aggression, Maltreatment & Trauma*, 22, 964-980. DOI: 10.1080/10926771.2013.835015
- Storey, J. & Strand, S. (2017). The influence of victim vulnerability and gender on police officers' assessment of intimate partner violence risk. *Journal of Family Violence*, 32, 125-134. doi:10.1007/s10896-016-9905-0

Swedish Board of Agriculture. (2016). *Swedish board of agriculture*. Retrieved from <http://www.jordbruksverket.se>

The United States Census Bureau. (2016). United States Census Bureau. Retrieved from <http://www.census.gov>

Van Hightower, N. R., & Gorton, J. (1998). Domestic violence among patients at two rural health care clinics: Prevalence and social correlates. *Public Health Nursing, 15*(5), 355-362.

Websdale, N., & Johnson, B. (1998). An ethnostatistical comparison of the forms and levels of woman battering in urban and rural areas of Kentucky. *Criminal Justice Review, 23*, 161-196.

Websdale, N. (1995). Rural woman abuse: The voices of Kentucky women. *Violence Against Women, 1*(4), 309-338.

Winkel, F. W. (2008). Identifying domestic violence victims at risk of hyper-accessible traumatic memories and/or re-victimization through validated screening: The predictive performance of the Scanner and the B-SAFER. In A. C. Baldry and F. W. Winkel (Eds.), *Intimate partner violence prevention and intervention: The risk assessment and management approach*. Hauppauge, NY: Nova Science Published.

Table 1

Distribution and Comparison of the Presence of B-SAFER Risk Factors in Urban, Rural and Remote Areas.

B-SAFER risk factors assessed as current	Missing (%)	Present or Partly Present (%)			χ^2	Cramer's V	Post-hoc comparisons: OR (95% CI)		
		Urban	Rural	Remote			Urban-Rural	Urban-Remote	Rural-Remote
<i>Intimate Partner Violence</i>									
1. Violent Acts	3%	82%	82%	86%	1.52				
2. Violent Threats or Thoughts	8%	75%	62%	67%	16.03***	0.12	0.57 [0.43, 0.75]		
3. Escalation	22%	68%	44%	74%	61.24***	0.25	0.38 [0.28, 0.51]		3.62 [2.40, 5.46]
4. Violation of Court Orders	21%	9%	5%	7%	5.12				
5. Violent Attitudes	28%	75%	68%	84%	13.21***	0.12	0.71 [0.51, 0.98]	1.71 [1.03, 2.82]	2.41 [1.46, 3.98]
<i>Psychosocial adjustment</i>									
6. General Criminality	10%	35%	38%	40%	2.30				
7. Intimate Relationship Problems	42%	74%	58%	88%	40.14***	0.24	0.47 [0.33, 0.67]	2.58 [1.40, 4.74]	5.46 [2.96, 10.06]
8. Employment Problems	44%	62%	59%	58%	0.33				
9. Substance Use Problems	33%	72%	63%	78%	13.45***	0.13	0.67		2.16

							[0.48, 0.92]	[1.37, 3.39]
10. Mental Health Problems	53%	67%	52%	73%	17.32***	0.17	0.54	2.42
							[0.37, 0.79]	[1.49, 3.91]
<i>Victim Vulnerability Factors</i>								
11. Inconsistent Attitudes or Behaviour	16%	64%	50%	64%	18.77**	0.14	0.57	1.73
							[0.43, 0.75]	[1.20, 2.50]
12. Extreme Fear of Perpetrator	15%	61%	38%	42%	49.04***	0.22	0.40	0.45
							[0.30, 0.52]	[0.32, 0.64]
13. Inadequate Support or Resources	19%	50%	24%	45%	66.23***	0.26	0.31	2.67
							[0.23, 0.41]	[1.81, 3.91]
14. Unsafe Living Situation	20%	67%	60%	71%	6.89*	0.08		1.59
								[1.07, 2.37]
15. Health Problems	32%	82%	82%	86%	9.13**	0.11	0.66	1.58
							[0.49, 0.90]	[1.06, 2.34]

Note. N = 1219.

***p<0.001, **p<0.01, *p<0.5

Table 2

Relationship Between B-SAFER Risk Factors and Overall Level of Risk in Urban, Rural and Remote Areas.

B-SAFER risk factors	Urban <i>n</i> = 564			Rural <i>n</i> = 456			Remote <i>n</i> = 196		
	<i>n</i>	Imminent	Severe/ Lethal	<i>n</i>	Imminent	Severe/ Lethal	<i>n</i>	Imminent	Severe/ Lethal
<i>Intimate Partner Violence</i>									
1. Violent Acts	538	0.33***	0.27***	451	0.15***	0.14***	194	0.22***	0.22***
2. Violent Threats or Thoughts	509	0.39***	0.42***	439	0.29***	0.23***	172	0.20**	0.28***
3. Escalation	426	0.43***	0.47***	361	0.29***	0.25***	159	0.24***	0.33***
4. Violation of Court Orders	377	0.21***	0.22***	421	0.09	0.06	161	0.06	0.11
5. Violent Attitudes	391	0.40***	0.37***	340	0.37***	0.27***	142	0.27***	0.26***
<i>Psychosocial adjustment</i>									
6. General Criminality	502	0.26***	0.22***	430	0.24***	0.23***	167	0.18**	0.37***
7. Intimate Relationship Problems	336	0.29***	0.27***	254	0.31***	0.30***	119	0.06	0.29***

8. Employment Problems	250	0.20***	0.15**	314	0.20***	0.14**	116	0.18*	0.05
9. Substance Use Problems	316	0.28***	0.19***	353	0.21***	0.21***	143	0.13	0.16*
10. Mental Health Problems	222	0.39***	0.40***	233	0.27***	0.25***	117	0.24**	0.26**
<i>Victim Vulnerability Factors</i>									
11. Inconsistent Attitudes or Behaviour	455	0.23***	0.11**	397	0.19***	0.10	171	0.23***	0.19**
12. Extreme Fear of Perpetrator	458	0.40***	0.36***	399	0.25***	0.25***	178	0.34***	0.36***
13. Inadequate Support or Resources	401	0.27***	0.24***	422	0.19***	0.12*	159	0.36***	0.35***
14. Unsafe Living Situation	390	0.43***	0.33***	426	0.39***	0.17***	154	0.37***	0.41***
15. Health Problems	312	0.27***	0.17**	373	0.14**	0.10*	137	0.16*	0.16*

***p<0.001, **p<0.01, *p<0.05. Calculated with Kendall's Tau_b.

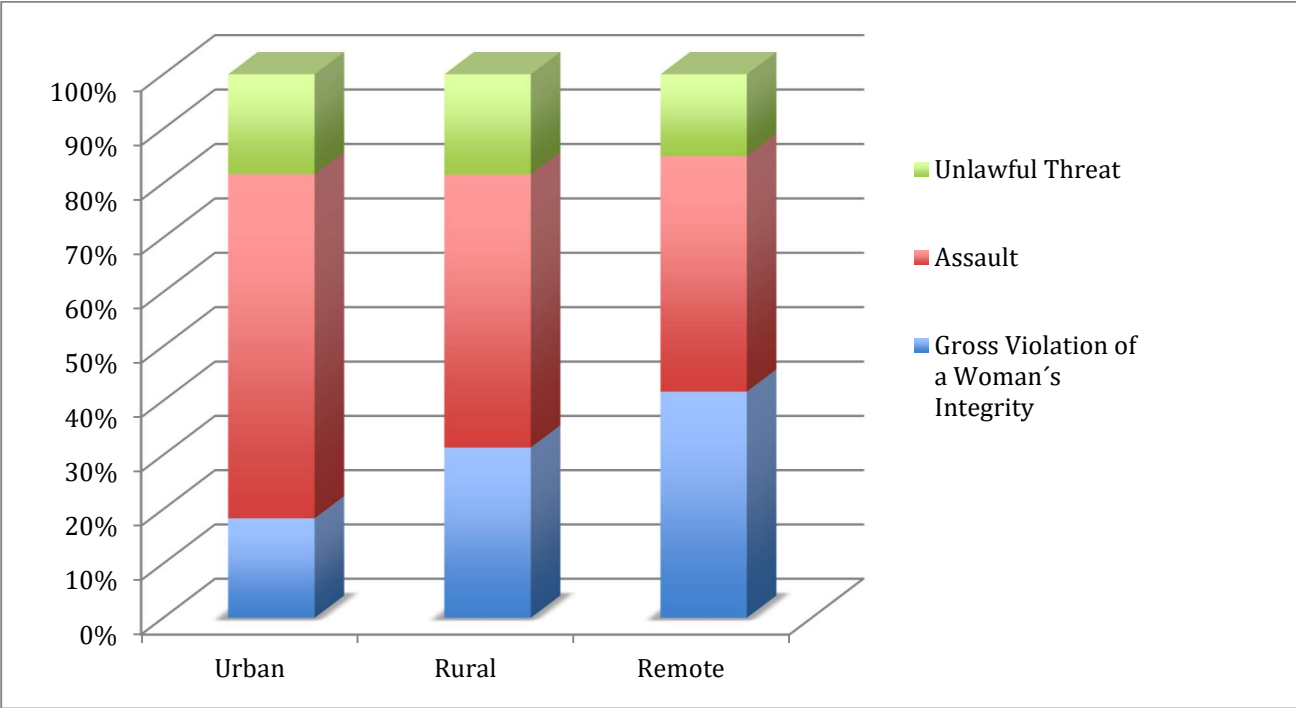


Figure 1. Comparison of degree of severity based on index crime categories in a sample of IPV perpetrators in urban, rural and remote areas

Susanne JM. Strand, PhD, is a senior lecturer and researcher at Örebro University, Sweden, and an adjunct at Swinburne University of Technology, Australia. She researches risks of violence with the applied criminology as the academic base. The focus of her research is risk assessment and risk management concerning intimate partner violence, stalking, and honor based violence. The research is conducted in collaboration with practitioners within both the police and the forensic psychiatric care.

Jennifer E. Storey, PhD, is a lecturer in Forensic Psychology within the School of Law at Royal Holloway University of London. Dr. Storey's research interests and expertise lie in the assessment, management, and communication of violence risk with a focus on interpersonal violence including intimate partner violence, elder abuse, stalking, and sexual violence.