Does Stalking Behavior Improve Risk Prediction of Intimate Partner Violence?

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Abstract

The present study investigates whether stalking is associated with recidivism risk among IPV offenders and incrementally adds to the predictive validity of existing validated risk measures for predicting recidivism of intimate partner violence (IPV) perpetrators. Using 226 police-reported cases of IPV, the criminal histories of the perpetrators in these cases were examined, and perpetrators were categorized based on their stalking histories. Stalkers and non-stalkers were then compared on their risk scores, and survival analyses were conducted to determine if stalking incrementally improved prediction of recidivism outcomes over and above the Ontario Domestic Assault Risk Assessment (ODARA) and a modified version of the Spousal Assault Risk Assessment (SARA). We found that the SARA significantly differed between stalking and non-stalking perpetrators, but no difference emerged when we examined the ODARA score and recidivism outcomes. We found that stalking did not incrementally increase predictive validity for recidivism outcomes over and above the modified SARA and ODARA. Our findings challenge policies that regard stalking as a risk factor for future IPV and explore how police services may better allocate resources in cases of intimate partner stalking.

Keywords: stalking, intimate partner violence, risk assessment, ODARA, SARA

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Much has been written about stalking and intimate partner violence (IPV), and some have suggested that stalking may be associated with the context of IPV (e.g., Spitzberg et al.'s (2010) meta-analysis identified 44% of stalking cases involved a past intimate partner). Stalking can be defined as an individual engaging in persistent and unwanted communication or contact with a victim, consequently leading the victim to experience distress and fear for their safety (Kropp et al., 2002). Surveillance and monitoring of an intimate partner, often described as stalking, is one aspect of coercive control (Stark, 2007; Stark & Hester, 2019). Outside of ongoing intimate relationships, 'stalking' refers to a broader range of behaviors that goes beyond surveillance and monitoring to include threats, violence, reputational harm, and other behaviors (McEwan et al., 2020). In relationships where IPV is prevalent, stalking may be used primarily for the purpose of the offender gaining control of their victim or for other reasons (Logan et al., 2009). Hence, it is important to recognize the breadth of stalking behaviors can encompass behavior that occurs during a relationship as part of a pattern of coercive control or post-relationship as a discrete stalking episode (as well as stalking that does not involve current or former intimate partners).

Whether or not a stalking offence involved violence towards the victim, the distress experienced by stalking victims can be debilitating. Studies have shown that distress from stalking by ex-partners can lead to psychological, physical, and vocational problems (Blaauw et al., 2002). The most common issues victims face include lifestyle changes, such as job changes and relocation out of fear of continued contact and

communication from the offender. It is notable that there may be a greater likelihood of post-relationship stalking following relationships with IPV, as Senkans et al. (2017) found that a greater number of women who experienced IPV reported experiencing stalking after relationship termination than those who never experienced IPV. On the other hand, a review of 289 domestic homicide cases in one Canadian province noted that obsessive behaviors, including stalking, was identified as a risk factor for 47% of those cases (Ontario DVDRC, 2017). A question that may arise for police, is whether the presence of stalking post-relationship is associated with or may lead to future violent behaviors, such as domestic homicide. Therefore, it is important to examine the relevance of stalking as a potential risk factor and whether it is associated with a perpetrator's propensity or risk for IPV recidivism.

The importance of assessing risk for recidivism and more particularly, using validated tools to assess recidivism risk, has been outlined in the principles of effective correctional rehabilitation, also known as the risk, need, and responsivity (RNR) principles, which were developed over 30 years ago and have been the cornerstone of guiding programs to reduce recidivism among adjudicated offenders (Bonta & Andrews, 2017). Specifically, the risk principle of the RNR framework insists that high-risk individuals must receive the highest intensity of service in order to reduce recidivism (Bonta & Andrews, 2017). Translated to a frontline context, the use of strongly supported and validated measures have significant advantages for police to prioritize cases that are deemed higher risk for future incidents of violence, including IPV (see Belfrage & Strand, 2012; Jung & Buro, 2017; for further discussion on allocation of services based on risk). However, it is necessary that discretion used to enhance risk

assessment is only used when empirically validated. Other studies have shown that professional discretion can reduce the predictive utility of some tools (e.g., Orton et al., 2020), and therefore, it is important to use risk assessment tools and risk factors that have been validated in research.

Returning to stalking as a potential risk factor, it is important to recognize that although there are laws in Canada and the U.S. to protect individuals from stalking victimization, they do not always prevent offenders from continuing to reoffend (McEwan et al., 2020). However, with police inaction, there is a greater risk to the victim, as suggested by a recent study by Ngo (2020) that included victims of stalking, of which 33% involved an intimate partner. The results showed that police actions, such as taking a report or warning the perpetrator, increased the odds that the victim's stalking situation improved. The general literature on victimization has shown that 30-60% of stalking victims have been threatened by the perpetrator (Mullen et al., 2006), and in one study, 19% of stalking behaviors involved violent acts while 41% of stalkers had prior violence (McEwan et al., 2009). Some might argue that most of the violence committed during or following stalking offences is relatively minor. However, many cases of stalking that end fatally are not always acknowledged by the criminal justice system because the offender is usually charged with a more serious offence (Rosenfeld, 2004) or not at all (Tjaden & Thoennes, 2000). Hence, it is difficult to know precisely how many severely violent acts, such as homicide, are preceded by stalking by the perpetrator. However, some have found that stalking behaviors are commonly observed prior to a lethal offence by an intimate partner (Campbell et al., 2007; McFarlane et al., 1999; Ontario DVDRC, 2017), and Mechanic et al. (2008) have found

that stalking uniquely contributes to the prediction of physical injuries among battered women. Further, meta-analytic studies by Rosenfeld (2004) and Churcher and Nesca (2013) have reported that violence commonly occurs in stalking cases.

Due to the severe outcomes that are associated with stalking behaviors, risk tools have been developed to predict the likelihood of engaging in future stalking (McEwan, 2019) and are only applicable in situations where the relationship between intimate partners has ended. Some of the risk tools developed to predict stalking recidivism include the Stalking Assessment and Management (SAM; Kropp et al., 2008) and the Stalking Risk Profile (SRP; MacKenzie et al., 2009). It is important to note that these tools appear to demonstrate good interrater reliability and construct validity. Also, the SRP has shown good predictive validity (McEwan et al., 2018), whereas the SAM showed poor ability to predict stalking and violent reoffending (Belfrage & Strand, 2009; Foellmi et al., 2016; Gerbrandij et al., 2018). When the summary risk judgements from the SAM were used, there was mixed support for its ability to discriminate stalking recidivists and non-recidivists (e.g., Shea et al. [2018] found support; Coupland [2018] did not, although summary judgments did discriminate violent recidivists and non-recidivists).

When we examine risk assessment tools developed for intimate partner violence (IPV) whether the situation involves current or past partners, there are several tools that have been found to be both reliable and valid, and significantly predict recidivism outcomes as well. The Ontario Domestic Assault Risk Assessment (ODARA; Hilton et al., 2004, 2010) and Spousal Assault Risk Assessment (SARA; Kropp et al., 1995) have shown to produce tools with moderate to large effect sizes for predicting general,

violent, and IPV recidivism (e.g., Jung & Buro, 2017; van der Put et al., 2019), among other validated tools. One such tool includes the Brief Spousal Assault Form for the Evaluation of Risk (B-SAFER), which was developed for use by law enforcement. The B-SAFER has shown mixed results with some empirical support (Storey et al., 2014; also, Loinaz, 2014; Svalin et al., 2018, although they did not indicate significance or provide confidence intervals for statistical analyses) and some showing no significant support for the tool (Belfrage & Strand, 2012; Gerbrandij et al., 2018).

Although it has still yet to be examined, some existing tools used in practice have included stalking as a variable for consideration (e.g., Danger Assessment, Campbell et al., 2009; Family Violence Investigative Report, Jung & Buro, 2017), suggesting that stalking may be perceived as a contributor to the prediction of IPV recidivism risk and/or intimate partner homicide among IPV cases. It would be prudent to examine whether IPV perpetrators who stalk differentiate in terms of IPV recidivism risk when compared to non-stalking perpetrators, and whether stalking has any added value to existing validated risk tools. If stalking is a relevant factor, then there are two added benefits. First, the addition of a stalking item to the ODARA and SARA could potentially improve the predictive validity of both tools. However, without empirical examination, such assumptions are speculative at best. Second, if stalking is risk-relevant then it highlights the importance of gathering information regarding the perpetrator's stalking behavior during the investigation. This also lends credence to the victim and their perception of the police process in asking about such behaviors, which receive relatively less attention than other reported assaultive behaviors. Such change to practice allows for greater consideration of interventions or referrals to community resources.

The present study aims to examine stalking behaviors in relation to IPV recidivism risk. First, it is important to empirically investigate whether stalking and non-stalking perpetrators differ on overall assessed risk using a validated measure; in this study, we will use the ODARA and modified version of the SARA. Second, this study examines whether the addition of a stalking item improves the prediction of any, violent, and IPV recidivism over and above these existing measures. It is important to note that there are contrasting definitions of stalking in the literature and this research uses archival police-documented data. The definition of stalking is broadly identified by the victim's narratives who indicate that the perpetrators had engaged in stalking behaviors. Therefore, stalking may be defined diversely by these victims in their reporting to police.

Methods

Sample Description

This study is part of a larger empirical examination also described in previous publications (e.g., Jung & Buro, 2017; Olver & Jung, 2017). Three hundred IPV cases reported to police over a 4-year period from 2010 to 2013 were randomly selected from all cases that involved IPV reported to a western Canadian police service. Only cases that involved male-to-female IPV (43 cases with female-to-male, 4 cases with male-to-male, and 2 female-to-female), had recidivism outcome information (9 did not have follow-up recidivism data available), and had information to allow us to determine the perpetrator's stalking history (16 were missing stalking history information) were included in the final sample.

Of the remaining sample of 226 perpetrators, 47.3% (*n* = 107) had no recorded history of stalking, and 52.7% (*n* = 119) did have a recorded history of engaging in

stalking behavior. Seventy-four percent (*n* = 88) of those with a stalking history and 78.5% (*n* = 84) of those without one were in a current relationship with the perpetrator. The mean age was 34.17 years (*SD* = 10.57), ranging from 18 and 70 years old. In terms of ethnicity, 56.2% (*n* = 127) were identified as Caucasian, 28.3% (*n* = 64) as Aboriginal, 4.9% (*n* = 11) as Indian/South Asian, 3.5% (*n* = 8) as African, 2.7% (*n* = 6) as Asian, 2.2% (*n* = 5) as Hispanic, and 2.2% (*n* = 5) as Middle Eastern. Nearly half of the sample were in a married or common-law relationship with the victim at the time of the offence (49.6%; *n* = 112), while 14.6% (*n* = 33) were no longer in a married or common-law relationship with the victim. About a quarter were still in a dating relationship with the victim (26.5%; *n* = 60), whereas 9.3% were no longer dating the victim. Less than half (41.6%; *n* = 94) shared children with their victims. With regards to prior convictions, 48.7% (*n* = 110) of perpetrators have had prior domestic violence incidents against a child or a partner, while 39.0% (*n* = 87) have had prior IPV arrests. In addition to domestic offending histories, 63.3% (*n* = 143) had prior violent offences, and 32.7% (*n* = 74) had prior uttering threats offences.

Measures

A coding form to operationalize offense characteristics, perpetrator features, and victim features was developed (full coding information is available from the authors). Items taken from the ODARA and SARA were included on the form.

Stalking. In this study, stalking was defined as evidence of offender engaging in behaviors that resembled unwanted harassment and pursuit of the victim or other past partners based on thorough review of police file documentation for both the index offence and police reports for past arrests (see Procedures for description of sources

used). Explicit questions were asked by police in their investigations of each domestic violence case (i.e., “Has the suspect displayed jealous behaviors, stalked or harassed the complainant or a previous intimate partner?”) and the documented responses were reviewed. If there was no evidence of stalking as per reviewed documentation, then the individual was denoted as having no recorded history of stalking.

Ontario Domestic Assault Risk Assessment (ODARA). The ODARA is a 13-item, actuarial tool that was designed for use by police to assess the risk of domestic violence recidivism among men who have already been identified by the police as having committed at least one such act (Hilton et al., 2004, 2010). The items on the ODARA include the perpetrator’s criminal history (e.g., prior domestic incident, failure on prior conditional release), aspects of current or prior domestic assaults (e.g., threat to harm or kill, confinement, assault on victim when pregnant), children in the relationship (e.g., more than one child), and the victim’s circumstances (e.g., barriers to victim support). The ODARA has predicted spousal assault recidivism with areas under the receiver operating characteristic curve (AUCs) ranging from 0.65 to 0.74 (Hilton & Harris, 2009; Hilton et al., 2008) with a weighted average AUC of 0.69 (van der Put et al., 2019). The ODARA is intended to be scored from police and criminal justice records without a victim interview, and several studies have shown that the ODARA can be scored reliably from archival data (Hilton et al., 2010); therefore, retrospective scoring in IPV cases does not rely on proxy interviews.

Spousal Assault Risk Assessment (SARA). The SARA contains 20 items that are grouped into four sections—criminal history, psychosocial adjustment, spousal assault history, and alleged-current offense—and are scored on a 3-point scale (Kropp

et al., 1995). In the formal clinical use of the SARA, an overall judgment of risk is based on the items where the evaluator determines whether the offender is at a low, medium, or high risk of causing imminent harm to their intimate partner (Kropp et al., 1995); unfortunately, summary risk ratings were not used in this study because not all items on the SARA could be scored. The items on the SARA are scored based on an interview with the offender and the victim, the use of standardized measure of psychological and emotional abuse, and collateral sources, such as criminal records (Kropp et al., 1995). Given that this study used police records and collateral records to score the items on the SARA, several items were rarely scored given the absence of information in these sources. Hence, a modified version of the SARA was used that only included 14 of the 20 items that were reliably coded on file information (excluded items: Victim/witness family violence as a child/adolescent, recent psychotic/manic symptoms, personality disorder, extreme minimization or denial of spousal assault history, attitudes condone spousal assault, violation of “no contact” order). Past studies have been conducted to examine the SARA’s predictive validity, with some studies using file information only. These validation studies have shown the summed total of SARA items to have adequate ability to predict future IPV with an average AUC of 0.63 (studies ranged from 0.59 to 0.77; see L. Helmus & Bourgon, 2011) with a weighted average AUC of 0.69 (van der Put et al., 2019). Given that the items are subject to professional judgment, although there is an existing manual that accompanies the measure, the interrater reliability for the items was moderate, but there is substantial variability with intraclass correlations ranging from .45 to .86 (Kropp & Hart, 2000).

Procedure

This research was reviewed by an institutional research ethics board and the research office of the police service. The police service identified all incidents of IPV reported to their service and initially 300 cases were randomly selected for the larger study (see Jung & Buro, 2017). An extensive retrospective review of multiple electronic sources was used to conduct the data collection, and this included the following: (a) Police file documentation, which almost always included investigator notes (both handwritten and typed), evidence documented, and arrest details, (b) transcripts of interviews with perpetrators, complainants, and witnesses, written victim and witness statements, toxicology reports, correspondence, and (c) criminal records obtained through federal and provincial records systems. Three broad groups of variables related to offense, perpetrator, and victim characteristics were coded by the first author who was formally trained on the use of the ODARA and SARA. In light of the sensitive nature of the data in this research (e.g., access to confidential police data), a subset of the data (n = 30) was used to examine the interrater reliability of the items on the ODARA and the SARA after the data collection was completed, and the results are listed in Table 1. For the ODARA items, the percentage agreement ranged from 73.7% to 100% with a more conservative measure using kappa coefficients ranging from 0.36 to 1.00. For the 14 SARA items used in this study, the percentage agreement ranged from 40% to 95% with kappa coefficients ranging from 0.12 to 0.80. The second rater had access to a limited amount of electronic police documents to complete the coding.

Stalking histories were identified through a review of file information, including self-report from the victim as each police officer who responded to the incident were required to complete an interview that includes a question regarding whether there was

any stalking behavior exhibited by the perpetrator. To assess recidivism accurately, criminal record data was requested after the risk items of the ODARA and SARA but blind-coded for recidivism (i.e., no information available regarding risk level during recidivism coding). It was also ensured that the follow-up period was longer than 1 year to allow for a minimal amount of time post-release or post-arrest (if not in custody). Criminal record data was obtained from the Canadian Police Information Centre, the provincial database called the Justice Online Information Network, and the local police information called the Niche Records Management System. Convictions and charges subsequent to the index occurrence (and subsequent to time in custody) were analyzed to determine if there were (a) any new convictions and/or charges, (b) any violent convictions or charges (e.g., assault), and (c) any violent convictions and/or charges against an intimate partner. The third category included incidents against any intimate partner (including the partner at the index offense). Both violent and IPV outcomes were included as the latter may be a conservative measure of IPV recidivism, since relationship to the victim was not always captured in the police documentation.

Statistical Analyses

The statistical analyses were conducted with SPSS (version 26) and were divided into two sections. To examine whether there were differences between non-stalking and stalking IPV perpetrators on the ODARA total score and the 14-item SARA total score, two-sample *t*-test analyses were used after ensuring assumptions were met. Whether the time until any, any violent, and any intimate partner violent reoffences differed between the two groups was assessed based on the Kaplan-Meier estimator and Log Rank test. To see whether the prediction of time until recidivism could be

enhanced by adding stalking behavior to each of the risk tools, the proportional hazard assumption for survival analysis was verified, and hence, the second section reports the Cox regression analyses. The purpose of using survival analysis is to examine the probability of an event of interest occurring in dependency on time. Cox regression allows researchers to examine the effect of multiple variables on the time until the event of interest occurs. In this paper, *p*-values below 5% are considered to indicate significant statistical tests.

Results

The first section examines whether there were differences between non-stalking and stalking IPV perpetrators on the ODARA and the modified 14-item SARA, and also the time until any, any violent, and any intimate partner violent reoffences. The second section evaluates whether the prediction of time until recidivism could be enhanced by adding stalking to the ODARA and to the modified SARA.

Comparing Non-Stalking and Stalking IPV Perpetrators

Across all three types of recidivism for each group (perpetrators without stalking histories vs. those with stalking histories), the recidivism rates, and the means, standard deviations, and median times for length of time until recidivism are listed on Table 2. The average length of follow-up from the report date of the offense (or release from custody, whichever was later) was 3.3 years (SD = 1.18) and ranged from 1 to 5.3 years. The Kaplan-Meier estimator was used to estimate the time from index offence until reoffence. Kaplan Meier curves, as seen on Figure 1, depict the rates of general recidivism (A), violent recidivism (B), and IPV recidivism (C) for both stalking and non-stalking perpetrators over time after being charged. The red lines on the graphs

represent the number of stalking perpetrators and the blue lines represent the number of non-stalking perpetrators. The cross-like features in the curves indicate follow-up times of perpetrators who did not reoffend during the observed time period. All three graphs seem to suggest that the estimated time until a reoffence occurs is shorter among stalking perpetrators in comparison to non-stalking perpetrators (i.e., evident in that the red curves are left of the blue curves in each graph). However, time until general recidivism, log rank $\chi^2(1) = 0.65$, $p = .422$, any violent recidivism, log rank $\chi^2(1) = 1.40$, $p = .244$, and IPV recidivism, log rank $\chi^2(1) = 1.02$, $p = .312$, were not found to be significantly different for stalking and non-stalking perpetrators.

Perpetrators with no evidence of stalking histories were compared with those with stalking histories on the ODARA and the 14-item SARA total scores. Boxplot A of Figure 2 illustrates that the ODARA total scores between the two groups did not differ significantly between non-stalking ($M = 5.38$, $SD = 2.73$, 95% C.I. [4.84, 5.91]; Median / IQR = 5 / 4) and stalking perpetrators ($M = 5.94$, $SD = 2.70$, 95% C.I. [5.43, 6.44]; Median / IQR = 6 / 4), $t(214) = -1.52$, $p = .130$, Cohen's $d = 0.21$.

When comparing the 14-item SARA scores, the mean score for non-stalking perpetrators ($M = 9.29$, $SD = 4.77$, 95% C.I. [8.29, 10.29]; Median / IQR = 9 / 8) is significantly lower than the modified SARA scores of stalking perpetrators ($M = 12.44$, $SD = 4.70$, 95% C.I. [11.50, 13.39]; Median / IQR = 12 / 7). See boxplot B of Figure 2. The data provides evidence to conclude that the mean modified SARA scores differ significantly between the two groups, $t(185) = -4.56$, $p < .001$, Cohen's $d = 0.67$.

Stalking as a Risk Factor

In addition to calculating the Kaplan-Meier estimates and testing the difference in

time until reoffence, Cox regression survival analyses of time until any, any violent, and IPV recidivism were conducted. To ensure there were no violations of the model assumptions, the proportional hazard assumption for survival analysis was verified. In our study, the events of interest are any, any violent, and IPV recidivism, and the hazard ratio (e^B) that is reported represents the relative increase in the hazard of a given recidivism outcome for each one-point increase in risk score.

As seen in regression model 1 of Table 3, the Cox regression survival analysis revealed that the ODARA predicted any recidivism with a hazard ratio (e^B) of 1.222 (95% C.I. [1.072, 1.157]). This means that a one-unit increase in the ODARA is associated with a 22.2% increase in the expected risk of any recidivism. When stalking was added to the model, the ODARA remained significant, while stalking was found to be non-significant. This was also witnessed in predicting any violent recidivism (see regression model 2 of Table 3), where the ODARA was found to be significant (e^B = 1.215; 95% C.I. [1.083, 1.364]), and remained significant when stalking was added; hence, stalking did not contribute to prediction of time until reoffence. When predicting IPV recidivism (see regression model 3 of Table 3), the ODARA was statistically significant (e^B = 1.223; 95% C.I. [1.055, 1.417]). The ODARA remained significant when combined with stalking, although stalking did not add to prediction.

Cox regression survival analyses were conducted using the 14-item SARA and adding stalking to the model. As seen in Table 3 (regression model 4), the modified SARA predicted any recidivism (e^B = 1.114; 95% C.I. [1.072, 1.157]). When stalking was added to the model, the SARA remained significant, while stalking was found to be non-significant. When predicting violent recidivism, the modified SARA was statistically

significant (e^B = 1.095; 95% C.I. [1.030, 1.165]) and continued to predict violent outcomes when it was combined with stalking (see regression model 5 of Table 3). When we examined the prediction of IPV recidivism (see regression model 6 of Table 3), the modified SARA (e^B = 1.142; 95% C.I. [1.055, 1.236]) was found to be significant and remained significant when stalking was added, although stalking did not add to prediction of time until recidivism.

Discussion

Our study investigated two questions regarding the relevance of stalking to IPV recidivism risk among IPV perpetrators. First, we examined whether risk for recidivism, recidivism rates, and length of time until recidivism differed between stalking perpetrators and non-stalking perpetrators. Second, we tested the hypothesis of whether stalking has any added value to existing validated risk tools by potentially improving the validity of each tool to predict any recidivism, violent recidivism, and IPV recidivism.

Differences were examined between stalking and non-stalking perpetrator groups on assessed risk using the ODARA and 14-item SARA, on actual rates of recidivism, and on time until the perpetrator offended again. The ODARA is well-supported as an instrument that assesses IPV outcomes, both violent and non-violent (see Hilton et al., 2010, for overview). In terms of risk as assessed by the ODARA, we found no difference between those who stalk and do not stalk. This suggests that the presence of 'stalking' is not associated with any measurable difference in assessed risk. In contrast, the modified SARA score was higher for the stalking perpetrators by 3 points, which would equate to full points on 1.5 items on the SARA (it was noted that confidence intervals for

each group did not overlap). However, it is important to note that certain items on the SARA may be redundant with stalking-related behaviors (e.g., uttering threats, contacting the victim). For example, uttering threats is part of two of the items ("Past use of weapons and/or credible threats of death", current "use of weapons and/or credible threats of death") and violating protection orders is part of two items ("Past violation of 'no contact' orders", "Violation of 'no contact' orders"). Therefore, it is possible that 3 points may not be of practical significance to demonstrate a meaningful difference between stalking and non-stalking groups.

When we examined recorded behavior, we found the lack of meaningful differences in risk as assessed by the ODARA and the modified SARA was consistent with our recidivism findings. We found no difference in the rates of reoffending between the two groups. Our findings question whether stalking is a remarkable factor when it comes to risk for criminal behavior and violence against current or former intimate partners. It may be the case that there is no reliable difference in risk posed by perpetrators with or without stalking histories. Another possible explanation for the lack of difference in risk is the limitation of the information that is available. This may be, in part, due to the insufficient recognition of these behaviors by both victims and police (McEwan et al., 2020; Ngo, 2019). Police may simply not document such behaviors, let alone ask specific questions about the presence of stalking behaviors by the perpetrator. As noted in our methodology, it is possible that stalking was not ascertained accurately in the present study because of the problems with police recognition and recording.

Consistent with not finding a difference in ODARA scores between stalking and

non-stalking IPV perpetrators or a meaningful difference in SARA summed total for the 14 items, we did not find support for our hypotheses that stalking would add value to the ODARA or to the SARA in their prediction of any of the three recidivism outcomes, although the ODARA and the 14-item SARA, each alone, predicted any recidivism, violent recidivism, and IPV recidivism significantly. Our findings seem to suggest that stalking may not be a unique relevant risk factor for IPV recidivism, once the predictive effects of other risk factors in validated risk assessment tools are accounted for. Previous studies have supported the idea that a history of stalking is predictive of future stalking (see McEwan et al., 2020, for discussion regarding the stalking of a different victim), so not surprising, stalking may only serve as a relevant risk factor for predicting stalking recidivism outcomes, which we were unable to examine. A caveat with such research, unfortunately, is that non-violent offending against intimate partners tend to be underreported (see Brady & Reyns, 2020, for discussion), and therefore as an outcome measure, charges are likely an underestimate of actual stalking-related behaviors (see McEwan et al., 2020, who provide explicit definitions of stalking behaviors in their review of police reports).

It is important in risk research to examine single factor enhancement of risk. We did not find that stalking, which was based on our study of the victims' reports and specifically in response to questions by investigating officers at the time of the index offence being report, added to the ODARA or SARA. A similar effort was made by Rettenberger et al. (2013) to examine whether psychopathy would add to the predictive validity of the ODARA with a high risk sample of sexually motivated intimate partner violent men. They found that the Psychopathy Checklist–Revised (PCL-R) did not

incrementally add to the predictive accuracy of the ODARA. Their study, like ours, examined IPV recidivism as the outcome measure. It may be fruitful to further examine other outcomes.

Given our study focused on stalking histories and current stalking behaviors, it would make sense to include stalking-related outcomes, as well as violent and IPV outcome measures (similarly, given the nature of Rettenberger et al. sample, a relevant outcome in their study would be sexually-motivated IPV). This would also add to the existing empirical literature on these risk tools. For example, using a modest sample of 93 Canadian men, Hilton and Eke (2016) demonstrated that the ODARA predicted future stalking, sexual assault, and nonviolent offending over a 7.5 year follow-up with moderate to large effect sizes. Hence, future investigations should include these outcomes and would add to our growing knowledge on stalking. In the context of IPV relationships, the addition of stalking as risk factor does not seem to uniquely add to the predictive validity of extant tools to discriminate IPV recidivists and non-recidivists.

In light of the risk principle, allocation of greater resources to higher risk cases makes both intuitive sense in maximizing limited services and also empirical sense to utilize data-driven principles in practice. However, if stalking and non-stalking perpetrators do not differ in risk, does that necessarily mean that we should treat them as the same? Perhaps the allocation of resources, in terms of intensity (e.g., number of services, amount of treatment, frequency of supervision), should be similar. However, other evidence suggests that the need principle, which specifies that only criminogenic needs should be targeted in treatment and supervision, may differ among those IPV perpetrators who stalk and who do not stalk. Consistently observed in several studies

on stalking, offenders were characterized with psychopathological issues and/or personality disorders, such as Storey et al.'s study (2009), which found an association between psychopathy and non-intimate partner stalking behavior, and Tonin et al.'s (2004) comparison of stalking offenders, non-stalking offenders, and non-offending members, which showed stalking offenders more likely to insecurely attach to others. Psychopathology and adverse childhood experiences that may have led to attachment issues are not necessarily criminogenic areas to target (i.e., they are typically identified as responsivity issues that may make treatment or supervision more challenging; see Bonta & Andrew, 2017), but they may lead to more criminal thinking and pro-offending attitudes that need to be addressed through cognitive behavioral techniques. Identifying relevant criminogenic areas that are more reflective of IPV offenders who engage in stalking behaviors may be more advantageous to efficiently address risk of these offenders. Future research should examine dynamic risk factors with a larger sample that may differentiate stalking and non-stalking IPV offenders.

This preliminary investigation explored whether IPV men with stalking histories are different in their level of risk and whether stalking incrementally adds to existing tools for assessing IPV risk. It is hoped that the findings offer a start to further exploring whether stalking is risk-relevant to our understanding of IPV perpetrators. Typology research (e.g., Holtzworth-Munroe & Stuart, 1994) has provided increased understanding of IPV perpetrators and has lead to examining subtypes and their relevance to risk assessment and how we can mitigate this risk (e.g., Ennis et al., 2017). Similarly, it is important to empirically examine how stalking may or may not have risk-relevance in understanding cases of IPV offending, and this study provides a much-

needed examination of stalking as a risk factor in the context of utilizing other validated approaches to assess risk. However, this study is not without limitations.

Methodological limitations included the size of the sample and the fact that it was smaller once we divided it into the two groups, and the use of risk items scores that were obtained at a single time point and therefore the dynamic nature of risk could not be examined in this study. Although the ODARA items were coded for a majority of the sample, the SARA was limited to 14 items that were included in this study, and therefore, only a modified version of the SARA was examined. Another potential issue is that post-index interventions, subsequent to the assessment of risk and while the perpetrator was at risk to offend in the community, were not accounted for and may have served as influencing agents of change. As such, the findings may be affected by these unknown factors. Notable in most studies measuring recidivistic acts, the use of charges and convictions as recidivism does not account for the inevitable underestimation of actual recidivism rates, since many violent and IPV incidents may not be reported to police, and when they are reported, they do not always lead to a formal police charge (e.g., Rennison & Welchans, 2000).

An important limitation of our study is how we defined stalking, in order to classify the sample into stalking and non-stalking perpetrators. First, the quality of the stalking behavior, such as severity (e.g., physical vs. psychological, frequency of harassment, duration) and intrusiveness (e.g., interacting with victim's family, infiltrating workplace, breaking into home) was not accounted for in our definition as stalking was based on the self-report of victims in their narratives documented in police reports and in the interview following the index offence. Our narrow definition of stalking behavior (limited

to, e.g., unwanted contact and pursuit) does not take into account the heterogeneity of stalking behaviors or broader aspects of coercive control. The way we have categorized stalking and non-stalking perpetrators, which may be seen as inconsistent with some studies in the stalking research literature, and also quite possibly, it may been restricted by our dichotomization to the presence or non-presence of stalking behavior in the perpetrators' histories as per victim reports. Second, it was out of our control how stalking behaviors were documented in the police narratives and the written responses from orally interviewing the victims. Ideally, utilizing a more rigorous recording of the perpetrators' statement and/or the victims' responses would be more reliable; however, this was not consistent across cases. It is possible that the measurement error in using police documentation may have reduced the viability of examining stalking as a risk factor. Hence, the reader should be aware of this caveat regarding the use of archival data.

Additional issues further reduce generalizability of our findings. For instance, the findings may not necessarily apply to post-relationship stalking of former intimate partners. We were unable to closely examine the police narratives for each recidivism event or any of the non-arrest reports to police regarding the perpetrator to identify if there were any suspected stalking-related behaviors. Therefore, for a more comprehensive examination of predictive validity of past or index offence stalking behaviors as a risk factor, it would be important to examine whether future stalking behavior is predictable using both validated IPV tools and stalking, which may be assessed as a single factor or a constellation of exhibited behaviors.

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Table 1

Interrater reliability of the ODARA and SARA

Risk tool and items	Kappa	% Agreement
ODARA		
1 – Prior domestic incident	.78	90%
2 – Prior nondomestic incident	.69	85%
3 – Prior custodial sentence of 30 days or more	.70	85%
4 – Failure on prior conditional release	.69	85%
5 – Threat to harm or kill at the index assault	.89	95%
6 – Confinement of partner at the index assault	-	90%
7 – Victim concern	.78	90%
8 – Has more than one child	.77	90%
9 – Victim's biological child from previous partner	1.00	100%
10 – Nondomestic violence against other	.51	75%
11 – Substance abuse problem	.80	90%
12 – Assault on victim when pregnant	.82	94.1%
13 – Barriers to victim support	.36	73.7%
SARA (14 items included in this study)		
1 – Past assault of family members	.39	80%
2 – Past assault of strangers or acquaintances	.12	70%
3 – Past violation of conditional release or community	.80	90%
4 – Recent relationship problems	.48	65%
5 – Recent employment problems	.20	40%
7 – Recent substance abuse/dependence	.42	60%
8 – Recent suicidal or homicidal ideation/intent	.64	95%
11 – Past physical assault (not index)	.54	80%
12 – Past sexual assault/sexual jealousy	.53	80%
13 – Past use of weapons and/or credible threats of death	.42	65%
14 – Recent escalation in frequency or severity of assault	.49	73.6%
15 – Past violation of "no contact" orders	.15	80%
18 – Severe &/or sex assault at time of index	.48	90%
19 – Use of weapons and/or credible threats of death	.50	70%

n = 20. Some kappa values could not be calculated.

Table 2

Recidivism Rates, and Means, Standard Deviations, and Median of Time (in years) until Any, Any Violent, and IPV Recidivism for Stalking and Non-Stalking Perpetrators

	General Recidivism		Violent Recidivism		IPV Recidivism	
	No stalking	Stalking	No stalking	Stalking	No stalking	Stalking
Rates	52/107 (48.6%)	70/119 (58.8%)	18/107 (16.8%)	30/119 (25.2%)	11/107 (10.3%)	19/119 (16.0%)
Time until recidivism						
Mean (SD)	2.09 (1.31)	2.16 (1.28)	2.85 (1.28)	2.89 (1.19)	2.96 (1.24)	3.06 (1.20)
Median	1.75	2.08	2.71	3.02	3.12	3.15

N = 226.

Table 3

Cox Regression Survival Analysis of the ODARA and SARA with Stalking on the Time Until Any, Any Violent, and IPV Recidivism

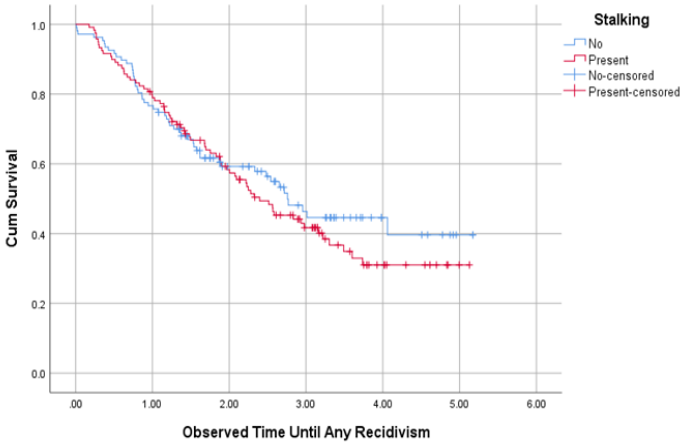
Regression Model		*B*	*SE*	*Wald*	*p*	*EB*	*95% CI (LL, UL)*
			Any recidivism				
1. Block 1	ODARA	0.200	0.034	34.137	**.000**	1.222	1.142, 1.306
Block 2	ODARA	0.200	0.034	33.875	**.000**	1.222	1.142, 1.307
	Stalking	0.018	0.189	0.009	.922	1.019	0.704, 1.474
			Violent recidivism				
2. Block 1	ODARA	0.195	0.059	10.970	**.001**	1.215	1.083, 1.364
Block 2	ODARA	0.193	0.060	10.458	**.001**	1.212	1.079, 1.362
	Stalking	-0.078	0.311	0.063	.802	0.925	0.503, 1.701
			IPV recidivism				
3. Block 1	ODARA	0.201	0.075	7.165	**.007**	1.223	1.055, 1.417
Block 2	ODARA	0.201	0.076	7.002	**.008**	1.222	1.053, 1.418
	Stalking	-0.032	0.400	0.006	.937	0.969	0.442, 2.124
			Any recidivism				
4. Block 1	SARA	0.108	0.019	30.806	**.000**	1.114	1.072, 1.157
Block 2	SARA	0.121	0.021	34.029	**.000**	1.129	1.084, 1.176
	Stalking	0.395	0.224	3.116	.078	1.484	0.957, 2.300
			Violent recidivism				
5. Block 1	SARA	0.091	0.031	8.488	**.004**	1.095	1.030, 1.165
Block 2	SARA	0.109	0.035	9.840	**.002**	1.115	1.042, 1.193
	Stalking	0.435	0.373	1.357	.244	1.545	0.743, 3.211
			IPV recidivism				
6. Block 1	SARA	0.133	0.041	10.701	**.001**	1.142	1.055, 1.236
Block 2	SARA	0.170	0.046	13.908	**.000**	1.185	1.084, 1.296
	Stalking	0.902	0.476	3.583	.058	2.464	0.969, 6.269

Note. ODARA = Ontario Domestic Assault Risk Assessment. SARA= Spousal Assault Risk Assessment. CI = confidence interval. Significant *p*-values in **bold** font.

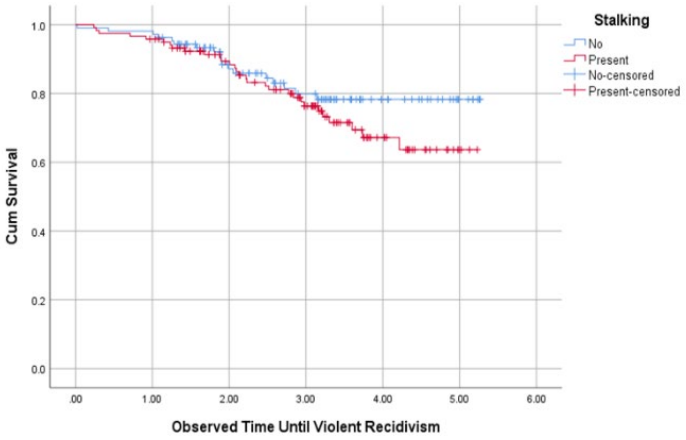
Figure 1

Kaplan Meier Survival Analysis: Graph A Shows Any Recidivism-Free of Stalking and Non-Stalking Perpetrators. Graphs B and C Depict Violent Recidivism-Free and IPV Recidivism-Free Survival Times (in years), respectively, and Show Similar Results

A



B



C

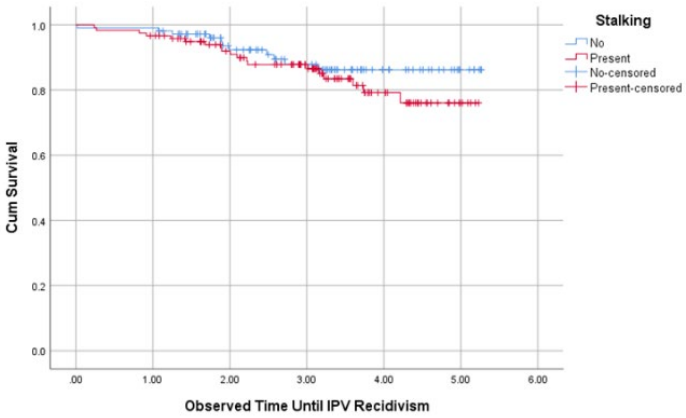
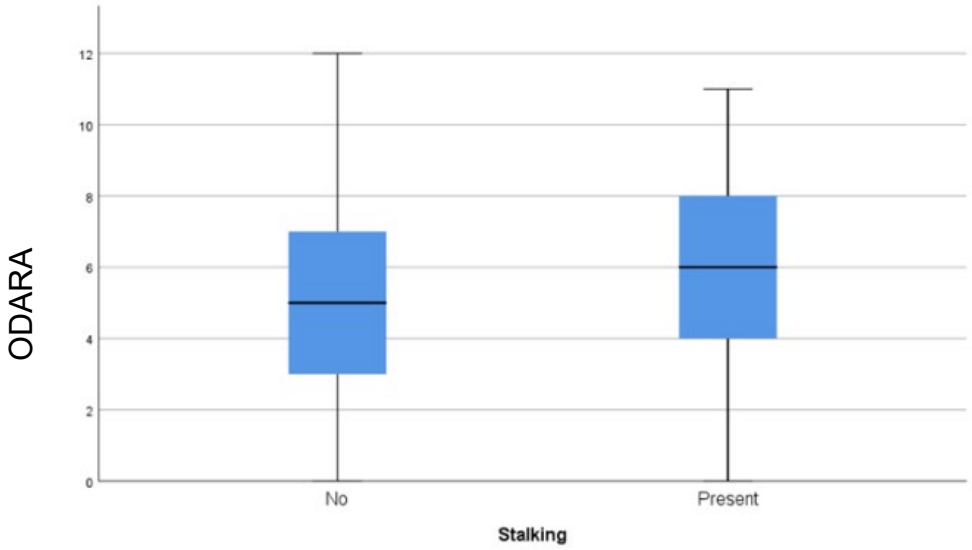


Figure 2

Distribution of ODARA and 14-item SARA Total Scores for Both Non-Stalking ('No') and Stalking Perpetrators ('Present')

A



B