Gender Differences in Criminogenic Needs among Irish Offenders

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Summary: This study examined gender differences between offenders on criminogenic needs as measured by the Level of Service Inventory – Revised (LSI-R). The LSI-R is the primary risk/needs assessment instrument used by the Irish Probation Service in assessment. 231 Probation Service clients (131 male and 100 female) were included in this study for comparison purposes. Results showed that male offenders had higher levels of criminogenic needs in the areas of criminal history and substance abuse than females; the latter demonstrated higher levels of need in the areas of accommodation, emotional/personal and family/marital. Implications for effective treatment for female offenders are discussed.

Keywords: Female offenders, risk assessment, LSI-R, offending, prison, imprisonment, interventions, probation, supervision, criminogenic needs, gender difference, rehabilitation, resettlement.

Introduction

While female offenders continue to be a small proportion of the overall offending population, there has been a significant increase internationally in the number of female offenders in the criminal justice system (Lovins *et al.*, 2007). In Ireland the number of female prisoners increased by 84.29% from 2001 to 2010 (Irish Prison Service, 2010). This has led to concern that risk assessment instruments and interventions for offenders, which have traditionally been developed from research on male offenders, may not be applicable to the female offending population.

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Risk assessment and interventions for offenders are based on the principles of risk, needs and responsivity. The risk principle advises that the risk of reoffending and/or of causing harm can be predicted and the level of treatment should be matched to the level of risk, with high-risk offenders receiving higher levels of intervention. The needs principle refers to the fact that to reduce recidivism, treatment should be targeted at the individual offender's criminogenic needs. Finally, the responsivity principle considers that an offender's personality, ability and motivation should be matched to the type of offender rehabilitation proposed (Andrews and Bonta, 2006).

Andrews and Bonta (2006) devised a list of the central eight risk factors that best predicted recidivism from relevant research and theoretical literature. The list is made up of the 'Big Four' risk factors (criminal history; antisocial personality pattern; antisocial attitudes/orientations and antisocial associates), which are deemed to have the strongest relationship with offending behaviour, as well as the 'minor' four risk factors (education/employment, leisure/recreation, family/marital and substance misuse), which have at least a moderate relationship with offending. Utilising these risk factors, the authors devised the Level of Service Inventory – Revised (LSI-R) to assess an offender's risk level and to identify their individual criminogenic needs. Numerous studies have shown it to be a reliable and valid method of predicting recidivism for offenders (Andrews and Bonta, 2006).

Some researchers argue that gender-neutral risk assessment tools are not accurate in predicting risk for female offenders and that these instruments tend to over-classify female offenders, leading to a higher level of supervision or security than their behaviour warrants (Shaw and Hannah-Moffat, 2000; Van Voorhis *et al.*, 2010; Hardyman and Van Voorhis 2004). Andrews *et al.* (2012) found that over-prediction of recidivism may be occurring with lower risk females and suggested that females may require different cut-off scores for risk levels. Nevertheless, the majority of research studies have found the LSI-R to be predictive of female recidivism (Smith *et al.*, 2009; Palmer and Hollin, 2007; Rettinger and Andrews, 2010; van der Knaap *et al.*, 2012; Vose *et al.*, 2009; Lowencamp *et al.*, 2001). Van Voorhis *et al.* (2010) argue that the LSI-R is predictive of reoffending among female offenders, but that the addition of gender-responsive risk factors increases prediction accuracy of recidivism.

Offenders are not a homogeneous group and there are differences between male and female offenders. Research suggests that female offenders have different pathways into offending behaviour, commit different types of offences and have a lower level of violence than male offenders (Bloom *et al.*, 2005; Reisig *et al.*, 2006). Females are more likely to have shorter criminal histories and to have committed a less diverse range of offences than males (Corston, 2007; Hollin and Palmer, 2006). There is conflicting evidence as to whether or not women are at lower risk of reoffending than men. Some studies (e.g. Palmer and Hollin, 2007; Lowencamp *et al.*, 2001) have shown no difference in risk levels whereas other studies (e.g. Mihailides *et al.*, 2005; Manchak *et al.*, 2009) indicate that men are at higher risk for recidivism than women. However, it is important to note that despite the possibility of women and men having similar recidivism levels, female offenders display lower levels of violence and arguably pose less threat to society on this basis alone. Research also indicates that females have higher incidences of personality disorders, psychosis, neurotic disorders, addiction problems, learning disabilities, self-harm and post-traumatic stress disorders, and are more likely to be victims of abuse as children and adults than male prisoners (Kelly, 2006).

The National Institute of Corrections in cooperation with the University of Cincinnati has designed both a female risk/needs assessment instrument, which assesses gender-neutral and gender-specific risk factors, and a female supplemental risk/needs assessment instrument which is designed to supplement gender-neutral risk assessments such as the LSI-R. It covers gender-specific needs of trauma and abuse, unhealthy relationships, parental stress, depression, self-efficacy and current mental health symptoms. Van Voorhis *et al.* (2010) carried out research in the USA in both prison and community settings, which utilised a combination of the LSI-R and the aforementioned risk assessment instruments, and found that in relation to female offenders in community settings, factors such as substance abuse and economic, educational, parental and mental health needs had the strongest relationship with recidivism. Rettinger and Andrews (2010) found gender-specific risk factors, such as parental stress, victimisation and self-harm, did not increase the predictive accuracy of the LSI-R among sentenced female offenders in Ontario. However, the variance of the results in these studies could reflect the differences in methodologies and samples used.

Other research has also been inconclusive: some studies have identified gender-responsive risk factors, such as victimisation, predictive of recidivism while other studies have shown no such relationship (Blanchette and Brown, 2006). It is possible that the psychological sequelae that follow victimisation can also lead to behaviour such as substance misuse offending, which is itself predictive of recidivism. Additionally, victimisation and abuse may lead to post-traumatic stress disorder, which can impede an offender's ability to address criminogenic needs (Blanchette and Brown, 2006). While there are apparent differences between male and female offenders, there is still a debate over whether or not there are different risk factors for female offenders or whether the differences are better described as responsivity targets, i.e. if needs such as parental stress, self-esteem and unhealthy relationships are not addressed it will not be possible to address dynamic risk factors. There is a concern that if gender-specific needs are identified as risk factors as opposed to responsivity factors, there may be an over-classification of risk levels for female offenders, which could have negative outcomes for women (Holtfreter and Cupp 2007). While more research is needed to identify female-specific needs, research indicates that certain criminogenic needs are shared by both genders (Hollin and Palmer, 2006).

However, these shared risk factors may be distributed differently, have different importance or be present for different reasons (Andrews *et al.*, 2012). Although several studies have highlighted differences in gender-neutral criminogenic needs between men and women, the results have not been consistent. Research studies utilising the LSI-R have shown that men tend to score higher on the criminal history subscale, and women higher on the emotional/personal (Palmer and Hollin, 2007; Holsinger *et al.*, 2003; Van der Knaap *et al.*, 2012) and financial subscales (Raynor, 2007). Van der Knaap *et al.* (2012) proposed that because the relationship between emotional problems and recidivism was weak in their study, treating emotional problems may have little impact on recidivism. Several studies have also reported that women have higher levels of need in the area of family/marital needs (Davidson, 2011; Palmer and Hollin, 2007; Hsu *et al.*, 2009). The areas of accommodation and substance misuse revealed conflicting findings, with some studies reporting that females had greater levels of need in contrast with other studies indicating that males had greater need (see Palmer and Hollin, 2007; Andrews *et al.*, 2012; Manchak *et al.*, 2009; Van der Knaap *et al.*,

2012). The findings relating to the substance misuse and accommodation factors may reflect differences in the levels and types of services provided in different jurisdictions.

In order to assist with more effective planning of resources for female offenders in Ireland, this study examined gender differences in criminogenic needs among the country's probation clients. Specifically, the study examined any differences between the gender-neutral criminogenic needs of male and female offenders using the LSI-R scores instrument.

Method

Participants

The sample consisted of 231 probation clients aged between 18 and 55 (M = 27.77, SD = 14.25), with 131 (56.7%) of the sample being male and 100 (43.3%) female. 74.4% of male offenders had been before the District Court, with 30 (22.9%) before the Circuit Court and four (3.1%) before the District Appeals Court, compared to 91 (91%) of females being before the District Court, eight (8%) before the Circuit Court and 1 (1%) before the District Appeals Court (Table 1).

Table 1. Offence history by gender

	Male		*Female*	
	Yes	*No*	*Yes*	*No*
Current aggressive offence	48.9% (64)	51.1% (67)	42% (42)	58% (58)
Previous convictions	96.9% (127)	3.1% (4)	63% (63)	37% (37)
Three or more current convictions	68.7% (90)	31.3% (41)	34% (34)	66% (66)

Materials

The LSI-R (Andrews and Bonta, 1995) is a 54-item instrument designed to measure risk factors associated with recidivism. It consists of 10 subscales: criminal history, education and employment, financial, family/marital, accommodation, leisure/recreation, companions, substance abuse, emotional/personal and attitudes/orientations. The scores of the subscales are added to produce a total score which predicts the offender's risk of future recidivism.

Procedure

Prior to commencing, ethical approval was sought and obtained from the ethics committee of the Irish Probation Service. Anonymised scores from LSI-R were obtained on 231 offenders, who were enrolled on the LSI-R database with a completed LSI-R as of 1 February 2011. The Probation Service LSI-R database is linked to an additional database of active offenders which facilitated the extraction of additional comparative information such as offence details, court venue, gender and age. Due to the significantly higher proportion of males on the database, the gender data sets were separated and a random sample of both male and female records was obtained. Each LSI-R assessment had been completed by the offender's Probation Officer.

Statistical analysis

LSI-R total scale and subscales for male and female offenders were compared using independent *t*-tests and Mann-Whitney *U*-tests. Logistic regression analyses examined whether the gender of the offender could be predicted by the criminogenic needs represented by the subscales listed above.

Results

Means, standard deviations and alpha reliabilities were calculated for all variables. The internal consistency of the scales was measured utilising Cronbach's alpha (Table 2).

Table 2. Means, SDs and reliability of all measured variables

	Mean	*Standard deviation*	*Alpha reliability*
LSI-R total score	22.1	3.9	0.80
Criminal history	3.9	2.3	0.74
Education/employment	6.0	2.5	0.77
Financial	1.3	0.7	0.29
Family/Marital	1.4	1.2	0.48
Accommodation	0.6	0.8	0.25
Leisure/Recreation	1.23	0.83	0.64
Companions	8	1.4	0.70
Alcohol/Drug problem	3.8	2.5	0.78
Emotional/Personal	1.3	1.4	0.71
Attitudes/Orientations	0.6	1.1	0.73

The normality of the distribution of the variables was tested utilising Kolmogorov-Smirnov tests, which revealed that only the total LSI-R score was normally distributed. All the other variables were found not to be normally distributed.

Correlational analyses

Correlational analyses were conducted between the scales of LSI-R Total Score and the LSI-R subscales, to determine the relationship between the various measures utilised in this research (Table 3). The table of correlations shows that the majority of measures were significantly correlated with each other.

Comparison between groups

An Independent *t*-test and Mann-Whitney *U*-tests were conducted to establish whether male offenders differed from their female counterparts in terms of overall risk level and criminogenic needs. There was a significant difference between risk levels for male and female offenders, with male offenders ($M = 23.27$, SD = 8.2) having a higher score on the LSI-R than females ($M = 20.59$, SD = 7.82); $t(229) = 2.51$, $p = .01$ (two-tailed). The magnitude in the differences in the means (mean difference = 2.67, 95% CI: .57 to 4.78) was small, $r = 0.17$. As the other measures were not normally distributed, Mann-Whitney *U*-tests were used to examine the differences in scores across the groups. As can be seen from Table 4, female offenders had higher levels of need in family/marital, emotional/personal and accommodation and lower levels of need in the area of criminal history and alcohol/drug problems.

Regression

The variables were entered in a linear regression model to assess for multicollinearity. None of the variables achieved a variance inflation factor of over 10, indicating that the multicollinearity assumption has been upheld (Field, 2005). This procedure is sensitive to outliers; no univariate outliers were found within the data. Outliers were further assessed by examining the standardised residual scores. Tabachnick and Fidell (2007) suggest that potential outliers should have scores in excess of 3.29 (equivalent to $p < 0.01$), consequently cases with a standardised residual score over 3.29 were removed from the analysis. Logistic regression was conducted to determine if the individual differences measures could be combined to predict female and male offenders. The

Table 3. Correlations between measures

	Education/ Employment	*Financial*	*Family/Marital*	*Accommodation*	*Leisure/ Recreation*	*Companions*	*Alcohol/ Drug problem*	*Emotional/ Personal*	*Attitudes/ Orientations*	*LSI-R total Score*
Criminal history	.313**	.049	.074	.109	.163*	–.335**	.368**	.009	.147*	.592**
Education/Employment		.443**	.232**	.193**	.430**	–.324**	.116	.075	.322**	.637**
Financial			.204**	.218**	.351**	–.182**	.145*	–.018	.314**	.435**
Family/Marital				.363**	.222**	–.276**	.152*	.187**	.318**	.467**
Accommodation					.253**	–.308**	.298**	.065	.206**	.460**
Leisure/Recreation						–.225**	.323**	.191**	.250**	.560**
Companions							–.330**	.025	–.331**	–.604**
Alcohol/Drug								.269**	.176**	.671**
Emotional/Personal									.044	.320**
Attitudes/Orientations										.491**

Non-parametric tests (Spearman's rank order correlation) were used. * Correlation is significant at the 0.05 level (two-tailed); ** correlation is significant at the 0.01 level (two-tailed).

Table 4. Comparison of male and female LSI-R scores

	Mean rank score		*U*	*Z*	*P*	*R*
	Male	*Female*				
Criminal history	147.4	74.77	2427	–8.27	0.00	0.6
Education/Employment	123.24	106.51	5601	–1.91	0.06	0.1
Financial	112.38	120.74	6076	–1.04	0.30	0.1
Family/Marital	100.5	136.2	4528.5	–4.17	0.00	0.3
Accommodation	108.5	125.8	5567.5	–2.17	0.03	0.1
Leisure/Recreation	116.27	115.65	6514.5	–0.08	0.94	0.0
Companions	110.06	123.78	5772.5	–1.61	0.10	0.1
Alcohol/Drug problem	126.73	101.95	5145	–2.81	0.05	0.2
Emotional/Personal	107.66	126.92	5458	–2.28	0.02	0.2
Attitudes/orientations	108.5	125.83	6419	–0.32	0.75	0.0

model was statistically significant ×2 (10, $N = 215$) = 163.55, $p < .01$ and explained between 51.7 (Cox and Snell R square) and 69.3% (Nagelkerke R square) of the variance in gender and correctly classified 85.3% of cases. Criminal history, accommodation, family/marital, emotional/personal and alcohol/drug problem were found to make a unique statistically significant contribution. The strongest predictor was accommodation, recording an odds ratio of 4.69, indicating that females were over four times more likely to have difficulties in the accommodation domain. Females were also found to have been considered twice as likely to have difficulties in the family/marital domain. As can be seen from Table 5, female offenders were less likely to be assessed as having criminogenic needs in the areas of criminal history or alcohol/drug problems and more likely to have difficulties in the areas of emotional/personal, family/marital and accommodation.

Discussion

This study found that the total LSI-R score for females was lower than for male offenders, suggesting that Irish female probation supervisees are lower risk than their male counterparts. However, it must be noted that while the difference in scores was significant, the effect size was small, which may impact on the clinical significance of the findings. The study also revealed differences between the genders in terms of the prevalence of some criminogenic needs as measured by the LSI-R; this has implications for designing supervision and intervention programmes for female offenders.

Table 5. Logistical regression predicting likelihood of offender belonging to the female offender group as opposed to the male offender group

	B	*SE*	*Wald*	*Df*	*Sig.*	*Exp(B) (odds ratio)*	*95% CI for odds ratio*	
							Lower	*Upper*
Criminal history	–1.09	0.17	42.60	1	0.00	0.34 (3.3*)	0.24	0.47
Education/Employment	–0.22	1.14	3.6	1	0.06	0.80	0.64	1.01
Finance	0.68	0.39	3.00	1	0.08	1.97	0.91	4.27
Family/Marital	0.99	0.30	18.77	1	0.01	2.69	1.72	4.23
Accommodation	1.55	0.40	14.80	1	0.00	4.69	2.13	10.31
Leisure/Recreation	0.164	0.30	0.31	1	0.58	1.18	0.66	2.10
Companions	.110	.295	.139	1	.710	1.116	0.84	1.76
Alcohol/Drug problem	–0.27	0.11	6.57	1	0.01	0.76 (1.3*)	0.62	0.94
Emotional/Personal	0.53	0.18	8.40	1	0.04	1.70	1.18	2.44
Attitudes/Orientations	0.21	0.26	0.63	1	0.43	1.23	0.74	2.04
Constant	0.32	1.87	0.03	1	0.87	1.37		

* Inverted odds ratio.

Accommodation appears to be a problematic area for female offenders, with females in this study being 4.6 times more likely to experience difficulties than men. This is reflective of other research carried out by Seymour and Costello (2005) on Irish Probation Service clients. They found that female offenders were over-represented in the population of homeless offenders on probation in Ireland. It is extremely difficult for offenders to elicit positive change in their lives without having stable accommodation; consequently it is an important treatment target for Irish female offenders.

It was apparent from the study that interventions needed to be targeted at the emotional/personal needs of female offenders, as females score higher in this domain than males. This domain relates to the areas of psychosocial functioning, emotional distress, and symptoms of psychotic, anxiety and affective disorders (Andrews and Bonta, 2006). If needs in this area are not addressed, it will impact on the ability of the individual to address other criminogenic needs.

Female offenders in this study were twice as likely to experience difficulties in the family/marital domain as their male counterparts. Female offending is often related to intimate relationships, with many women becoming involved in crime in the context of a relationship. Additionally, aggressive offences predominantly occur within violent domestic situations (Holtfreter and Cupp, 2007). Supportive family relationships have been shown to reduce the probability of reoffending and poor institutional adjustment among female offenders (Benda, 2005). Research studies have found that treatment programmes targeting family relationships and family processes have demonstrated reductions in female levels of reoffending (Dowden and Andrews, 1999; Dowden, 2005). Consequently, it is important to examine needs in this area when designing supervision programmes for female offenders.

This study did not identify any significant difference between genders in the area of finance or education/employment. The LSI-R manual asserts that 'homemakers' are not deemed to be in the labour market, and should not be scored on the majority of questions in the employment/training section. Females are generally the primary caregivers to their children; the Corston Report (2007) found that two-thirds of female prisoners studied in the UK were living with their children prior to their incarceration. There was no access to information on whether the female offenders in this study had children. However, it is possible that at least some women received a low score in this area as they were not deemed to be in the labour market. This could potentially have reduced

the average score for female offenders in this domain, which could mean that female offenders without children have significant difficulties in the area of education/employment.

Female offenders with children may also benefit from assistance within the area of education/employment. Women with young children may find it difficult to access employment/training due to childcare requirements, consequently they will find it harder to escape from reliance on social welfare. They may also miss out on opportunities in the workplace to potentially form prosocial relationships and to experience the positive rewards for non-criminal behaviour (Andrews and Bonta, 2006). Resources need to be put into training/education programmes for female offenders together with adequate and accessible childcare for those with children.

This study found that male and female offenders did not differ significantly on criminal thinking, suggesting that putting resources into targeting this criminogenic need would be beneficial for both genders. However, this is not to say that a gender-neutral programme would result in the same reduction in recidivism for both groups. Female offenders differ from men in that they tend to have less extensive criminal histories, commit more acquisitive crime and are less likely to partake in serious violence, criminal damage and professional crime (Corston, 2007).

It is important that the content of programmes recognise the differences between male and female offending. Additionally, the context of offending and the reasons for the development and maintenance of antisocial attitudes are important in determining the best intervention for antisocial attitudes.

Many women become involved in crime in the context of a relationship (Holtfreter and Cupp, 2007), which is likely to influence a female offender's attitude to offending. An offender can rationalise or justify their behaviour after committing an offence, allowing them to experience less cognitive dissonance (Kelly and Egan, 2012). It is possible that female offenders commit offences in the context of a relationship and later develop antisocial attitudes to rationalise their behaviour. While more research is undoubtedly needed in this area, a programme that targets criminogenic attitudes in female offenders is unlikely to reduce recidivism without addressing the influence the women's partners and families have on their offending.

This study is limited in that it only examined criminogenic needs as measured by the LSI-R. Criminogenic needs may present differently in men and women, and consequently it is possible that the LSI-R may not

be capturing them appropriately for females. Another shortcoming is that the study did not look at the offenders' previous treatment, which could potentially have impacted on the differences in LSI-R scores.

In order to improve services for female offenders, future research should concentrate on the differences between genders in the causes and presentations of gender-neutral criminogenic needs. It is also important to establish how criminogenic needs interrelate with each other and with offending behaviour among female offenders. Further research is necessary in the area of gender-specific needs and their relationship with offending.

Conclusion

This study revealed that criminogenic needs as measured by the LSI-R are distributed differently in male and female offenders, which has implications for how resources in supervision and interventions for female offenders are best directed. Accommodation appears to be an extremely problematic area for female offenders, which reflects the fact that homelessness is a significant problem for them. Resources need to be targeted in this area. It is also important that emotional and mental needs be addressed; otherwise they could act as a potential barrier to addressing other criminogenic needs. Female offenders would benefit from training/education and employment opportunities with childcare services available for women with children.

While there was no significant difference in the area of antisocial attitudes, cognitive behavioural programmes designed for men may not have the same impact in reducing female offending. Interventions in this area need to be cognisant of gender differences in both cause and presentation of offending behaviour, and potential differences in the development and maintenance of antisocial attitudes.

Finally, while this study did not examine gender-specific needs, it is important to incorporate factors such as victimisation, relationships, parental stress, self-esteem and mental health when designing programmes for female offenders. While further research is needed to establish the relationship of these with recidivism, they are at least important responsivity targets. Addressing these issues not only will improve the emotional wellbeing of female offenders, but also will enable them to make positive changes in other gender-neutral criminogenic needs.

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