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**A CONTROLLED EVALUATION OF A PRISON BASED  
SEXUAL OFFENDER INTERVENTION PROGRAMME**

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## **ABSTRACT**

The effectiveness of a prison-based cognitive behavioural programme designed to modify psychological risk factors associated with sexual offending was evaluated. The Irish Prison Service Sexual Offender Intervention Programme, is a manualised 10-month CBT programme involving three two-hour group sessions per week which are facilitated by a team of clinical psychologists and probation officers. Improvements in 38 consecutive referrals to the programme were compared with the status of 38 untreated offenders who were similar in marital status, age when left school, occupational status prior to imprisonment, offence type, presence of previous convictions, and current sentence length. All research participants completed the same assessment protocol which evaluated psychological factors associated with sexual offending at times equivalent to pre- and post-intervention. Compared with the untreated control group, programme participants showed statistically significant improvement on some but not all self-report measures of cognitive distortions, empathy, interpersonal skills, self-regulation and relapse prevention. Motivation to change among the untreated control group was not associated with change in psychological functioning in the absence of the assistance of the treatment programme. Implications for sexual offender intervention delivery are considered.

## INTRODUCTION

Two research approaches address the socially important question of whether adult men who commit sexual offences respond to psychological intervention designed to reduce their rates of recidivism. The first is to consider rates of sexual and non-sexual criminal conviction or behaviour from official records (such as those of the police or probation service). Typically, these studies have no pre-intervention assessment and make a post-intervention comparison between a group of treated and untreated men within the same legal jurisdiction a number of years post conviction. A number of recent meta-analyses of these types of studies indicate that current approaches to sexual offender intervention make a significant contribution to reducing sexual offender recidivism (Hanson et al. 2002; Kenworthy, Adams, Bilby, Brooks-Gordon, & Fenton, 2003; Losel & Schmucker, 2005). This research tells us that there is something about current intervention techniques that works to reduce re-offending for some men who commit sexual crimes.

The second approach is also intended to address the question of whether sexual offender intervention “works”. It does so by comparing the functioning of men convicted of sexual offences before and after intervention, delivered in either community or prison settings, on key psychological variables. In the UK two important studies within this research approach were respectively conducted by the STEP team in community and prison settings (Beckett, Beech, Fisher, & Fordham, 1994; Beech, Fisher, Beckett, 1998). In these studies men participating in intervention were evaluated pre and post intervention on a number of aspects of functioning linked with sexual offending behaviour including cognitive distortions, victim empathy, interpersonal skills, self-regulation, and relapse prevention. Outside the UK some studies have singled out an aspect of functioning, such as victim empathy, and evaluated intervention related change on that single variable

(Marshall, O' Sullivan & Fernandez, 1996). The general thrust of these single and multiple variable studies indicates that for a significant number of men, but not all, current approaches to intervention lead to positive changes on aspects of psychological functioning linked to sexual offending behaviour. Research within this tradition is important as it begins to isolated the "what" that is working within current therapeutic approaches. However, a significant limitation of these studies is that they do not include untreated control groups or link their findings to ultimate changes in rates of recidivism (Beckett, Beech, Fisher, & Fordham, 1994; Beech, Fisher, Beckett, 1998; Marshall, O' Sullivan & Fernandez, 1996). Consequently, we cannot be sure that the change observed should not be attributed to other factors such as the passage of time, personal motivation to change, the effects of crime detection or imprisonment, or some other extraneous variable such as the public response to sexual crimes. The present study aimed to build on previous research through the inclusion of an appropriate control group of untreated sexual offending men simultaneously assessed at times equivalent to pre and post intervention.

The Irish Prison Service Sexual Offender Intervention Programme was established in a medium-security prison at Arbour Hill, Dublin in 1994 (Department of Justice, 1993). It is a manualised programme based on the principles of cognitive behavioural therapy (Irish Prison Service, 2002; Marshall, Anderson, & Fernandez, 1999; Marshall, Fernandez, Hudson, & Ward, 1998). It runs over a ten month period consisting of two-hour group sessions three-times per week which are facilitated by a team of clinical psychologists and probation officers. Participants also complete therapeutic assignments between sessions and can avail of a limited amount of individual counselling. The programme is designed to modify psychological factors associated with sexual offending, specifically cognitive distortions, victim empathy deficits, beliefs about self-control, and interpersonal skills.

Thus, the programme aims to promote (1) the acceptance of responsibility for sexual offending, (2) awareness of an offence decision chain, (3) the modification of cognitive distortions; (4) the development of victim empathy; (5) the improvement of interpersonal skills; and (6) the development of self-regulation skills including those required for relapse prevention (Murphy, 1998). Designated family members, friends or other concerned persons, participate in four specially designed sessions of the programme. These help significant members of the sexual offender's social network to develop an understanding of risk factors associated with sexual re-offending and to plan ways to offer constructive support following release from prison.

On an annual basis, all imprisoned sexual offenders are invited by letter to apply for a place on the programme and 10-15% of those eligible to apply do so (Murphy, 1998). The programme accepts between eight and ten of these applicants each year according to the following criteria: (1) admission of sexual offending (2) acceptance that offending behaviour is a problem (3) agreement to participate fully in the programme, (4) absence of intellectual disability, and (5) absence of major psychological disorder (such as schizophrenia). Priority is given to those closest to their release dates.

The present study aimed to build on previous research evaluating psychological change associated with cognitive-behavioural intervention designed specifically for sexual offending men. All participants in the Irish Prison Service Sexual Offender Intervention Programme were evaluated on a range of measures of psychological functioning before and after intervention and compared with an equivalently sized untreated control group of men concurrently serving sentences for similar sexual crimes. This allowed us to assess whether improvements in the intervention group could be specifically attributed to programme participation, or whether crime detection, conviction, and the passage of time

in prison brought about comparable levels of functioning. The main hypothesis was that the programme would have a significant impact on the psychological factors targeted by the programme. That is, compared with untreated controls, programme participants would show statistically significant improvement as indexed by changes on measures of cognitive distortions, victim empathy, interpersonal skills, self-regulation, and relapse prevention. The assumption being that positive changes associated with intervention are related to ultimate changes in rates of recidivism. An additional feature of the untreated control group was that half had previously applied to participate in the intervention programme while half had not. This further facilitated an exploratory analysis that allowed a judgement to be made on whether any positive modification in psychological functioning was achieved in the absence of intervention by those who were simply motivated to change.

## **METHOD**

### **Participants**

There were two groups of participants in the present study. Group one were 38 men convicted of sexual crimes who were consecutively recruited into the Irish Prison Service Sexual Offender Intervention Programme. Group two were 38 men imprisoned at the same time following conviction for similar sexual crimes but who did not participate in intervention. Table one provides detailed information on the familial/non-familial, adult/child, sentence length, and prior offence history status of all participants. Table one also indicates that the treated group were significantly younger than the untreated group and that there were no between group differences in marital status, age when left school, occupational status prior to imprisonment, offence type, presence of previous convictions,

or current sentence length. The potentially confounding influence of the single demographic variable age will be dealt with in the results section.

Two of the 38 group one participants were asked to withdraw from the intervention programme before its completion. These offenders were not engaging fully in the programme and the treatment team judged that their continued participation would compromise the therapeutic effectiveness of the programme for other participants. However, both of these men completed the assessment protocol at a time equivalent to the end of the programme. Thus, intervention group data reported in this paper reflects the functioning of all men for whom treatment was attempted.

The untreated-control group could be further sub-divided into 19 motivated-untreated and 19 unmotivated-untreated men. Motivated untreated offenders were defined as those who had applied for admission to the intervention programme immediately prior to their participation in the study but were not offered a place at that time because other candidates with an earlier release dates had been given priority. These men were essentially a waiting-list control group. Unmotivated-untreated men were defined as those who had acknowledged their sexual crimes but had not applied for admission to the intervention programme. This sub-division within the untreated group allowed an exploratory analysis of data to investigate whether those men who indicated they wanted to change while in prison achieved this in the absence of the assistance offered by the formal intervention programme. Table two presents the demographic and offence characteristics of participants utilising the treated, motivated-untreated, and unmotivated untreated division. The three groups were similar on all but 1 variable: age. The unmotivated-untreated men were significantly older than the other two groups. The potentially confounding influence of these differences will also be dealt with in the results

section. All three groups were similar in terms of their marital status, age when left school, occupational status prior to imprisonment, offence type, and current sentence length. Compared with the other two groups, the unmotivated-untreated group also had less positive attitudes to treatment as measured by the attitudes towards treatment scale from the Multiphasic Sex Inventory (Nichols & Molinder, 1984). This difference supports the validity of the three-way division of participants into treatment, motivated-untreated, and unmotivated-untreated groups used in some of the analyses outlined in the results section.

### **Instruments**

The assessment protocol was based on the Sexual Offender Assessment Pack (SOAP; Beckett, Beech, Fisher, & Fordham, 1994) developed for sexual offender treatment evaluation research commissioned by the Home Office in the UK (Beckett, Beech, Fisher & Fordham, 1994; Beech, Fisher, & Beckett, 1998). Some additional scales were added to the SOAP. In the present study all instruments had reliable levels of internal consistency as indexed by Cronbach's alpha coefficients greater than .7 (Waldron et al. 2006). Evidence of construct or criterion validity were available for all scales in the assessment protocol.

The measures used were as follows: *The Children and Sexuality Questionnaire* yields subscale scores for cognitive distortions and emotional congruence with children (Beckett, Beech, Fisher, & Fordham, 1994). The *Bumby Rape Scale* assesses cognitive distortions concerning the sexual assault of adult women (Bumby, 1996). *Burt's Endorsement of Violence Scale* yields scores on two subscales: an adversarial sexual beliefs scale and an acceptance of interpersonal violence scale (Burt, 1980). *The Victim Empathy Scale* assess empathic understanding of the effects of sexual offences specifically related to the offender's own victim (Beckett, Beech, Fisher, & Fordham, 1994). *The Empathy for*

*Women Test* assesses general empathy for women by evaluating the ability to distinguish between sexually abusive and non-abusive interactions described in 13 vignettes (Hanson & Scott, 1996). It was not part of the original SOAP measures. *The Revised UCLA Emotional Loneliness Scale* assesses emotional loneliness and social isolation (Russell, Peplau, & Cutrona, 1980). *The Social Response Inventory* yields an overall assertiveness score as well as scores for under-assertiveness and over-assertiveness in social situations (Keltner, Marshall, and Marshall, 1981). *The Nowicki-Strickland Locus of Control Scale* assesses the extent to which respondents believe events are contingent on their behaviors and the extent to which they believe events are controlled externally (Nowicki, 1976). *The Thornton Self-Esteem Scale* provides a unidimensional measure of self-esteem (Beckett, Beech, Fisher, & Fordham, 1994). *The Novaco Anger Management Questionnaire* is divided into two principal parts (Novaco, 1994). Part A assesses cognitive, physiological, and behavioral components of anger. Part B evaluates the likelihood that particular situations will be anger provoking. *The Relapse Prevention Questionnaire* evaluates relapse prevention awareness and relapse prevention strategies (Beckett, Beech, Fisher, & Fordham, 1994). *The Multiphasic Sex Inventory* (Nichols & Molinder, 1984): For the present study the sexual social desirability subscale and the treatment attitudes subscale are reported. A *Demographic Questionnaire* was used to record data on offence status, educational level, age, and socio-economic status (SES). SES was determined using questions and response codes from Census '96 (Central Statistics Office, 2002) based on occupational situation prior to imprisonment.

## **Procedure**

The study was conducted with ethical approval of involved institutions and informed consent of participants. Treatment group members completed the assessment protocol before and after the programme, and members of the control group were assessed

simultaneously. Assessments were conducted in supervised groups of 8-10, but each participant filled out the protocol individually. For four participants who had literacy difficulties, a researcher read each item to them, and in order to minimize the potential influence of a social desirability response bias they privately marked their responses on a separate pack.

### **Data management**

Data were verified and analyzed with SPSS Version 11. In order to minimize data loss, questionnaires with less than 10% incomplete responses were pro-rated. Where data were missing for more than 10% of items, the case was eliminated from analyses of that variable.

## **RESULTS**

### **Validity of self-report data**

An important concern in a study such as this is the validity of the self-report data and the extent to which it was contaminated by a social-desirability response set. To evaluate this possibility, a measure of social desirability response set (the Sexual Social Desirability Scale of the Multiphasic Sexual Inventory) was correlated with all dependent variables. For three variables these correlations were significant and all were weaker than  $r = +/- .3$  (Locus of control  $r = -.26$ ; emotional congruence with children  $r = .24$ ; and the empathy for women test  $r = -.25$ ). None of the three variables are reported below as reflecting a treatment effect.

### **Evaluation of treatment-related improvement**

To evaluate the statistical significance of improvements shown by the treatment group from pre- to post treatment compared with the two control groups, a series of 2x2, Groups X Time mixed model ANOVAs were conducted, one for each dependent variable. In these analyses Group status was a between subjects variable with two levels: treated, and untreated. Time, in these analyses, was a repeated measures variable with two levels: time 1 = pre-treatment, or a time equivalent to pre-treatment, and time 2 = post-treatment, or a time equivalent to post treatment. Means, standard deviations and ANOVA results from these analyses are presented in Table 3. While all significant ANOVA effects are noted in these tables, only significant Group X Time effects are of relevance to the main hypothesis, since these indicate that improvement in scores from time 1 to time 2 was greater for one group than another. For this reason, the following account of the results will focus exclusively on an interpretation of significant Groups X Time effects. Due to the increased risk of Type 1 error associated with multiple comparisons greatest confidence may be placed in effects significant at  $p < .001$ . Table 4 reports findings of similar 3X2 Groups X Time mixed model ANOVAs for the same dependent variables where Group status was a between subjects variable with three levels: treated, motivated-untreated, and unmotivated-untreated. This additional exploratory analysis allowed a judgement to be made on whether any positive modification in psychological functioning was achieved in the absence of intervention by those who were motivated to change.

### **Cognitive distortions**

From table three it may be seen that in the domain of cognitive distortions, significant Groups X Time effects occurred for two of four dependent variables. For the cognitive distortions subscale of the Children and Sexuality Questionnaire ( $F(1, 71) = 5.50, p. < .01$ ) and the adversarial sexual beliefs subscale score of the Burt Endorsement of Violence Scale ( $F(1, 71) = 15.80, p. < .001$ ). Planned post hoc tests of simple effects indicated the

treatment group showed significant improvement from time one to time two but the untreated control group did not improve. Table four shows a similar pattern of results when the comparison is repeated comparing men in intervention with those who are motivated untreated and unmotivated untreated.

### **Victim empathy**

From table three it may be seen that in the domain of victim empathy, significant Groups X Time effects occurred for one of three dependent variables. On the Victim Empathy Scale ( $F(1, 71) = 8.14, p. < .01$ ) planned post hoc tests of simple effects indicated the treatment group showed significant improvement from time one to time two but the control group did not improve. Table four shows a similar pattern of results comparing empathy scores of those who participated in intervention compared to motivated untreated and unmotivated untreated men.

### **Interpersonal adjustment**

From table three it may be seen that in the domain of interpersonal adjustment, significant Groups X Time effects occurred for both the Emotional Loneliness Scale ( $F(1, 71) = 16.25, p. < .001$ ) and the Assertiveness Scale ( $F(1, 71) = 23.33, p. < .001$ ). Planned post hoc tests of simple effects for both variables indicated the treatment group showed significant improvement from time one to time two but the control group did not. Table four presents a similar analysis for the intervention group compared with motivated and unmotivated untreated groups. Planned post hoc analysis confirms that motivation to change in the absence of intervention is not associated with improved interpersonal adjustment.

### **Self-regulation and relapse prevention**

From table three it may be seen that in the domain of self-regulation, significant Groups X Time effects occurred for self-esteem ( $F(1, 71) = 36.46, p. < .001$ ), anger ( $F(1, 71) = 10.53, p. < .01$ ) and the total score ( $F(1, 71) = 11.19, p. < .001$ ) and awareness subscale score ( $F(1, 71) = 15.83, p. < .001$ ) of the Relapse Prevention scale. Planned post hoc tests of simple effects indicated the intervention group showed significant improvement from time one to time two. The untreated control group did not improve on these variables. A similar pattern of results is reported in table four comparing those in intervention with motivated untreated and unmotivated untreated men.

### **Effect sizes**

To determine the magnitude of treatment impact, for all dependent variables on which significant Groups X Time interactions occurred, effect sizes were calculated using the formula  $\text{Effect Size} = (\text{mean of the treatment} - \text{mean of the non-treatment control group}) / \text{standard deviation of the non-treatment control group}$ . In calculating effect sizes, motivated and unmotivated control groups were combined. Effect sizes ranged from 0.28 to 1.48. According to Cohen (1988) effect sizes of .2 (or a quarter of a standard deviation) are small; those of 0.5 (or half a standard deviation) are medium; and those over 0.8 (or more than three quarters of a standard deviation) are large. In the present study large effect sizes occurred for relapse prevention awareness ( $d = 1.48$ ); relapse prevention total scores ( $d = 1.27$ ); adversarial sexual beliefs scores ( $d = 1.02$ ); total endorsement of violence scale scores ( $d = 0.96$ ); and total assertiveness scores ( $d = 0.82$ ). Thus the programme was most effective in bringing about improvements in these areas. Moderate effect sizes occurred for victim empathy ( $d = 0.74$ ); self-esteem ( $d = 0.70$ ); emotional loneliness ( $d = 0.61$ ); and cognitive distortions regarding children and sexuality ( $d = 0.61$ ). Small effect sizes were evident for overall anger management problems ( $d = 0.28$ ) and anger reactions ( $d = 0.14$ ).

### **Checking for confounding effects of baseline inter-group differences**

In the participants section it was noted that the intervention, motivated-untreated, and unmotivated untreated groups were similar on all except one demographic variable: age. To check for other possible baseline differences, the statistical significance of inter-group differences on all dependent variables at time 1 was evaluated with a series of one-way ANOVAs. Significant inter-group differences were found for the Self-Esteem Scale; the Bumby Rape Scale; the Awareness, Strategies and Total scores of the Relapse Prevention Scale; and the Part A and Total scores of the Novaco Anger Scale. To check whether these significant baseline differences contributed to the apparent treatment related effects from the ANOVAs described above, ANCOVAs were conducted for those dependent variables which correlated substantially (adopting the  $r =$  stronger than  $\pm .3$  criterion) with any variable on which significant baseline differences were found. Results of the ANCOVAs were similar to those of the ANOVAs so only the latter are reported here. It may be concluded that this pragmatic but imperfect strategy provides support to the view that baseline inter-group differences did not significantly bias the results of the study.

## **DISCUSSION**

The main hypothesis which this study set out to test, that the Irish Prison Service Sexual Offender Intervention Programme has a significant impact on targeted risk factors, was partially supported. That is, compared to untreated controls, programme participants showed statistically significant improvement on some but not all self-report measures of cognitive distortions, empathy, interpersonal skills and self-regulation skills. It also indicates that crime detection, conviction, imprisonment coupled with personal motivation to change do not lead to altered functioning in the absence of assistance from an

intervention programme. In order for men to change they required the additional assistance provided by the intervention programme.

This study had a number of limitations. Firstly, the relatively small number of participants were not randomly assigned to treatment and control groups and this may have introduced bias. Secondly, the groups were matched on most but not all demographic and psychological baseline variables. However, results of ANCOVAs in which such baseline variables that correlated significantly with dependent variables at time two were included as covariates suggested that these baseline differences did not unduly bias results. Thirdly, as with other studies in this area, dependent variables were based on self-report measures and so their validity may have been compromised by a socially desirable response set. We attempted to address this by correlating a measure of social desirability response set with all self-report dependent variables. Only negligible correlations were found indicating that the self-report data were largely uncontaminated by a social-desirability response set. Finally, we did not have available to us information from actuarial instruments on the risk status of participants. Hanson, Bourgon, Helmus, and Hodgson (2009) highlight the need to offer programmes of intervention to sexually offending men that target people of moderate and high risk of re-offending rather than low risk. The absence of risk status information in the current study makes it difficult to establish if the programme evaluated here was appropriately pitched to moderate and high risk offenders.

The study had key strengths which along with our attempts to acknowledge and deal with its limitations allow us to place confidence in our results. These strengths were as follows. Firstly, the successful inclusion of an untreated control group allowed us to attribute observed differences in the time 2 functioning of treated men to the intervention

programme. Secondly, the intervention group contained a complete cohort of 38 consecutive treatment cases with no research dropouts. That is, the study assesses the impact of intervention on all men for whom it was *attempted* in the Irish Prison Service for the three year duration of the study rather than just those with whom it was successfully *completed*. This group was fully representative of incarcerated offenders who refer themselves into the programme and so our results are generalisable to typical programme participants. Thirdly, the inclusion of motivated and unmotivated untreated control groups allowed us to determine whether improvements in the treatment group could be specifically attributed to programme participation, or whether crime detection, conviction, imprisonment and being motivated to change brought about comparable results with the passage of time.

The results of the study are consistent with the growing body of evidence which supports the effectiveness of intensive cognitive behaviour therapy programmes for sexual offenders (Hanson et al. 2002; Kenworthy, Adams, Bilby, Brooks-Gordon, & Fenton, 2003; Losel & Schmucker, 2005). Our results suggest two areas for clinical refinement of the programme. Firstly, components of the programme that aim to modify cognitive distortions related to rape need to be revised. The programme had no measurable therapeutic effect on indices of these cognitive distortions. Secondly, components of the programme associated with self-regulation require development. The programme had no measurable therapeutic effect on the development of relapse prevention plans. It is our view that this is the most important finding from the current evaluation. It suggests that successfully revising the programme will require changes in the broader management and support strategies for men who commit sexual offences after they complete the programme and return to the community. In developing relapse management strategies, expansion of family interventions with significant others deserves exploration (Carr, 2006).

We are currently engaged in a follow-up study that compares the post release rates of sexual and non-sexual recidivism of 124 men who have participated in the Irish Prison Service programme since its inception in 1994 with 124 untreated men carefully matched on offence, age, and sentence. Our intention is that this follow-up study will illuminate the real world impact of the research study presented here and contribute to the debate on the continued evolution of intervention programmes for sexual offending men. It is our view that combining controlled studies of psychological change associated with intervention with controlled studies of offence recidivism will ultimately determine which aspects of intervention are required, desirable, or possibly superfluous for successful outcome.

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**Table I.** Demographic and Offence Characteristics for Treated and All Untreated Participants

Variable		Treatment Group (n = 38)	Nontreatment Group (n = 38)	t or $\chi^2$ Observed Value
Age	M	36.76 years	49.58 years	t = 2.00*
	SD	11.31 years	12.29 years	
Marital status	Single with no partner	22 (57.9%)	18 (47.4%)	$\chi^2 = 3.49$
	Single with partner	3 (7.9%)	4 (10.5%)	
	Married and still together	8 (21.1%)	5 (13.1%)	
	Married but separated or divorced	4 (10.5%)	9 (23.7%)	
	Widowed	1 (2.6%)	2 (5.3%)	
Age when left school	M	15.46 years	15.79 years	t = 0.40
	SD	2.32 years	2.32 years	
Occupational status	Unskilled	20 (52.6%)	14 (36.8%)	$\chi^2 = 4.86$
	Semiskilled manual	5 (13.2%)	13 (34.2%)	
	Skilled	9 (23.7%)	7 (18.4%)	
	Lower professional	4 (10.5%)	4 (10.5%)	
Offence	Sexual assault (girls)	16 (42.1%)	23 (60.5%)	$\chi^2 = 4.59$
	Sexual assault (boys)	10 (26.3%)	6 (15.8%)	
	Sexual assault (children of mixed gender)	2 (5.3%)	1 (2.6%)	
	Sexual assault (children and adults)	2 (5.3%)	0 (0%)	
	Sexual assault (adult women)	8 (21.1%)	8 (21.1%)	
Familial or nonfamilial offence	Familial	14 (36.8%)	9 (23.7%)	$\chi^2 = 1.49$
	Both familial and nonfamilial	2 (5.3%)	1 (2.6%)	
	Nonfamilial	22 (57.9%)	25 (65.8%)	
Previous convictions	None	22 (57.9%)	27 (71.1%)	$\chi^2 = 4.92$
	Prior sexual offending	5 (13.2%)	3 (7.9%)	
	Prior violent, nonsexual offending	6 (15.8%)	1 (2.6%)	
	Prior nonviolent, nonsexual offending	5 (13.2%)	7 (18.4%)	
Current sentence length	M	6.08 years	5.95 years	t = 1.18
	SD	2.20 years	3.07 years	

Note: M = mean; SD = standard deviation; t is the observed value derived from the t test; and  $\chi^2$  is the observed value derived from the chi-square test.

\*p < .05.

**Table 2. Demographic and Offence Characteristics for Treated, Motivated-Untreated, and Unmotivated-Untreated Groups**

Variable		Treatment Group (n = 38)	Motivated-Untreated Group (n = 19)	Unmotivated-Untreated Group (n = 19)	F or $\chi^2$ Observed Value
Age	M	36.76 years	35.21 years	49.58 years	F = 10.13***
	SD	11.31 years	9.99 years	12.29 years	
Marital Status	Single	25 (65.8%)	14 (73.7%)	8 (42.1%)	$\chi^2 = 4.52$
	Married/Cohabiting	13 (34.2%)	5 (26.3%)	11 (57.9%)	
Age when left school	M	15.46 years	15.59 years	15.79 years	F = 0.11
	SD	2.32 years	2.27 years	2.32 years	
Occupational status	Unskilled/Semiskilled manual	25 (65.8%)	16 (84.2%)	11 (57.8%)	$\chi^2 = 3.29$
	Skilled/Lower professional	13 (34.2%)	3 (15.8%)	8 (42.1%)	
Offence	Sexual assault against children	30 (78.9%)	15 (78.9%)	15 (78.9%)	$\chi^2 = 0.00$
	Sexual assault against women	8 (21.1%)	4 (21.1%)	4 (21.1%)	
Familial or nonfamilial offence	Familial	14 (36.8%)	16 (84.2%)	10 (52.6%)	$\chi^2 = 2.94$
	Nonfamilial	24 (63.2%)	3 (15.8%)	6 (31.6%)	
Number of previous convictions	M	1.34	0.95	0.11	F = 1.10
	SD	4.04	1.43	0.32	
Current sentence length	M	6.08 years	7.88 years	5.95 years	F = 2.84
	SD	2.20 years	3.67 years	3.07 years	
Treatment attitudes	M	5.03	4.37	2.47	F = 12.32***
	SD	1.44	2.43	1.87	

Note: M = mean; SD = standard deviation; F is the observed value derived from one-way ANOVA; and  $\chi^2$  is derived from the chi-square test.

\*p < .05. \*\*\*p < .001.

**Table 3. Cognitive Distortions, Empathy, Interpersonal Adjustment, and Self-Regulation Comparing Treated With All Untreated Participants**

Domain and Variable		Treatment Group (n = 38)		Untreated Group (n = 38)		ANOVA		
		Time 1	Time 2	Time 1	Time 2	Group	Time	Group × Time
<b>Cognitive distortions</b>								
Child and sex cognitive distortion	M	8.76	5.24	12.62	12.57	7.00**	5.85**	5.50**
	SD	7.75	5.43	10.27	12.06			
Bumby Rape Scale	M	91.92	101.64	81.91	87.14	15.34***	14.43***	1.30
	SD	14.72	11.22	19.61	15.69			
Endorsement of violence–adversarial sexual beliefs	M	20.43	16.00	22.11	21.73	9.15**	22.06***	15.80***
	SD	6.25	5.79	5.01	5.60			
Endorsement of violence–acceptance of interpersonal violence	M	8.06	7.43	8.89	8.26	1.59	2.79	0.00
	SD	3.06	2.95	3.75	3.17			
<b>Empathy</b>								
Children and sex emotion congruence	M	26.09	23.13	21.00	21.35	1.37	1.14	1.84
	SD	12.79	15.39	12.47	12.71			
Victim empathy	M	19.66	7.68	26.38	23.00	7.59**	25.93***	8.14**
	SD	17.56	7.79	23.37	20.70			
Empathy for women test total	M	33.29	29.94	42.32	38.10	4.61*	10.31**	0.14
	SD	14.54	14.95	18.60	38.10			
<b>Interpersonal Adjustment</b>								
Emotional Loneliness	M	46.97	38.36	45.47	44.52	1.24	25.29***	16.25***
	SD	10.15	8.04	10.89	10.15			
Assertiveness	M	16.30	9.00	14.70	14.59	1.88	24.75***	23.33***
	SD	7.06	7.52	6.77	6.81			
<b>Self-Regulation</b>								
Locus of control	M	10.24	8.16	9.42	8.89	0.00	13.79***	4.91*
	SD	3.74	3.46	4.77	5.22			
Self-esteem	M	2.68	5.41	3.63	3.55	0.76	32.48***	36.46***
	SD	2.20	2.23	2.46	2.65			
Novaco Anger Scale total	M	149.09	138.74	144.67	147.03	0.11	4.16*	10.53**
	SD	21.21	24.39	28.93	30.14			
Novaco Anger Scale Part A–Reactions	M	90.14	83.83	85.08	86.45	0.13	4.80*	11.59**
	SD	12.26	13.37	17.23	18.12			
Novaco Anger Scale Part B–Situations	M	59.00	54.89	58.83	59.89	0.65	1.80	5.15*
	SD	12.32	12.59	14.25	14.27			
Relapse prevention total	M	17.76	22.35	12.22	10.41	25.17***	2.11	11.19***
	SD	8.45	6.85	9.32	9.34			
Relapse prevention awareness	M	9.92	13.13	6.14	5.00	32.06***	3.61	15.83***
	SD	5.16	4.15	5.60	5.51			
Relapse prevention strategies	M	7.89	9.11	6.08	5.41	13.01***	0.32	3.89
	SD	3.78	3.12	4.15	4.36			

Note: F values are from 3 × 2 Group × Time ANOVAs.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 4.** Cognitive Distortions, Empathy, Interpersonal Adjustment, and Self-Regulation Comparing Treated With Motivated- and Unmotivated-Untreated Participants

Domain and Variable		Treatment Group (n = 38)		Motivated-Untreated Group (n = 19)		Unmotivated-Untreated Group (n = 19)		ANOVA		
		Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Group	Time	Group × Time
<b>Cognitive distortions</b>										
Child and sex cognitive distortion	M	8.76	5.24	12.63	13.84	12.61	11.22	3.56	2.62	3.60*
	SD	7.75	5.43	9.48	12.49	11.33	11.80			
Bumby Rape Scale	M	91.92	101.64	85.41	88.82	78.61	85.56	8.34***	10.23**	0.84
	SD	14.72	11.22	18.56	15.34	20.52	16.29			
Endorsement of violence–adversarial sexual beliefs	M	20.43	16.00	21.95	22.11	22.26	21.37	4.52*	10.42**	8.13***
	SD	6.25	5.79	5.40	5.10	4.74	6.18			
Endorsement of violence–acceptance of interpersonal violence	M	8.06	7.43	8.58	8.00	9.21	8.53	0.98	2.54	0.12
	SD	3.06	2.95	3.61	3.11	3.97	3.29			
<b>Empathy</b>										
Children and sex emotion congruence	M	26.09	23.13	22.79	24.42	19.11	18.11	1.48	0.38	1.22
	SD	12.79	15.39	11.38	12.68	12.35	12.26			
Victim empathy	M	19.66	7.67	23.17	20.67	29.97	25.61	4.33*	15.27***	4.12*
	SD	17.56	7.79	21.94	18.22	25.04	23.45			
Empathy for women test total	M	33.29	29.94	43.06	36.50	41.53	39.80	2.28	9.62**	1.09
	SD	14.54	14.95	20.06	17.80	17.57	20.71			
<b>Interpersonal adjustment</b>										
Emotional loneliness	M	46.97	38.36	48.32	47.47	42.63	41.58	2.70	12.25***	8.02***
	SD	10.15	8.04	11.44	10.67	9.79	8.91			
Assertiveness	M	16.30	9.00	15.72	16.28	13.74	13.00	1.77	10.03**	11.75***
	SD	7.06	7.52	6.88	7.18	6.69	6.22			
<b>Self-regulation</b>										
Locus of control	M	10.24	8.16	10.79	10.42	8.05	7.37	2.50	7.94**	2.47
	SD	3.74	3.46	4.94	4.56	4.30	5.51			
Self-esteem	M	2.68	5.41	2.74	2.63	4.53	4.47	3.84*	12.16***	17.99***
	SD	2.20	2.23	2.23	2.27	2.76	2.74			
Novaco Anger Scale total	M	149.09	138.74	154.95	157.84	133.18	134.94	3.95*	0.84	5.21**
	SD	21.21	24.39	30.08	29.36	23.39	26.90			
Novaco Anger Scale Part A–Reactions	M	90.14	83.83	91.84	94.21	78.32	78.68	5.29**	1.01	5.95**
	SD	12.26	13.37	18.58	17.20	12.98	15.87			
Novaco Anger Scale Part B–Situations	M	59.00	54.89	63.11	63.58	54.06	55.76	2.44	0.29	2.62
	SD	12.32	12.59	13.30	14.72	14.12	13.65			
Relapse prevention total	M	17.75	22.35	15.00	14.39	14.39	6.63	17.69***	0.12	5.95**
	SD	8.45	6.85	8.46	9.60	9.54	7.52			
Relapse prevention awareness	M	9.92	13.13	7.83	7.44	4.53	2.68	21.52***	0.32	8.34***
	SD	5.16	4.15	5.53	5.80	5.33	4.16			
Relapse prevention strategies	M	7.89	9.11	7.17	6.94	5.05	3.95	9.94***	0.00	2.14
	SD	3.78	3.12	3.75	4.36	4.34	3.94			

Note: *F* values are from 3 × 2 Group × Time ANOVAs.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.