



## The dynamic predictors of reconviction for women

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This research was driven by a policy question about the extent to which rehabilitative services for women in prison or on probation need to be different to those provided for men: Do women and men have different risk factors for criminal behaviour that will demand different interventions? We examined the nature of the most prevalent and most predictive risk factors for reoffending in a sample of nearly 15,000 women and over 95,000 men on community sentences or leaving prison for whom we had Offender Assessment System (OASys) risk and need assessments. We were interested in whether or not there are risk factors that predict reoffending specifically for women.

### Key findings

- The most prevalent criminogenic needs for women were poor problem solving, impulsivity, and unemployment. These were also the most prevalent needs for men.
- The prevalence of other needs varied to some extent by gender, but also by risk and offence type. For example, 74% of higher-risk women with a current conviction for acquisitive crime had a Class A drug problem compared to 54% of men in the same risk band and offence type category. This difference between men and women was not evident with those at lower risk of reconviction.
- The most prevalent needs were not always the most predictive of reoffending. Five needs emerged as the strongest dynamic predictors of any reoffending for women:

#### Unemployment

Regular activities encourage offending

#### Binge drinking

Class A drug use

#### Impulsivity

- Most needs influenced reoffending to a similar degree for men and women. Class A drug use and binge drinking were more strongly linked to reoffending for women than for men – but were also a risk factor for men.
- The strongest dynamic predictors of violent reoffending for women were:

#### Lack of accommodation

Being the victim of domestic violence

Lack of closeness with family

#### Temper control

Problem drinking

Binge drinking

- There were significant gender differences in the predictiveness of binge drinking, lack of closeness with family, and poor temper control (all more influential for women).
- **The importance of binge drinking as a major predictor of women's reoffending is a new finding which should translate into policy action.**

The views expressed in this Analytical Summary are those of the author, not necessarily those of the Ministry of Justice (nor do they reflect Government policy).

## Background

Do the same factors predict reoffending for both men and women? The literature is divided on this issue. On the one hand, the “gender-neutral” model of risk states that the same risk factors work equally well, more or less, for men and women. The Risk, Need and Responsivity (RNR) model of offender assessment (Andrews & Bonta, 2010) proposed that eight<sup>1</sup> criminogenic needs (the “Central Eight”) are most predictive of reoffending, and some research has suggested that these factors predict reoffending equally well for both men and women (e.g., Andrews et al., 2012; Rettinger & Andrews, 2010).

Other researchers, however, have argued that as the tools used for assessing risk and need were originally developed on a mainly male cohort, they may not be the best guide for assessing women’s criminogenic needs (e.g., Belknap & Holsinger, 2006; Van Voorhis, 2012; Van Voorhis et al., 2010). These researchers have proposed that “gender-responsive” assessment processes should be developed to capture potential risk factors that are unique to men or women, as well as risk factors that are shared by both.

Previous research on this question has been inconsistent. While several studies have found gender differences in both prevalence and predictiveness of various factors, there has been no consistency on the nature of the most relevant factors. For example, Palmer and Hollin (2007), using the widely used Level of Service Inventory–Revised assessment (LSI-R; Andrews & Bonta, 1995)<sup>2</sup> found that “companions” was the only LSI-R subscale to predict reconviction for women. Cobbina et al. (2012), however, also using the LSI-R, found that “criminal peers” was more predictive for men. Overall, the available evidence suggests that gender-neutral risk assessment tools can work for both men and women, with more similarities than differences in the predictors of reoffending for each gender.

A rigidly gender-neutral approach, however, may not allow the recognition of nuanced differences between men and women in terms of why they reoffend, or additional risk factors for either or both men and women that are not currently emphasised within Andrews and Bonta’s Central Eight model. Financial difficulty is one example of this, and other issues, such as low self-

efficacy and parenting stress, have been identified as worth further investigation (Van Voorhis et al., 2010).

Existing studies have generally used domain scores (a sum of the scores on several individual items that are shown to represent a single construct) to represent each potential criminogenic need. While domain scores are stronger psychometrically, they are less informative to those who design or commission services for offenders. If an LSI-R study tells us, for instance, that substance abuse as a domain score is a significant predictor of recidivism for women, we are still unclear about the exact nature of the problematic substance use: is it abuse of hard drugs, alcoholism, or binge drinking that needs particular attention? One study that used item rather than domain scores (Brown & Motiuk, 2008) revealed more gender differences than those using domain scores, suggesting that a more nuanced assessment is better able to identify differences between men and women.

Another weakness in the research so far is the untested possibility that supposedly female-specific factors would also improve the prediction of reoffending for men. Van Voorhis et al. (2010), for example, identified additional variables relevant to risk for women (particularly parenting stress and low self-efficacy), but these were not also tested for their relevance with men.

No analyses have yet examined whether apparent gender differences can be observed across different forms of criminal behaviour. For example, the Andrews et al. (2012) study had a greater proportion of women convicted of acquisitive offences compared to the male sample; offence type, however, was not controlled for. Van der Knaap’s 2012 study also observed significant differences in index conviction between the two gender samples, with men being more likely to have convictions for violence and women for nonviolent property crime and drugs offences. Cobbina et al. (2012) reported that the link between risk factors and recidivism varied by criminal history indicating that risk of reconviction might make an additional contribution to understanding the links between criminogenic needs and recidivism. This study therefore includes both offence type and risk level as factors that might influence the observed links between criminogenic needs and reoffending.

<sup>1</sup> The Central Eight risk factors are: antisocial cognition, past antisocial behaviour, antisocial personality pattern, antisocial associates, substance abuse, poor family and marital relationships, problems with school and work, and lack of structured leisure activity (Rettinger & Andrews, 2010, p.30).

<sup>2</sup> The LSI-R is a 54-item assessment of static and dynamic factors related to risk and need, administered through interview and file review. The assessment yields scores in ten domains of need and provides an overall score representing the likelihood to reoffend. The assessment is widely used in North America and there is good evidence of its reliability and validity as a predictor of reoffending.

## Aim

This study examines the prevalence and predictiveness of various potential criminogenic needs by asking the following questions:

1. Is the prevalence of various criminogenic needs the same for men and women, taking into account different risk levels and offence types?
2. Are there gender differences in the needs that predict reoffending when risk level and offence type are also taken into account?

## Approach

The participants of this study comprised 95,346 male offenders and 14,787 female offenders, aged 18 or over. The sample consisted of all those who were sentenced to a community, or suspended sentence, order or were released from a prison sentence between April 2008 and March 2009 for whom two-year follow-up reconviction data<sup>3</sup> was available. As the analysis depended on a complete HMPPS Offender Assessment System (OASys) assessment, the sample will under-represent adult prisoners serving less than 12 months as they are not routinely assessed using OASys.

On average, the women in this sample were, at 32, one year older than the men. They had received their first criminal sanction, on average, in their early twenties, and not their late teens like the men. They also presented with a lower average risk of proven reoffending: with fewer in the highest risk band and more in the lowest. The men most commonly had a current conviction for violence against the person (31%) whereas, for women, the most frequent offence was acquisitive (36%).

The study dataset was constructed by merging the caseload data first with criminal record extracts from the Home Office Police National Computer (PNC) and then with OASys records, which hold offence details, risk prediction scores and criminogenic need data. We looked at two-year reconviction rates for both violent and any offences. Risk was measured by the Offender Group Reconviction Scale (OGRS3<sup>4</sup>); Howard, Francis, Soothill & Humphreys, 2009). Criminogenic need was measured through the Offender Assessment System (OASys; Howard, Clark & Garnham, 2006; Moore, 2015).

The research team selected 20 OASys items most closely aligned to the Central Eight and which reflected the criminogenic needs proposed in the literature on women's offending (e.g., problems with finance, adverse

childhood experiences, having been a victim of domestic violence, emotional well-being/psychological health).

## Results – Prevalence

Table 1 shows the prevalence of the 20 criminogenic need items (risk factors) for male and female offenders (collapsed into a binary problem/no problem flag). The three most prevalent need items were seen to be the same for men and women: *poor problem solving*, *impulsivity*, and *lack of employment*. Next most frequent on the list for women were those often described as having particular pertinence for women: *poor finance skills*, *lack of closeness with family*, *current psychological problems*, and *adverse childhood experiences*. Only on being a *victim of domestic violence and current psychological problems*, however, was there a significant difference in prevalence by gender, with both being more frequently observed for women offenders.

In order to isolate the influence of gender on the prevalence of each risk factor we performed a series of logistic regressions with risk, gender and offence type as covariates and presence or absence of each problem as the binary outcome. There were significant effects of gender on prevalence on all but two problems (*accommodation* and *impulsivity*), but the prevalence of most also varied significantly by offence type and risk level.

<sup>3</sup> The reoffending outcome here is any offence committed in a two year follow-up period that receives a court conviction, caution, reprimand or warning.

<sup>4</sup> OGRS3 is an actuarial predictor of reconviction based on a convicted person's age, gender, current offence and criminal history.

**Table 1: Prevalence of criminogenic need item by gender**

	OASys criminogenic needs item	Men	Women	Effect size of gender difference (phi)
11.6	Poor problem solving	85%	84%	.01 NS
11.2	Impulsivity	77%	70%	-.06 ***
4.2	Unemployed	62%	68%	.04 ***
5.3	Poor finance skills	53%	63%	.07 ***
6.1	Lack of closeness with family	49%	57%	.06 ***
10.2	Current psychological problems	32%	56%	<b>.18</b> ***
6.3	Adverse childhood experiences	44%	54%	.07 ***
7.2	Regular activities encourage offending	57%	50%	-.05 ***
6.7	Victim of domestic violence	6%	46%	<b>.43</b> ***
7.3	Easily influenced by criminal associates	45%	45%	.00 NS
11.4	Poor temper control	57%	44%	-.09 ***
9.2	Recent binge drinking	45%	41%	-.03 ***
5.6	Financial strain	33%	41%	.06 ***
6.4	Problematic relationship	36%	40%	.03 ***
4.9	Lack of any qualifications	37%	39%	.02 ***
9.1	Problematic drinking	41%	37%	-.03 ***
3.4	Accommodation problems	36%	36%	.00 NS
8.4	Class A drug misuse	24%	29%	.04 ***
12.1	Procriminal attitudes	38%	27%	-.07 ***
10.7	Current psychiatric treatment	5%	8%	.05 ***

Note.

Phi coefficients  $\geq 0.1$  are in bold font

\*\*\*  $p < .001$

The prevalence of criminogenic need items by risk, gender and offence type

Figure 1: Class A drug use

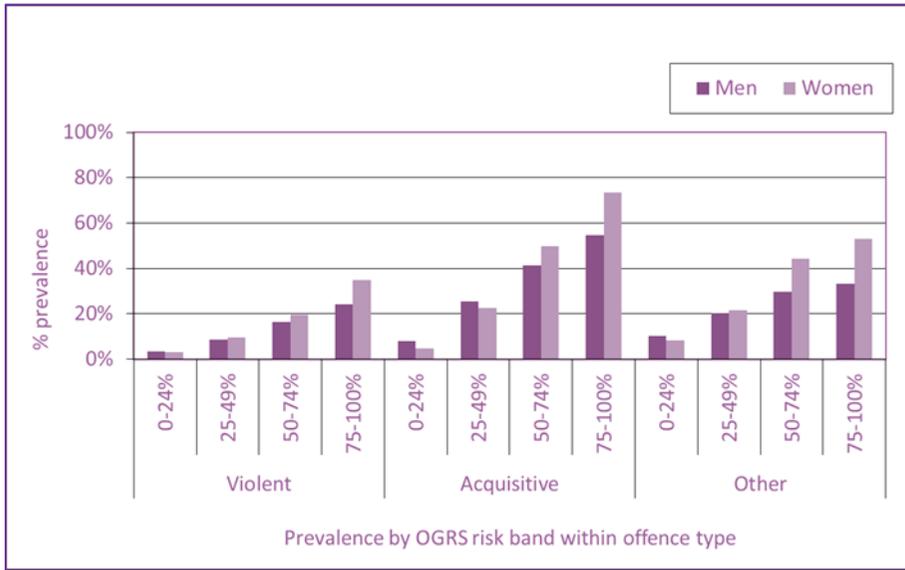


Figure 2: Procriminal attitudes

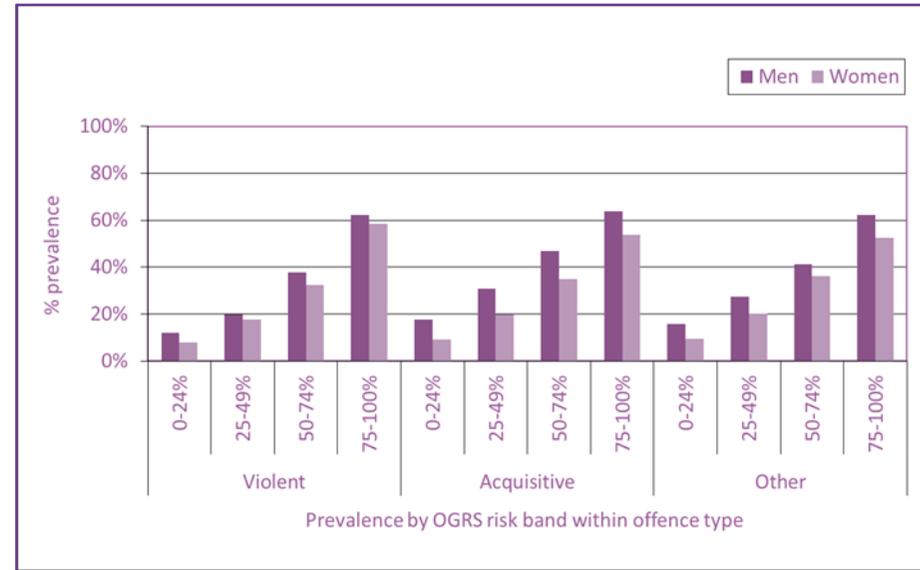


Figure 3: Impulsivity

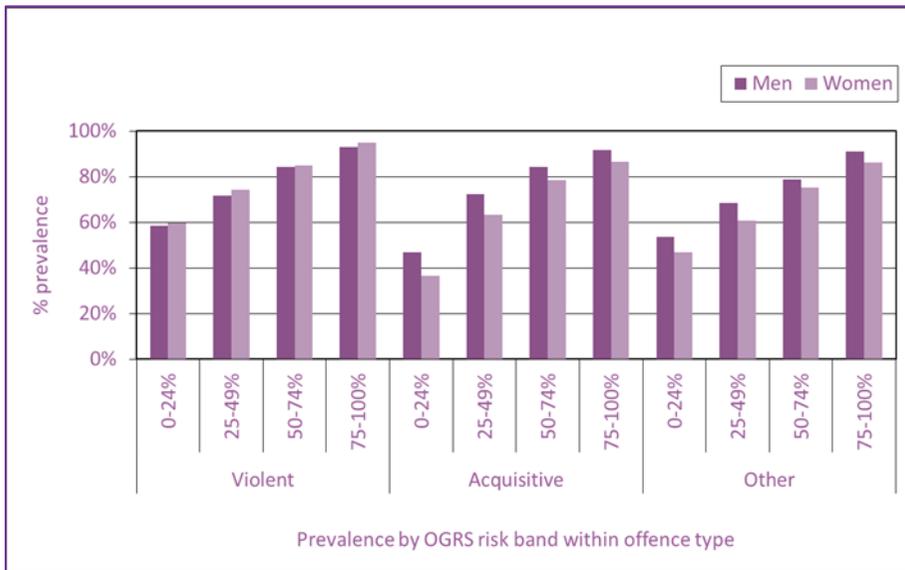
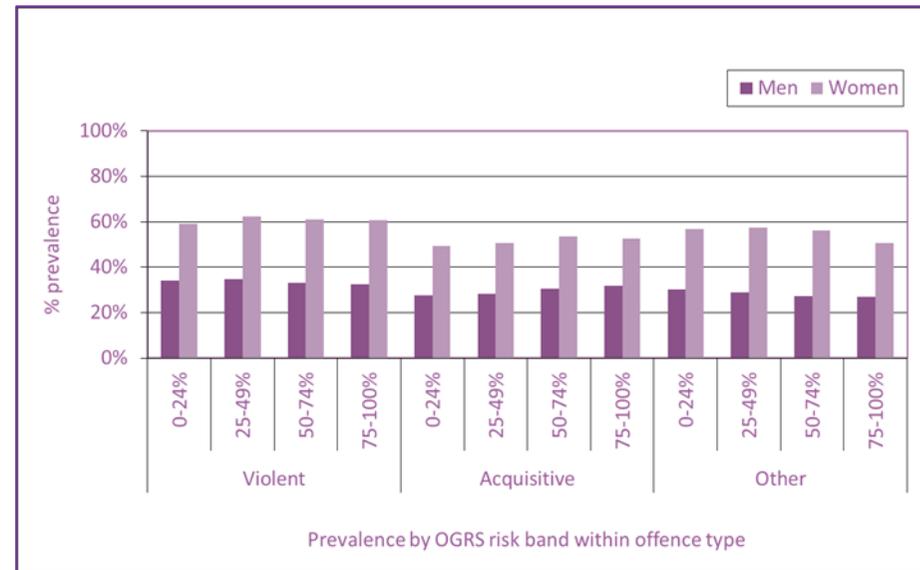


Figure 4: Psychological problems



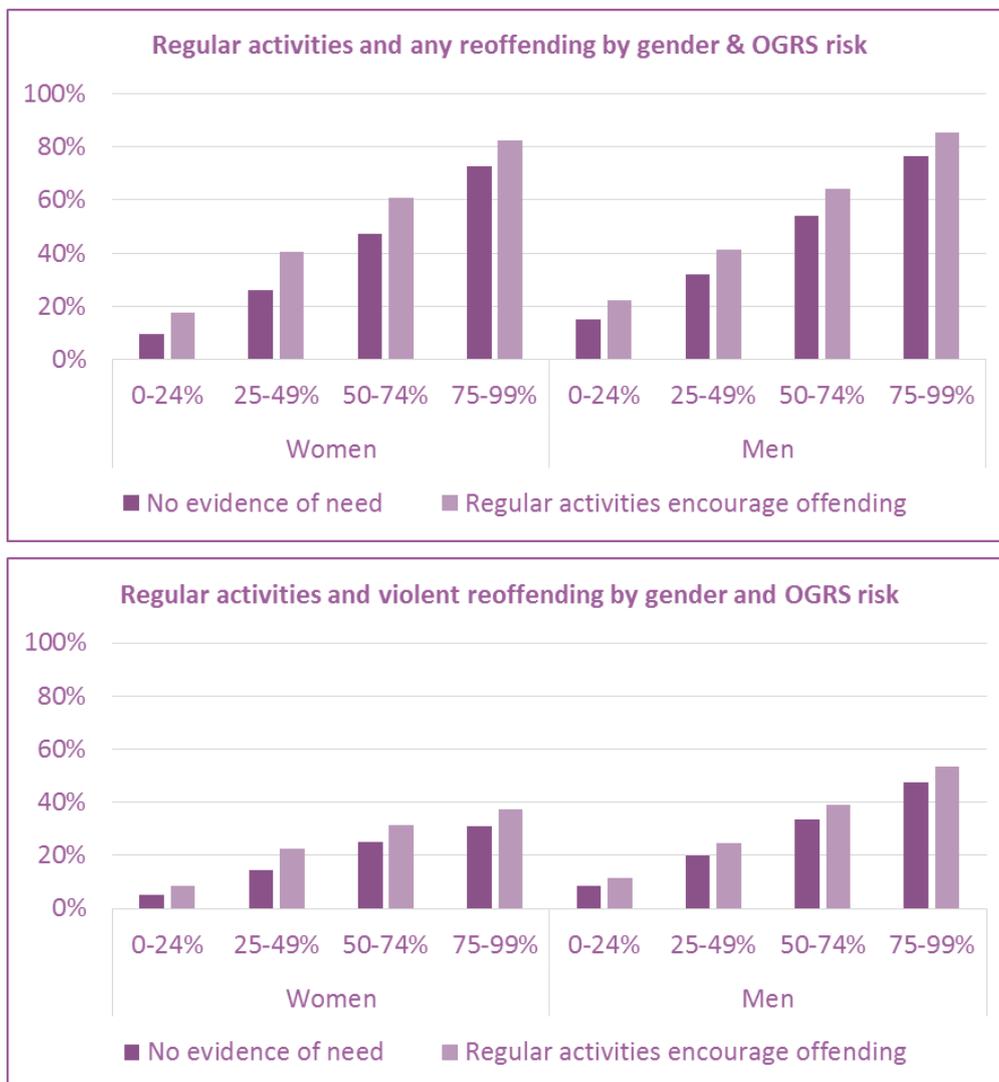
Figures 1 to 4 illustrate some examples of the range of different risk/gender/offence type interactions that were identified (the data are provided in Appendix A). The prevalence of each risk factor is presented for each gender separately across risk bands and within offence type. For instance, 74% of higher-risk women with a current conviction for acquisitive crime have a Class A drug problem compared to 54% of men in the same risk band and offence type category. The gender difference is not apparent in lower-risk acquisitive offenders. In contrast, women were observed to have procriminal attitudes less frequently than men for all levels of risk and across offence types.

## Results – Predictiveness

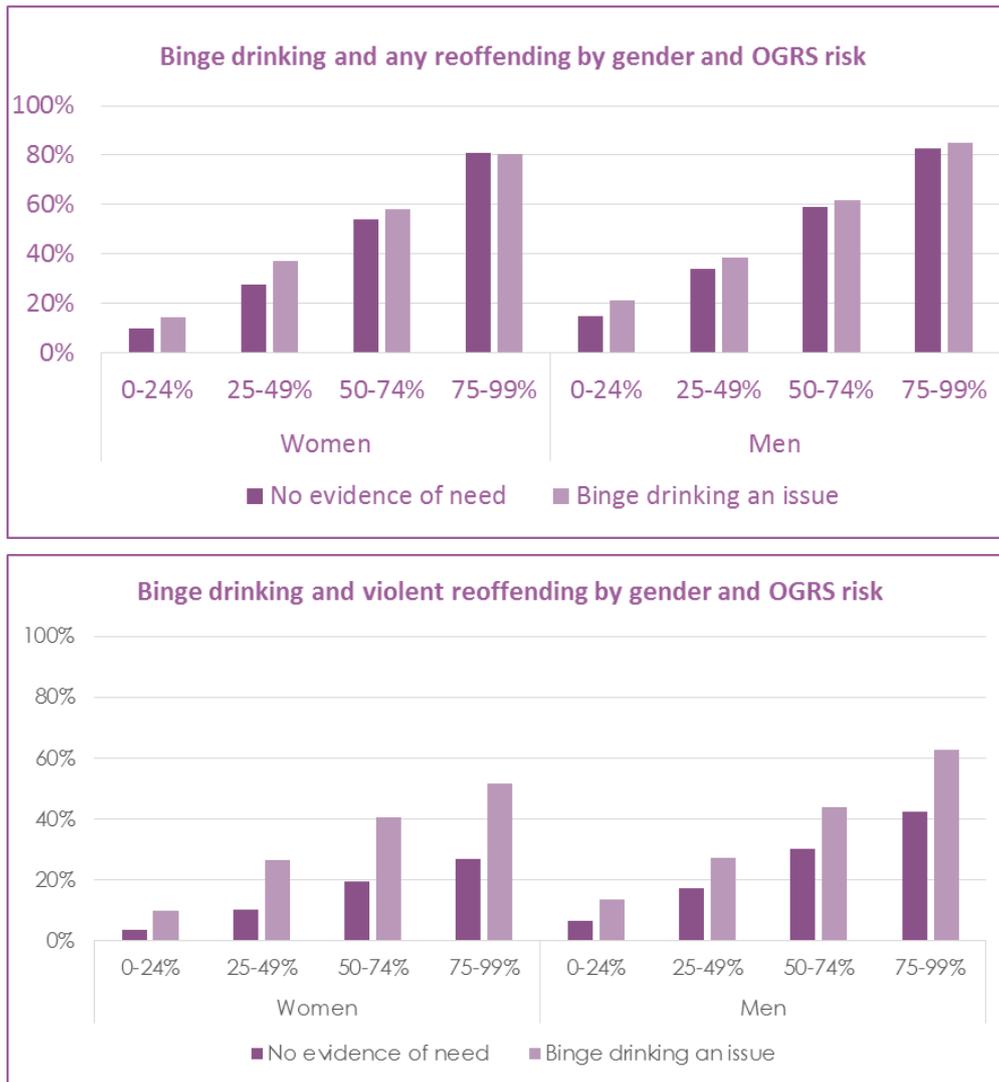
All of the criminogenic need items were significantly correlated with either general or violent reoffending, or both, confirming their criminogenic status. However, only six correlations exceeded a correlation of 0.2 (where 0.1 is a weak association and 0.3 is considered moderate).

Figures 5 and 6 show the different ways in which the presence of individual risk factors was associated with reoffending (the data are provided in Appendix B). In Figure 5 a *lifestyle that encourages offending* is seen to be associated with elevated rates of reconviction at every level of risk and for both men and women. In contrast, the presence of *binge drinking* (Figure 6) had particular impact on violent reoffending; the impact was more apparent with women, and with lower-risk women in particular.

**Figure 5: Association between *regular activities encourage offending* and reoffending**



**Figure 6: Association between *binge drinking* and reoffending**



We ran a series of multiple regressions on reoffending outcomes for both genders separately and then together, using interaction terms for the moderation of the link between gender and each need item. We also included risk, age and offence type as covariates in every analysis. In working with such large samples, we were conscious that our analysis might yield findings that were statistically significant but had little real-world relevance. In order to mitigate this, we used an estimate of the magnitude of the relationship between each need item and the reconviction rate to establish which relationships were meaningful. The Odds Ratio (OR) is a statistical measure of the strength of the relationship between the predictor and the outcome. If there is no association between the two then the Odds Ratio will be 1 (the odds of the outcome with the predictor present are the same as when the predictor is absent). We determined an Odds Ratio threshold of 1.10 as an effect size with real-

world relevance, worthy of policy consideration: an OR of 1.10 is equivalent to a 2.4 percentage point difference in two-year reoffending rates when applied to a base rate reconviction rate of 50% (an OR of 1.20 is equivalent to a 4.5 percentage point difference in reconviction rates).

Table 2 describes the criminogenic need items that emerged as having the strongest links to reoffending from these analyses. Other risk factors reached statistical significance in the various models but failed to reach the effect size threshold we had set. The problems that emerged as the strongest predictors of any reoffending for women echo the key needs identified in the gender-neutral literature, such the Central Eight that Andrews and Bonta (2010) describe. One exception is *binge drinking*, which has not often been associated with general reoffending risk.

When the data from men were also introduced into a combined model, we could see a significant gender

difference in the predictiveness of *Class A drug use* and *binge drinking*. The link to reoffending for these need items was stronger for women than for men. Significant gender differences were also observed for the predictiveness of *adverse childhood* and *temper control*, but neither of these were particularly strong predictors in the model overall.

The strongest predictors of violent reoffending for women again reflected the gender-neutral literature. However, they also emphasise the risk associated with *binge drinking*, and introduce *links with family* and *experience of domestic abuse* as more gender-salient (either in prevalence or predictiveness), in addition to the more gender-neutral factors of *chronic alcohol misuse* and *temper control*.

There were significant gender differences in the predictiveness of *lack of closeness with family*, *binge drinking* and *poor temper control* (all more influential for women). Problematic relationship with partner was more influential for men, although that factor failed to reach statistical significance in the overall model for violent reoffending.

## Summary and limitations

Overall, we found more similarities than differences between women and men. While there were gender differences in prevalence, they were generally small and a question of degree, rather than signifying the presence or absence of a problem. Some of the larger gender differences in prevalence were seen for need items that did not predict reoffending, such as the prevalence of psychological problems for women while most of the stronger predictors of reoffending were the same for men and women. Gender differences were again largely a question of degree, suggesting some issues are gender-salient rather than gender-specific.

The relationship between individual criminogenic need items and reoffending varied, to an extent, according to risk and offence type as well as gender. For example, the predictiveness of a lifestyle that encourages reoffending was the same at every level of risk for both men and women. In contrast, binge drinking had a stronger

relationship with violent reoffending specifically, and its impact was apparent for women even at lower levels of risk. Further research could usefully explore how needs cluster together both within and across gender, risk bands and offence characteristics. This would help to identify distinct groups for whom a package of care could then be designed to be responsive to personal characteristics, and to reflect predominant needs and risk level.

There are some limitations to this analysis. Firstly, our choice of variables largely drew on a literature that has been dominated by research into reoffending by men. Although we were able to examine the impact of some potentially gender-specific variables, such as psychological problems and financial strain, some other variables that might have had more relevance to women, such as low self-efficacy and parenting stress, were not available in our dataset.

Secondly, there are some additional limitations related to the use of OASys data. Offenders serving custodial sentences of less than 12 months are unlikely to have had an OASys assessment completed; this group of offenders would therefore have been under-represented in this analysis. There is some evidence also of weak inter-rater reliability for some of the items used in this analysis (Morton, 2009). Furthermore, while there is benefit in the detail brought by analysis at the item level, we know this is a more fragile measure of a construct than a scale where several related items are combined (Smith-Yau & Moore, 2015). It may be too that the influence of age, offence type, and gender can be better tested than in this study where they were tested both independently and also as contributing factors to the OGRS risk score.

Thirdly, the approach to predicting reoffending taken here assumes that internal psychological factors and social capital factors are the only drivers of reoffending. This approach gives insufficient weight to the situational determinants of crime.

**Table 2: Criminogenic need risk factors for combined and gender-specific models: Items with OR > 1.10**

	<b>Combined model</b>	<b>Men only model</b>	<b>Women only model</b>
<b>Any reconviction</b>	Regular activities encourage offending Class A drug use <sup>w</sup> Employment Binge drinking <sup>w</sup> Impulsivity	Accommodation Problematic relationship Regular activities encourage offending Class A drug use Employment	Regular activities encourage offending Class A drug use Employment Binge drinking Impulsivity
<b>Violent reconviction</b>	Accommodation Lack of closeness with family <sup>w</sup> Victim of domestic violence Problem drinking Binge drinking <sup>w</sup> Poor temper control <sup>w</sup>	Problem drinking Binge drinking Poor temper control	Accommodation Lack of closeness with family Victim of domestic violence Problem drinking Binge drinking Poor temper control

Note.

<sup>w</sup> Needs item where there was a significant gender interaction in the combined model and the OR was greater than 1.10. In all cases the relationship with reoffending was significantly stronger for women than for men.

## Implications

The implications of this study are that no risk factor is a significant predictor of reoffending for just one gender, but for some issues the link with offending will be a little stronger for men or for women. Binge drinking is a crucial risk factor for women which has not been identified before, and which predicted both all, and specifically violent, reoffending for women. These analyses suggest that services for women should focus most importantly on accommodation, employment, Class A drug use, chronic alcohol problems, lifestyle activities, impulsivity, family relationships, and poor temper control. An assessment of current psychological problems was seen to be highly prevalent among the women in this sample but had no association with the overall reoffending rate. The literature into women’s offending has long highlighted that women offenders have frequently been victims of domestic violence, and our analyses suggest this experience raises risk of further violent offending. More research is needed to understand this link between victimisation and offending, and, crucially, how it can be broken.

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