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**Psychosocial correlates of recidivism in a sample of ex-prisoners: the role
of Oppositional Defiant Disorder and Conduct Disorder**

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Abstract

The present study aimed to (a) examine the role of Oppositional Defiant Disorder and Conduct Disorder in predicting recidivism, while controlling for childhood arrest, perceived neighbourhood crime frequency, alcohol consumption, age, and gender, and (b) explore the relevance of these factors in predicting risk of recidivism for males and females separately. Participants were 669 ex-prisoners identified in the National Survey of American Life. Results revealed that gender, Conduct Disorder, and average daily alcohol consumption predicted recidivism. When separate models were estimated for males and females, only average daily alcohol consumption was predictive of female recidivism. By comparison, recidivism was significantly predicted in males by Conduct Disorder in youth and childhood arrest. Oppositional Defiant Disorder was also negatively associated with recidivism in males. Consequently, targeting variables identified as significant predictors of recidivism for both males and females, or males, is unlikely to be an optimal way of reducing repeat offending.

Keywords: Recidivism, Ex-prisoners, Psychosocial Correlates, National Survey of American Life (NSAL), Gender Differences.

Psychosocial Correlates of Recidivism in a Sample of Ex-Prisoners: the role of Oppositional Defiant Disorder and Conduct Disorder

Reducing the likelihood that offenders will commit future offenses is a primary goal of the justice system. Research indicates that despite a substantial increase in state spending on prisons, around 50 percent of U.S. offenders re-offend within three years of their release (e.g., Langan & Levin, 2002). Moreover, according to DeLisi and Gatling (2003), repeat offenders are among the most costly individuals in American society. Consequently, it is important that policymakers and researchers understand which factors contribute to re-offending so that they can be targeted during intervention. The purpose of the current study is to investigate the relationship between Oppositional Defiant Disorder, Conduct Disorder and recidivism, while controlling for alcohol consumption, neighbourhood context (perceived frequency of neighbourhood crime), gender, age, and childhood arrest, and to compare the predictors of recidivism for male and female ex-prisoners.

Predictors of Recidivism

Conduct Disorder

Conduct Disorder (CD) is a 'repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal norms or rules are violated' (American Psychological Association, 2000, p. 93). CD is characterised by serious aggressive and antisocial behaviour such as stealing, destruction of property, cruelty to animals, and fire setting. It is usually first diagnosed in childhood or adolescence, and is more prevalent among males than females (Kjelsberg & Friestad, 2009). Severe CD in childhood has been identified as a strong risk factor for adult criminality (Mordre, Groholt, Sandstad, & Myhre, 2011), particularly among males (Babinski, Hartsough & Lambert,

1999; Gelhorn, Sakai, Price & Crowley; 2007). Långström and Grann (2002) also found that Conduct Disorder before the age of 15 years, and substance use disorder, exhibited substantial independent associations with violent recidivism. Moreover, the association between psychopathy and violent recidivism was eliminated when controlling for Conduct Disorder before age 15 and young age at first criminal conviction. A large proportion of children diagnosed with CD are also later diagnosed with Antisocial Personality Disorder (Loeber, Burke, Lahey, Winters & Zera, 2000), further enhancing the likelihood that they will engage in habitual offending. As reported by Hanson and Morton-Bourgon (2005) an antisocial orientation is a major predictor of general offending and violent recidivism.

Oppositional Defiant Disorder

Oppositional Defiant Disorder (ODD) has been described as a less severe, yet more common form of Conduct disorder (Rowe, Maughan, Costello & Angold, 2005). Like CD, ODD is more prevalent among males than females as is most often diagnosed in childhood or adolescence (Maughan, Rowe, Messer, Goodman & Meltzer, 2004). Youth diagnosed with ODD report significantly higher levels of delinquency compared to those with other mental health disorders (Vogel & Messner, 2012). Importantly, the influence of ODD on criminal behaviour and recidivism has been suggested to be sex-specific, with ODD predicative of recidivism in boys but not girls (Plattner, Steiner, The, et al., 2009).

Childhood arrest

Childhood misbehaviour has frequently been proposed to be a prerequisite for later delinquency, and the idea of behavioural continuity has been central to criminal career research (Farrington & West, 1993; Robins, 1978). An extensive body of research indicates that offenders, particularly males, who manifest criminal behaviour during childhood or

early adolescence are at greater risk of becoming chronic offenders than later onset offenders (Andersson, Levander, Svensson, & Levander, 2012; DiLisi, 2001, 2006; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996). Kratzer and Hodgins (1997) examined the case histories of 15,117 individuals from a Swedish birth cohort and followed them until age thirty years. They found that the most common outcome for males with histories of childhood misconduct was criminality. Similarly, Piquero, Brame, and Lynam (2004), based on a cohort of parolees from the California Youth Authority, found that those offenders who were arrested earlier in life tended to demonstrate the longest, most serious offending careers. DeLisi (2001, 2005) also reported that the majority of extreme criminal offenders, defined as individuals who commit predatory crimes such as murder, rape, and kidnapping, were first arrested during childhood or early adolescence. Finally, Ou and Reynolds (2010) found within their longitudinal study that juvenile arrest by age 18 was associated with a 36% increase of likelihood of incarceration or jail by age 26.

Alcohol consumption

Alcohol consumption is a well-established risk factor for offending behaviour in males and females, and adults and adolescents (Popovici, Homer, Fang & French, 2012). Fergusson and Horwood (2000), for instance, demonstrated a positive correlation between increased alcohol use and increased rates of violent and property crime. A relationship between alcohol consumption and recidivism risk has also been well documented. A meta-analytic study by Dowden and Brown (2002), for instance, reported a weighted mean effect size of .12 between alcohol abuse and general recidivism.

Neighbourhood context

Criminologists have long recognized the importance of neighbourhood context when developing explanations of crime and delinquency (Ainsworth, 2001). Despite this, the influence of the neighbourhood context on recidivism has largely been overlooked in the literature (Olusanya & Gau, 2012). However, Garvin, Cannuscio and Branas (2013) demonstrated the influential impact of an individual's perception of their neighbourhood crime. The authors conducted a randomised controlled trial assessing whether reductions in violent crime could be achieved simply by converting neglected, vacant 'lots' into green, open spaces. Although their study demonstrated a non-significant decrease in violent crime around the intervention sites, residents did report feeling considerably safer. Tillyer and Vose (2011) suggest that ex-offenders are particularly affected by the social structure of their environments, as they are often dependent upon community services, facilities and support to reintegrate into society. The 'Broken Window' hypothesis (Wilson & Kelling, 1982) states that visual cues or evidence of offending such as litter, graffiti and drug paraphernalia may allow offenders to conclude that others are indifferent to what occurs within their environment, or lack the means to prevent it (Scarborough, Like-Haislip, Novak, Lucas & Alarid, 2010). Consistent with this, offenders who return to live in disadvantaged communities after release from prison re-offend at a greater rate in comparison to those returning to affluent communities, even whilst controlling for individualistic factors (Kubrin & Stewart, 2006).

Gender and age

Consistent differences between male and female offending, in terms of offence type, frequency and severity, have been documented. Males commit more crimes than females

and are more likely to offend in groups, as opposed to alone, than females (Rennison, 2009; van Mastrigt & Farrington, 2009). With respect to male offending, it has been found that an early onset of criminal behaviour predicts a longer and more serious criminal career, however, the same has not been consistently found of females (Andersson et al, 2012). Differences have also been observed between individuals of various ages with respect to offending, with increasing age being associated with desistance from offending (Farrington, Auty, Coid & Turner, 2013). Indeed, age is such a robust predictor of recidivism that is included as an item on actuarial tools commonly used to predict violent and non-violent recidivism among offenders. Many criminologists support the notion of a curvilinear nexus with respect to frequency of offending over the life course (Daigle, Beaver & Hartman, 2008).

Gender Difference in the Predictors of Recidivism

Typically, measures developed to assess offenders' risk of recidivism have been developed and validated using male samples. Despite this, use of these measures with female offenders is common practice. This practice implies that, despite differences in the trajectories, persistence, and severity of offending behaviour by gender (e.g., Andersson, Levander, Svensson, & Levander, 2012; Lewin, Davis, & Hops, 1999), the risk of recidivism can be predicted by the same factors for women as for men. Although few studies have directly compared male and female offenders with respect to factors predicting recidivism, recent research suggests that differences may exist. Manchak, Skeem, Douglas, and Siranosian (2009), for instance, found that for males, criminal history, substance abuse problems, and financial problems were related to recidivism, whereas for females only

financial problems were predictive. An important limitation to this study, however, is the somewhat limited size of the female sample ($n = 70$), as acknowledged the authors.

Manchak et al. (2009) furthermore focused on violent offenders. Funk (1999) and Trulson, Marquart, Mullings, and Caeti (2005) also reported fewer significant predictors for females than males in their studies of juvenile delinquents. McCoy and Miller (2013) found that the presence of positive social support significantly reduced the likelihood of recidivism for female offenders only. Somewhat differently, Andrews, Guzzo, Raynor et al. (2011) using a large (pooled) data set, concluded that gender neutrality appears to be the rule. With the exception of substance abuse (which correlated more strongly with recidivism in women) each of the risk factors assessed were equally predictive of recidivism among male and female offenders. Research by Lee and Egan (2013) also supported a gender-neutral theory of criminal behaviour.

The present research

While there is growing consensus about the relevant factors associated with offending behaviour, differences in these characteristics between first and recidivist offenders needs clarification. Furthermore, risk factors associated with recidivism for male and female offenders remain unclear. The purpose of the present study, therefore, was to examine the relationship between Oppositional Defiant Disorder, Conduct Disorder and recidivism, while controlling for alcohol consumption, neighbourhood context (perceived frequency of neighbourhood crime), age, and childhood arrest, and to compare risk factors for recidivism for male and female ex-prisoners ($N = 669$).

Method

Participants

The sample consisted of 669 ex-prisoners (68.5%, $n = 458$ male) identified in the National Survey of American Life (Jackson, Torres, Caldwell, Neighbors, Nesse, Taylor & Williams, 2004). Participants ranged in age from 18 to 84 years ($M = 41.06$, $SD = 14.01$). Most ex-prisoners (90.4%; $n = 605$) were born in the United States and the majority (86.5%; $n = 579$) were Black or African American. At the time of data collection, 64.3% ($n = 430$) of respondents were currently employed, 15.1% ($n = 101$) unemployed, and 20.6% ($n = 138$) were not in the labour force. In addition, 38.0% ($n = 254$) of respondents indicated their marital status as married or cohabiting, 30.8% ($n = 206$) as divorced, separated or widowed, and 31.2% ($n = 209$) as never married. The frequency of imprisonment reported by offenders ranged from 1 to 20 times ($M = 2.17$; $SD = 2.62$).

Materials

Recidivism. Recidivism was measured based on a single item assessing the number of times participants had been imprisoned. Responses were categorised as: once, twice, or three or more times. The reference category for the multinomial logistic regression was once. Given the anonymous nature of the study, there were no data available on official recidivism rates.

Mental Disorders. The DSM-IV World Mental Health Composite International Diagnostic Interview (WMH-CIDI), a fully structured diagnostic interview, was used to assess Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). The mental disorders sections used for NSAL are slightly modified versions of those developed for the World Mental Health project initiated in 2000 (WHO, 2004) and the instrument used in the NCS-R (Kessler & Üstün, 2004). Scales assessing these two mental disorders consisted of eleven items each. Cronbach's alpha indicated good internal consistency, $\alpha = .79$ ODD, $\alpha = .82$ CD.

Frequency of Alcohol Use. The number of alcoholic drinks participants estimated they consumed on average per day before the age of 18 years was measured as a continuous variable.

Childhood Arrest. The presence of childhood arrest was based on a single dichotomous item (yes/no).

Perceived frequency of Crime in the Neighbourhood. Participant's perception of the frequency of crime within their neighbourhood was measured using a five point likert scale, 1 (none) to 5 (very frequently) within the neighbourhood.

Analysis

Multinomial logistic regression was used to assess the impact of the predictor variables on level of recidivism (once, twice, or three or more times incarcerated). Odds ratios (OR) indicate the likelihood of recidivism in comparison to the reference group (first time incarceration). Analysis was conducted in SPSS 21.

Results

Descriptive Statistics

Descriptive statistics for all continuous variables are presented in Table 1. Levels of Oppositional Defiant and Conduct Disorder were slightly higher in males than females. Women reported drinking more on average per day than men before the age of 18 years. Females also tended to perceive more crime in their neighbourhood than their male counterparts. Fifty two men reported that they had been arrested as a child compared to only twelve women.

[TABLE 1 NEAR HERE]

Multinomial logistic regression

Multinomial logistic regression was used to analyse the relationship between mental disorders (Oppositional Defiant Disorder and Conduct Disorder) and recidivism (3 categories) when controlling for all other variables (Table 2). The reference category for the outcome variable was 'first incarceration prisoners', each of the other two categories were compared to this reference group. Analyses indicated good model fit, $\chi^2(1,158) = 1190.36$; $p = .25$; Cox and Snell = .08; Nagelkerke = .10; McFadden = .05.

[TABLE 2 NEAR HERE]

The first column in Table 2 has the outcome of 'second incarceration' compared to 'first incarceration' (the reference category). Results indicate that males were 1.9 times more

likely than females to be incarcerated twice, while controlling for other covariates in the model. All other variables under investigation (childhood arrest, average alcohol consumption, Oppositional Defiant Disorder, Conduct Disorder, perception of frequency of crime within the neighbourhood, and age) were not significant predictors of recidivism. The second column in Table 2 has the outcome of 'third (or more) incarceration' compared to 'first incarceration' (reference category). Results indicate that males were 3.5 times more likely to report three or more incarcerations than females. Individuals in the 'third (or more) incarceration' category also reported significantly higher levels of Conduct Disorder (OR = 1.22) and increased alcohol consumption in a day (OR = 1.07).

Gender-Split Analysis

Multinomial logistic regression models were conducted to assess the retrospective predictors of recidivism for males and females separately (Table 3). Goodness-Of-Fit analyses indicated satisfactory model fit for females, $\chi^2(378) = 374.92$; $p = .54$; Cox and Snell = .06; Nagelkerke = .08; McFadden = .04), and males, $\chi^2(768) = 785.31$; $p = .32$; Cox and Snell = .06; Nagelkerke = .06; McFadden = .03).

Results indicate that higher levels of alcohol consumption are positively associated with an increased likelihood of reporting recidivism among females (OR = 1.12) but not males. Males in the 'third (or more) incarceration' category were at a greater likelihood of recidivism, when reporting the presence of Conduct Disorder behaviours (OR = 1.25) and childhood arrest (OR = 2.60). Males reporting the presence of ODD were less likely to report third or more recidivism (OR = .78). None of the other covariates examined were significantly related to recidivism.

[TABLE 3 NEAR HERE]

Discussion

To date, a considerable body of research has accumulated demonstrating the ability of various dynamic and static risk factors to predict adult criminal recidivism (e.g., Andrews, Bonta, & Wormith, 2006; Gendreau, Little, & Goggin, 1996). However, the vast majority of these studies have relied exclusively on male samples (e.g., Nagin, Farrington, & Moffitt, 1995; Farrington & West, 1993), or taken a gender-neutral perspective, and in doing so, assumed that risk of recidivism can be predicted on the basis of the same risk factors for women as for men. Yet, this implied gender-neutrality of risk factors has been the source of much debate (e.g., Garcia-Mansilla, Rosenfeld, & Nicholls, 2009; McKeown, 2010; Morash, 2009). The present research was conducted to investigate (a) the role of Conduct Disorder and Oppositional Defiant Disorder in predicting recidivism, when controlling for perceived frequency of crime within the neighbourhood, presence of childhood arrest, average alcohol consumption within a day, age and gender, and (b) potential gender differences in risk factors for recidivism among ex-prisoners. Participants were subdivided into three categories (those incarcerated once, twice and three times or more), with 'first incarcerated prisoners' serving as the reference group in the multinomial logistic regression analysis.

Results revealed that males were significantly more likely (OR = 1.9) to be incarcerated twice compared to females, and 3.5 times more likely to be incarcerated three

or more times than females. This is in line with previous research indicating that males commit more crime than females (Rennison, 2009). Individuals who had been incarcerated three or more times were 1.2 times more likely than those in the reference group to report the presence of Conduct Disorder, suggesting that Conduct Disorder is an important predictor of both violent (Långström & Grann, 2002) and general recidivism. In line with previous research documenting an association between alcohol consumption and repeat offending (e.g., Dowden and Brown, 2002), a positive relationship was also identified between average daily alcohol consumption and the likelihood of reporting three or more incarcerations. As is often the case in research, the non-significant findings of this study are important. Probably the main anomaly with the existing literature is the non-significant relationship between age and recidivism. Consequently, the theory of desistance (Farrington et al., 2013) was not supported in this study. In line with previous research, pointing to prior arrest record as the single most robust predictor of recidivism (e.g., Cottle, Lee, & Heilbrun, 2001; McMackin, Tansi, & LaFratta, 2004), there was a significant association between childhood arrest and recidivism.

A significant association between an individual's perception of crime frequency within their neighbourhood and the increased likelihood of recidivism was also not found. This may be because participants' perceptions of crime frequency were inaccurate due to the influence of other variables such as informal control, social capital and collective efficacy (Sun & Triplett, 2008). Alternatively, the neighbourhood context examined within the present study may not be directly relatable to recidivistic offending, but may indirectly contribute to recidivism due to other associated factors such as socioeconomic status, deviant peers and exposure to community level violence and crime. Moreover, it is also

possible that it is not so much the perceived frequency of crime that is pertinent to recidivism, but rather the type of offending that is salient (Lynch, 2003).

The current research also examined the association between the predictor variables and recidivism separately for males and females, thus adding to the discussion on the appropriateness of the use of gender-neutral risk assessment instruments. Apart from being one of only a few studies to directly compare male and female ex-prisoners, the current study also adds to the literature by using a large sample of ex-prisoners charged with a range of offenses. Results indicate that alcohol consumption is a significant retrospective predictor of increased likelihood of recidivism in females only. By comparison, recidivism was significantly predicted in males, but not females, by Conduct Disorder in youth and childhood arrest. Oppositional Defiant Disorder was also negatively associated with recidivism in males, and not females, indicating that those reporting Oppositional Defiant Disorder were less likely to report recidivism and to have experienced repeated incarcerations. The positive association between level of alcohol consumption and the likelihood of repeated incarceration for females but not males suggests that alcohol misuse perhaps leads to greater situational offending among females, or that offending may be a part of male's general lifestyle to a greater extent. Possible explanations of why childhood arrest and ODD were significant predictors for males but not females may focus on the observed gender differences in respect of the trajectories, persistence and severity of offending behaviours (Lewin, Davis and Hops, 1999).

The protective influence of ODD, but not CD, against recidivism in males but not females is interesting. One possible explanation for this finding is that youth diagnosed with ODD may receive earlier or more effective interventions than those diagnosed with

CD, perhaps because ODD is often viewed as a less severe or challenging form of CD, and thus more amenable to treatment. In support of this, Reid, Webster-Stratton, and Hammond (2003) examined the effectiveness of 'The Incredible Years Intervention' for ODD, and found that the majority of children in the sample were functioning within the normal range at home and/or at school two years after completing treatment for diagnosable levels of behaviour problems. By comparison, evidence for the effectiveness of interventions for CD is limited (Barton, 2003). Alternatively, ODD diagnosed individuals may be less likely to get caught committing criminal acts than their CD counterparts, and, therefore, are not as likely to have repeated incarcerations. Consistent with this interpretation, Grove, Evans, Pastor and Mack (2008) theorised that part of the success of intervention and prevention programmes aimed at targeting conduct problems may be attributed to the fact that individuals learn how to avoid detection. This concept may also extend to the results gained here, however a thorough assessment and comparison of the cognitive and learning abilities of CD and ODD diagnosed individuals would have to be conducted, as research within this arena is only partial at present (Rhodes, Park, Seth & Coghill, 2012). It is also worthwhile to consider that ODD behaviours simply desist or become less severe over time (Maughan et al., 2004; Nock, Kazdin, Hiripi, & Kessler, 2007), or may be less central to the occurrence of criminal behaviour than CD. Further research is, therefore, required to assess how ODD behaviours minimise the likelihood of recidivism among males.

Limitations

As with all research, the present study has a number of limitations that need to be taken into consideration when interpreting these findings. First, we did not use official records for the operationalization of recidivism but instead relied on prisoners' self-reports.

Thus findings are open to distortion on the part of the offender and lack the accuracy that official reports of recidivism would provide. However, as Maxfield, Weiler and Widom (2000) note, comparisons between self-reports and official records hold considerable concurrent validity. Second, this study was based on a sample of adult U.S ex-prisoners. Future studies should seek to replicate this study among prisoners from other regions of the world and young offenders. Third, has also been identified that offence type is significant in predicting the likelihood of recidivism (Calley, 2012), a variable that was not explored within the present study. Thus, future research should seek to examine predictors of recidivism in males and females by offense type. Finally, many of the individual and wider, societal elements that contribute towards offending were not able to be explored within the present study, such as self-control (Grieger, Hosser, & Schmidt, 2012), psychopathy (Dhingra & Boduszek, 2012), the effect of criminal peer associations (Bourke, Boduszek, & Hyland, 2013), socioeconomic status (Heimer, 1997) and criminal social identity (Boduszek, Adamson, Shevlin, Hyland, & Bourke, 2013).

Implications

As the results indicate gender differences in the predictors of recidivism, it seems likely that the risk factors included in recidivism risk-assessments may not be the most relevant ones for women. Consequently, there is a need to extend the risk assessment used for both female and male offenders to include different, gender-specific factors in the hope that prediction may be improved. Although the results of the present study suggest that those working with criminal populations should be cognisant of the roles of ODD and CD in increasing or decreasing and individual's likelihood of reoffending, the assessment of ODD and CD should be seen as only one part of a comprehensive evaluation of risk when

assessing risk for continued criminal offending given the complex array of factors associated with risk for criminal recidivism (for recent meta-analyses and overviews, see Cottle et al., 2001; Loeber and Farrington, 1998). As in previous research (Manchak et al., 2009), the predictors of recidivism among males were largely inadequate at predicting recidivism among females, with only number of drinks per day predicting female recidivism. Consequently, there is a need for more data concerning the predictors of recidivism specifically in women.

Conclusions

This study demonstrates that Oppositional Defiant Disorder and Conduct Disorder both contribute to recidivism risk, and provides valuable information on how predictors of recidivism differ by gender. Importantly, the results indicate that the predictors of recidivism among males were largely inadequate at predicting recidivism among females, with only number of drinks per day predicting female recidivism. Thus, it appears that the dynamics of female recidivism differ from those surrounding recidivism among males. Consequently, targeting variables identified as significant predictors of recidivism for both males and females, or males, is unlikely to be an optimal way of reducing repeat offending.

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Table 1

Descriptive statistics and frequencies for ODD, CD, average number of daily drinks, perceived crime frequency, and age.

Variable	Mean	SD
ODD		
Total	0.68	1.47
Male	0.66	1.44
Female	0.74	1.53
CD		
Total	1.40	2.12
Male	1.31	2.12
Female	1.59	2.11
Number of drinks per day on average		
Total	1.55	2.88
Male	1.55	2.32
Female	1.56	3.82
Perceived crime frequency		
Total	2.78	1.26
Male	2.73	1.25
Female	2.89	1.27
Age		
Total	41.06	14.01
Male	42.47	14.40
Female	38.01	12.64

Table 2

Total group significances of the psychosocial correlates of recidivism under study, as distinguished on the basis of level of recidivism reported within the sample (N = 669)

Variable	2 nd Incarceration		3 rd or more Incarcerations	
	OR (95% CI)	SE	OR (95% CI)	SE
Oppositional Defiant Disorder	.93 (.78/1.11)	.09	.86 (.72/1.01)	.09
Conduct Disorder	1.14 (.99/1.31)	.07	1.22 (1.07/1.39)**	.07
Number of drinks per day	1.01 (.94/1.10)	.04	1.07 (1.01/1.14)*	.03
Perceived frequency of crime in neighbourhood	1.00 (.58/1.19)	.09	.88 (.75/1.04)	.08
Age	1.01 (.99/1.03)	.01	1.02 (.99/1.03)	.01
Child arrest				
No	1		1	
Yes	1.39 (.63/3.10)	.41	1.71 (.82/3.57)	.38
Gender				
Female	1		1	
Male	1.90 (1.17/3.07)**	.25	3.53 (2.13/5.88)***	.26

Note. Reference group: first incarceration (n = 396). OR = Odds Ratio. SE = Standard Error. 95% CI = Confidence Interval. * p < .05; ** p < .01; *** p < .001

Table 3

Psychosocial correlates of recidivism by gender

Variable	2 nd Incarceration		3 rd or more incarceration	
	OR (95% CI)	SE	OR (95% CI)	SE
FEMALE (n = 211)				
Oppositional Defiant Disorder	0.92 (.67/1.25)	.16	1.10 (.79/1.54)	.17
Conduct Disorder	1.08 (.84/1.38)	.13	1.10 (.83/1.46)	.14
Number of drinks per day	1.07 (0.96/1.19)	.06	1.12 (1.02/1.23)*	.05
Perceived frequency of crime in neighbourhood	0.96 (.70/1.33)	.16	1.00 (.69/1.46)	.19
Age	0.99 (.95/1.03)	.02	1.00 (.96/1.05)	.02
Child arrest	0.86 (.16/4.73)	.87		
MALE (n = 458)				
Oppositional Defiant Disorder	0.93 (.75/1.16)	.11	0.78 (.64/0.96)*	.10
Conduct Disorder	1.17 (.99/1.39)	.09	1.25 (1.08/1.46)**	.08
Number of drinks per day	0.97 (.86/1.08)	.06	1.03 (.93/1.13)	.05
Perceived frequency of crime in neighbourhood	1.00 (.82/1.23)	.10	0.85 (.71/1.02)	.09
Age	1.01 (.99/1.03)	.01	1.02 (1.00/1.04)	.01
Child arrest	1.66 (.64/4.28)	.48	2.60 (1.12/6.05)*	.43

Note. Reference group: first incarceration (n = 396). OR = Odds Ratio. SE = Standard Error. 95% CI = Confidence Interval. * p < .05; ** p < .01; *** p < .001.