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Recidivism in Brunei Inmates – Estimating the Rates and Predicting Reoffending

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ABSTRACT: *The survey investigated the recidivism problem in a random sample of Brunei prisoners (N = 64) representing both genders. Overall, there were more recidivists than first-time offenders on all the three major crimes (theft, drugs, and sex offenses). The relapse cases were overrepresented in the 36-40 age-group. Offending and re-offending occurred almost at the same rate in married and non-married inmates. Both groups cited the need to support dependent relatives as one of the main reasons for stealing. Four variables (interpersonal-sensitivity, lifestyle, parents' marital status, and obsessive-compulsive disorder) were significantly related to recidivism, all at $p<0.05$ level. Of these, the best predictor of recidivism was interpersonal-sensitivity (OR = 1.199; 95% CI for OR = 1.028 - 1.398; $p<0.05$). Inmates who scored high on the interpersonal-sensitivity variable (lack of sensitivity when dealing with other people) were 1.2 times more likely to reoffend and be re-imprisoned upon release. Sex offenses were 28 times more likely to be repeated by perpetrators upon release. The likelihood of drug and stealing offenses to recurr was 10.9 and 7.4 times respectively. Preventive, community-based, and in-prison interventions were recommended to address the convicts' recidivism, labeling, stigma, and discrimination problems to facilitate re-integration. Large-scale mixed-methods research was suggested to gain additional insights and solutions.*

Keywords: *Crimes; Psychopathy; Mental Health; Sociodemographic Variables; Recidivism; Treatments; Brunei*

INTRODUCTION, BACKGROUND AND SETTING

The Prison Department (2012) in Brunei defines recidivism as repeat offenses that occur within one year of release despite receiving offender reform and rehabilitation interventions during imprisonment. This is the way we also understood and used the concept of recidivism in the present study. Hare (2003) describes recidivism rates as crime avoidance rates that are indicative of the person's probability of remaining out of prison after release. There are, however, several types of recidivism rates which Hare (2003) discussed in detail but we will here only briefly describe two main kinds: general and specific. The recidivism rates computed by the Prison Department (2012) in Brunei were examples of general recidivism. This type of recidivism merely looked at the frequency or percentage of reimprisonment occurences per inmate without determining whether the multiple repeat offenses focused around the same type of crime e.g. theft or different crimes. Specific recidivism occurs when, for example, the same type of crime leading to reconviction is perpetuated by an individual on two or more occasions upon release from prison within one year.

Recidivism Rates in Brunei Darussalam Prisons

The mission of the Prisons Department in Brunei is to protect society by ensuring the safe custody of offenders in a humane environment and providing rehabilitative opportunities to facilitate their return to community as law abiding responsible and productive citizens. According to the 2012 statistics provided by the Prisons Records Unit (Prison Department, 2012), the number of locals admitted into all three prisons in Brunei over the span of three years, 2009-2011, were: 266 in 2009; 312 (2010); and 336 (2011). Among the 226 prisoners in 2009, 93 were repeat offenders, whereas in 2010 and 2011, 96 and 86 respectively were recidivists. The classification of inmates according to recidivism type in the 2012 statistical report of the Prisons Records Unit (Prison Department, 2012) was as in Table 1 below.

According to the statistics from the Records Unit of the Prisons Department (2012), most of the prisoners were involved in drugs, theft, and road traffic offences. Like elsewhere in the world, the above statistics show that the recidivism rate in Brunei might be a serious problem. There are many possible reasons to explain this recidivism problem in Brunei. One possible reason might be that the in-prison reform programs (re-education, re-training, counseling, and psychotherapy) may not be adequately addressing the challenges and barriers posed by reintegration (e.g. the economic, psychological, social, health, and welfare problems ex-convicts face upon release). As observed by previous research, it appears that ex-offenders are often released back into the society with little support or resources to help them to reintegrate successfully with clear alternatives to a criminal-free lifestyle (Harrison & Schehr, 2004). Other recidivism studies (LeClair, 1988) show that reintegration strategies that address the offenders' societal, family, financial, and social roles or problems

Table 1.
Recidivism among male and female prisoners during 2009-2011 period

Recidivism	2009	2010	2011
First time offender	121	143	138
Second time offender	37	38	30
Third time offender	21	19	20
Fourth time and above offender	35	39	36
Total	214	239	224
Source: Prison Department (2012)			

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were fairly effective in reducing the reconviction rates. Sherman et al. (1998) also noted that reintegration programs that focus on mental health counselling, work and vocational training and drug abuse programs were successful in reducing reoffending. High recidivism rates are a major source of concern for many prison systems and governments and have been attributed to a variety of reasons. Previous research in Ghana by Aba-Afari (2011) identified many reasons for reoffending such as: (1) limited counseling services while in prison; (2) lack of appropriate and effective in-prison education and training programs; (3) no assistance programmes to help released prisoners to obtain employment; and (4) isolation by family and friends due to the label and stigma attached to being a former prisoner.

Why and How Reoffending Rates Should be Reduced

The immediate purpose of imprisonment is to promote security and safety in the society by removing troublesome and dangerous persons from the public. However, long exclusion from the community in form of incarceration without effective rehabilitation, is in itself, a form of punishment and as a short-term solution to the problem without long-term positive effects. For example, both Lipsey (1992) and Home Office Research Study 171 (1997) found staggering reoffending and reconviction rates in young inmates who were not provided with rehabilitative psychological interventions such as counseling either in prison or in the community compared to those who received such help. When offenders are released from prison, the society as well as the justice system and the corrections management, do not want to see them back again in prison within a short time (e.g. one year). If a large number of ex-convicts released in a particular year (e.g. 25% or above) relapse and reoffend, this would have many adverse implications on safety and security in the society. It would suggest that in-prison and community-based intervention programs failed to transform convicts into law-abiding productive members of society. In addition, it would mean having more crimes and victims in the coutry to deal with. Furthermore, high reoffending rates would escalate the financial and social costs of crime in the society. Overall, it would signify high security and safety concerns in the country. Therefore the best and long-term goal of prison institutions in Brunei should be to reform the inmates and prepare them for reintegration into society without posing much risk, vulnerability and danger to the society. There are several types of offender rehabilitation programs such as the The Sex Offender Treatment Program (SOTP) described by Ho and Ross (2012) which might be useful in Brunei. Some of the crime prevention strategies (primary, secondary, tertiary and situational / enviromental) discussed by Harrower (2001) are already being implemented in Brunei and may be helpful in addressing and reducing the crime rate. Further, in an attempt to deter drug-related crimes including re-offending, some countries in Southeast Asia (e.g. Singapore, Malaysia, Indonesia, Thailand, Philipines, Vietnam, and Brunei) have legislated and enforced death penalties (Leechaianan & Longmire, 2013; Mundia et al., 2016a). According to Mundia et al. (2016a), the Misuse of Drugs Act (MDA) Chapter 27, as amended on 23rd November 1998, is the main legislation for drug crimes in Brunei. The MDA law dealt and still deals with only drug-related offenses and has nothing to do with sex and theft crimes. In addition to in-prison counseling, community counseling programs, and the MDA law, Brunei also introduced the Syariah penal code in an attempt to reduce crime rates in the country. However, the degree to which the newly introduced Syariah penal code might help in reducing offending and reoffending was not yet known and remained to be assessed by future research (Mundia et al., 2016a).

Objectives of the Study

Not much is known in Brunei about prisoner recidivism rates due mainly to lack of relevant research. The Prison Department (2012) data indicated that there were four main crimes committed by inmates in Brunei prisons, namely: road traffic offenses, theft, drugs, and sex offenses. Of these, theft, drugs, and sex offenses also emerged as the major offenses in the data from a random sample for the present study. The purpose of the current study was therefore to shed light and insights on the characteristics of the repeat offenders in a general random sample of inmates in Brunei particularly those who committed the three identified biggest offenses (theft, drugs, and sex offenses). Our specific research aims or goals were to:

(a) Estimate the participants' recidivism trends or patterns by (i) type of crime committed; (ii) offenders'age-groups; (iii) convicts' educational level; (iv) prisoners' marital status; (v) inmates' prior employment status; and (vi) marital status for parents of convicts.

(b) Identify variables with high odds for reoffending based on the current study sample.

(c) Identify crimes with high odds for reoccurence based on the present study sample.

Methods

The design, participants, instruments, procedures, and data analyses techniques used constituted the central focus of methodology for the present study. Brief descriptions for each follow.

Design

Given the nature of the participants and the environment under which the research was conducted, the investigators deemed the field survey design to be the most appropriate approach to use for the current study. The rationale and justification for adopting this form of design rather than other types of survey (e.g. telephone, online, postal, or longitudinal) was two-fold. First, we considered the security and safety of the researchers in a prison context. Second, to guarantee access to good quality data, we obtained the required information via individual interviews rather than self-reports.

Sample

Being a small country in terms of land mass and population with a low crime rate, Brunei has only three small prisons. We chose one of them by simple random selection procedure for purposes of our study. The selected prison had more than 200 jailed individuals of whom 79 were convicted inmates at the time of conducting the current study (see also Mundia et al., 2016b). The chosen prison facility housed inmates who committed a wide range of crimes including drug trafficking and drug abuse, sex offenses, and theft. Of the 79 convicts, 64 (81%) were chosen using the simple random selection technique for participation in the current study (Mundia et al., 2016b). The inmates were recruited randomly for the current study regardless of the type of crime they were convicted for. When the target population of interest is 79, a random sample of 64 was deemed to be sufficient and acceptable for quantitative research activities according to Krejcie & Morgan (1970). The participants' four inclusion criteria were: (1) being male or female by gender; (2) incarcerated for the first time or more than once; (3) Brunei nationality / citizenship or permanent resident status; and (4) voluntarily agreeing to participate in the study. There were no other inclusion and exclusion criteria other than these. The majority of the convicts in the selected prison were males and this imbalance is reflected in the gender composition of our sample. Other demographical characteristics of the participants are presented in Table 2.

Instruments

Three different instruments were used to collect data for the present study. The interview code (with probes) collected a wide range of sociodemographic categorical information regarding

Table 2.
Selected participants' demographical information (N = 64)

Gender	Group	Frequency	Percentage
	Males	58	91
	Females	6	9
Educational level	University	0	0
	College	1	2
	Secondary	49	77
	Primary	14	21
Marital status	Married	23	36
	Divorced	0	0
	Widowed	7	11
	Single	34	53
Nationality	Citizens	55	87
	Permanent residents	8	13
Age	Groups	Mean	SD
	All	29.421	6.868
	Males	29.145	6.738
	Females	29.000	6.164

gender, age, education, marital status, past employment details, type of crime committed, and number of times the same crime was repeatedly committed. The interview schedule was initially written in simple English but later translated into Bahasa Melayu, the main and official language of Brunei and the language in which it was administered to inmates via individual interviews. The forward translation was done by two of the researchers for the current study (both counselors) who were bilingual and spoke both English as well as their native Bahasa Melayu. Two other bilingual researchers for the present study (both psychologists) who also spoke both English and Bahasa Melayu as a mother tongue served as back translators and compared the clarity of expression and conceptual equivalence of the items in the two versions of the instrument (Malay and English) as proof of the instrument's reliability and validity. In addition, the study had adequate ecological validity as the data were collected via individual prisoner interviews in the participants' usual jail environment by two trained prison officials who regularly interacted with the respondents on a daily basis. This enabled the prisoners not to be highly cautious, apprehensible and defensive when responding to interview questions which were taped and later transcribed. The interrater agreement reliability for the two instrument administrators on portions that were content-analyzed with constant comparison was 91%, a reasonably high similarity index.

We also used the Hare Psychopathy Checklist – Revised edition, PCL-R (Hare, 2003) and the revised Symptoms Checklist, SCL-90-R (Derogatis, 1994) to collect quantitative data. The PCL-R (20 items) measures psychopathic behavior tendencies. It is a 3-point Likert scale with response formats ranging from "No" (scored as 0), to "Maybe" (1), and "Yes" (2). The twenty items are divided into four facets/subscales known as Interpersonal (4 items), Affective (4 items), Lifestyle (5 items), and Antisocial (5 items). Two items do not belong to any facet but load high on all four subscales. The PCL-R measures criminal psychopathology.

The SCL-90-R inventory is a mental health test designed to assess the psychological symptom pattern of the client. It is used as a screening device for measuring mental status. The scale measures nine primary areas or symptom dimensions of psychological distress (somatization, obsessive-compulsive, interpersonal-sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) as well as three global indices (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). Each item is rated on a 5-point Likert-type scale of distress (0 = "Not at all" to 4 = "Extremely"). The SCL-90-R is a measure of current, point-in-time, psychological symptom status. The reference time set is "the past 7 days including today". The questionnaire can be administered once or can be used repeatedly to document formal outcomes, response trends, or pre-post therapeutic evaluations.

The descriptive statistics and reliability indices for the PCL-R are presented in Table 3. As noted from this table, all the subscales of the PCL-R were reliable for use with the prison samples for this study in Brunei.

Similarly, the descriptive statistics and reliability values for the SCL-90-R subscales are also presented in Table 4. Evidence in this table indicates that the entire SC-90-R battery was reliable for use with our prison sample in Brunei.

Both quantitative instruments were also valid for use with our Brunei prison sample. The most widely used procedure in determining the accuracy of a research instrument is criterion-related validity. This is often obtained by either inter-correlating the subscales within one (same) inventory or between two different inventories. Of these two strategies, the current study used the former. The interscale correlations presented in Table 5 can be interpreted in two ways and show that the scales had adequate convergence and discriminant validty. Both significant and non-significant high positive correlations (r = 0.70 and above) in this table suggested that the two scales concerned were valid as measures of similar constructs (convergent validity). On the other hand, low correlations (positive, zero, negative, significant, and non-significant) implied that the scales concerned were valid as measures of different constructs (discriminant validity). No factor analyses were performed on the PCL-R and SCL-90-R to determine the construct validity of these scales as the current study was not primarily a validation of these instruments. In addition, factor analytic information would have lengthened the paper to beyond acceptable limits. Furthermore, some previous studies that used the PCL-R (e.g. Edens et al., 2015; Norris, 2011) and the SCL-90-R (Nojomi & Gharayee, 2007; Merport & Recklitis, 2012) did not also re-factor analyse these scales.

Data Analysis

Data from interview transcripts were analyzed qualitatively using techniques such as content analysis and constant comparison (Lincoln & Guba, 1985; Patton, 1990) to solely generate the sociodemographic categorical data only as this was entirely a quantitative study. In view of this, other qualitative data such as categories, themes and quotations were not used in the present study since the research was not strictly qualitative. Sociodemographic categorical data were then used as grouping variables and analysed quantitatively together with data from the two inventories (PCL-R and SCL-90-R) using descriptive statistics (frequencies and percentages), non-parametric statistics (chi-square and phi coefficient), and inferential statistics (hierarchical binary logistic regression analysis). All the statistical analyses were performed on SPSS Version 22 (using functions such as Frequency, Descriptive Statistics, correlation, Cross-tabulation, and regression).

Procedures

Permission and approval to conduct the study were obtained from the relevant ethics committees of the University of Brunei Darussalam, UBD – funding agency for the current research project and the Prison Department in the Government of Brunei Darussalam. All relevant ethical conditions for being involved in the study such as voluntary participation, privacy, anonymity, confidentiality, and protection from harm (both physical and psychological) were explained verbally and individually to each research participant in Bahasa Melayu language prior to conducting interviews for data collection. All the instrument translators and administrators were Brunei citizens and native speakers of Bahasa Melayu language. In this way, data collection conformed to the requirements of the Helsinki Declaration on the use of human participants in research studies.

Table 3.
PCL-R subscale descriptive statistics and reliability (N= 58)

Subscale	Mean	Sem	SD	Skewness	Alpha
Interpersonal (4 items)	6.703	0.324	2.592	0.361	0.800
Affective (4 items)	6.437	0.294	2.356	0.551	0.728
Lifestyle (7 items)	10.625	0.422	3.382	0.360	0.742
Antisocial (5 items)	7.843	0.312	2.502	0.258	0.643

Table 4.
SCL-90-R subscale descriptive statistics and reliability (N = 58)

Subscale	Items	Mean	SEm	SD	Skewness	Alpha
Somatization	12	0.281	0.869	6.956	1.434	0.844
Obssessive-Compulsive	10	12.906	1.006	8.048	0.790	0.829
Interpersonal-sensitivity	9	9,421	0.845	6.767	0.657	0.774
Depression	13	15.920	1.197	9.652	0.752	0.840
Anxiety	10	9.015	0.900	7.201	0.882	0.795
Hostility	6	3.281	0.429	3.438	1.407	0.638
Phobic Anxiety	7	5.671	1.018	8.151	2.598	0.779
Paranoid Ideation	6	5.343	0.535	4.284	2.204	0.728
Psychoticism	10	8.333	0.802	6.468	1.090	0.723
Additional Items	7	10.046	0.751	6.009	0.411	0.754

Table 5.
PCL-R and SCL-90-R interscale correlations as evidence of convergence and discriminant validity (N = 64)

Scales	1	2	3	4	5	6	7	8	9	10	11	12	13
Interpersonal	1												
Affective	0.450**	1											
Lifestyle	0.560**	0.509**	1										
Antisocial	0.467**	0.381**	0.556**	1									
Somatization	0.087	0.165	0.038	-0.014	1								
Obssessive-Compulsive	0.199	0.291*	0.241	0.097	0.645**	1							
Interpersonal-sensitivity	0.102	0.281*	0.350**	0.041	0.475**	0.732**	1						
Depression	0.177	0.247*	0.177	0.066	0.647**	0.812**	0.728**	1					
Anxiety	0.146	0.238	0.243	0.023	0.706**	0.790**	0.721**	0.847**	1				
Hostility	0.188	0.439**	0.230	0.271*	0.616**	0.624**	0.478**	0.566**	0.575**	1			
Phobic Anxiety	-0.038	0.165	0.263*	-0.086	0.299*	0.425**	0.688**	0.390**	0.394**	0.104	1		
Paranoid Ideation	0.078	0.199	0.114	0.067	0.718**	0.756**	0.672**	0.736**	0.777**	0.703**	0.296*	1	
Psychoticism	0.095	0.161	0.148	0.139	0.576**	0.718**	0.500**	0.639**	0.659**	0.605**	0.182	0.761**	1
Additional Items	0.076	0.112	0.030	0.024	0.611**	0.761**	0.520**	0.785**	0.743**	0.508**	0.276	0.671**	0.676**

*p < 0.05 (2-tailed)
**p < 0.01 (2-tailed)

RESULTS OF THE STUDY

The major findings of the present study based solely on the sample are presented below under separate sections but per objectives or goals of the investigation. Tables are the primary mode of disseminating the findings as they capture and accommodate diverse information.

Types of Crime and Recidivism

In Table 6, the total number or percentage of reconvicted offenders in our study sample was 34 (53%) but this is general recidivism because it does not tell us what specific crime each prisoner re-committed and how often he / she was re-imprisoned for the same offense. However, data in the same table indicated that the number of prisoners who relapsed and re-offended on each of the three major crimes were: stealing 20 or 31%; drugs 5 or 8%; and sex offenses 4 or 6%). This type of data is a form of specific recidivism but does not also tell us anything about the gender and frequency of re-conviction on the same offense. In our study sample, the number of repeat offenders (34 or 53%) was slightly higher than that of non-repeater offenders (30 or 47%). The strength of the difference between the row and column variables could not be determined by the chi-square and phi statistics due to the presence of numerous empty cells and cells with small frequency values less than one (1) in magnitude. However, the data projected a pattern or trend of offending that indicated a 50-50 or no-win situation. The recidivism rates in our sample partly put into question and doubt the effectiveness of the prison's rehabilitation efforts. In addition, we observed that theft, drug, sex, and conning (deceiving offenses) had more repeat offenders in the sample than non-repeaters. These findings call for concerted efforts to be made in providing effective counseling and other interventions to the inmates both before and after release. We did not collect specific data to determine the rates for other types of recidivism (e.g. recidivism based on psychopathy or mental health scores). These other forms of recidivism, though important, were beyond the scope and objectives of the present study.

Age-groups and Recidivism

Of the 34 recidivists, the majority were in the 24-29 and 36-40 age-groups (Table 7). These were the groups that needed more interventions (both educational and psychological) during and after imprisonment. Inmates aged 24-29 were also the majority among the non-reapt offenders in the present study, underlying a bigger counseling emphasis with this category. However, no significant difference was obtained as indicated by the chi-square and phi coefficients under Table 7.

Prisoners' Marital Status and Recidvism

Table 8 shows the relationship between prisoners' marital status

Table 6.
Recidivism by type of crime (N = 64)

Crime	Recidivism		Total(%)
	Repeater (Coded 1)	Non-repeater (Coded 0)	
Drug offences	5	2	7(10%)
Stealing	20	18	38(59%)
Arson	1	0	1(2%)
Aggression	1	3	4(6%)
Sex offenses	4	2	6(9%)
Conning	2	0	2(2%)
Smuggling	0	1	1(2%)
Growing drug plants	0	1	1(2%)
Women and girls protection	0	1	1(2%)
Forgery	1	0	1(2%)
Gambling	0	1	1(2%)
Breach of trust	0	1	1(2%)
Total(%)	34(53%)	30(47%)	64(100%)

Table 7.
Recidivism by prisoners' age (N = 64)*

Prisoner age-groups	Recidivism		Total(%)
	Repeater	Non-repeater	
18-23	5	8	13(20%)
24-29	11	10	21(33%)
30-35	7	6	13(20%)
36-40	11	6	17(27%)
Total (%)	34(53%)	30(47%)	64(100%)
*Chi-square (df = 3) = 2.072, p > 0.05. Phi = 0.181, p > 0.05			

Table 8.
Recidivism by prisoners' marital status (N = 64)*

Prisoner marital status	Recidivism		Total (%)
	Repeater	Non-repeater	
Married	15	15	30(47%)
Not married	19	15	34(53%)
Total(%)	34(53%)	30(47%)	64(100%)
*Chi-square (df = 1) = 0.363, p > 0.05. Phi = 0.076, p > 0.05			

and reidivism. No significant difference was obtained on the cell frequencies entered. There was almost an equal number of repeater and non-repeater offenders between married and non-married inmates who included several categories such as single, divorced, and widowed persons.

Parents' Marital Status and Prisoners' Recidivism

Estimates of prisoner recidivism in our sample, based on their parents' marital status, are provided in Table 9. No significant difference was obtained between cell entries for the column and row variables. However, we noted that the number of recidivisit inmates with married parents was nearly the same as the combined number of other prisoner categories with non-married parents (or with single, divorced, widowed or separated parental backgrounds). This dispelled the general belief held by many people in Brunei that criminals come mainly from non-intact families.

Prisoners' Prior Employment Status and Recidivism

According to Table 10, there was almost an equal number of inmates who, prior to incarceration, were either employed or unemployed. This finding was contrary to the notion that offending was mainly done by unemployed individuals in Brunei.

Identifying Variables with High Odds for Reoffending

To determine the factors that had links or connections with reoffending, we performed a hierarchical binary logistic regression

Table 9.
Recidivism by parents' marital status (N = 64)

Prisoner marital status	Recidivism		Total (%)
	Repeater	Non-repeater	
Married	15	15	30(47%)
Not married	19	15	34(53%)
Total(%)	34(53%)	30(47%)	64(100%)
*Chi-square (df = 1) = 0.363, p > 0.05. Phi = 0.076, p > 0.05			

Table 10.
Recidivism by prisoners' prior employment status (N = 64)

Employment status	Recidivism		Total
	Non-repeaters	Repeaters	
Employed	27	30	57(89%)
Unemployed	4	3	7(11%)
Total	31(48%)	33(52%)	64(100%)

analysis with backward elimination using recidivism (coded 1 for repeat offender and 0 for none repeat offender) as the dependent variable (DV). We had three types of independent variables, IVs (sociodemographic variables, total scores on PCL-R subscales, and total scores on SCL-90-R subscales). Altogether, SPSS (Version 22) produced 15 steps or models during the analysis. Only two models (1 and 15) are shown in Table 11. In Step 1, only two variables (interpersonal-sensitivity and lifestyle) were significantly related to recidivism, both at p = 0.05 level. Of these, the odds ratios for interpersonal-sensitivity were also significant (p< .05) because the lower limit of the 95% CI for OR was above 1 (OR = 1.447; 95% CI for OR = 1.026 - 2.012). Thus prisoners who scored high on the interpersonal-sensitivity variable (lack of sensitivity when dealing with other people) were 1.5 times likely to reoffend and be re-imprisoned. Similarly, high scorers on the antisocial scale and prisoners aged 30-35 had respectively almost 1.6 and 2.8 likelihood of reoffending upon release (Table 11, Step 1). However, Model 1 was overspecified and inefficient because too many variables were entered in Step 1 including both the necessary terms and unneeded ones. As a result the irrelevant terms had high standard errors and non-significant coefficients. Supporting evidence in Table 12 shows that the Omnibus fit chisquare for Model 1 was insignificant. Nevetheless, the estimation of the coefficients in Model 1 was unbiased and indeed this model had higher R^2 values compared to Model 15 (Table 12). On the other hand Model 15 was properly fitted with relevant terms that were significantly related to reoffending (Table 11). In view of this, the model fit chisquares for Step 15, both Omnibus as well as Hosmer and Lemeshow, were acceptable as indicated by the significant p-value for the former and an insignificant p-value for the latter (Table 12). Because Model 15 was underfitted, it explained only 2.1 to 2.7 percent of the variance between the IVs and the DV (Table 12). Interpersonal-sensitivity was still the best predictor of reoffending and re-imprisonment in Model 15.

Identifying Crimes with High Odds for Repetition

To determine the chances or likelihood of the four major crimes re-curring or being perpetuated, we performed a binary logistic regression analysis with backward elimination using recidivism (coded 1 for repeat offender and 0 for none repeat offender) as the dependent variable, DV. The independent variable, IV enetered was crime types with 12 categories of offenses. Table 13 shows the section of the SPSS binary logistic analysis output on the four main crimes committed by the participants in the present study. None of the variables presented in Table 13 was significantly related to reoffending but had high odds ratios. Compared to convicts who committed the breach of trust/corruption offenses (reference or comparison group), inmates who engaged in sex crimes were nearly 28 times more likely to reoffend upon release (OR = 27.995, SE = 1.991, 95% CI for OR = 0.565 – 1386.279). Drug offenders had the

Table 11.
Hierarchical binary logistic regression analysis on recidivism with backward elimination (N = 64)

Model	Variables	B	S.E.	Wald's X^2	df	p	OR	95% CIfor OR	
								Lower	Upper
Step 1	Parents' marriage	-1.328	0.868	2.342	1	0.126	0.265	0.048	1.452
	Educational level	0.217	1.109	0.038	1	0.844	**1.243**	**0.141**	**10.922**
	Employment	-1.731	1.878	0.850	1	0.356	0.177	0.004	7.020
	Prisoners' marriage	-0.589	0.935	0.397	1	0.529	0.555	0.089	3.470
	Age-groups 18-23	-0.997	1.143	0.760	1	0.383	0.369	0.039	3.470
	Age-group 24-29	-0.001	1.257	0.000	1	0.999	0.999	0.085	11.730
	Age-group 30-35	1.026	1.446	0.503	1	0.478	**2.789**	**0.164**	**47.435**
	Somatization	0.030	0.112	0.070	1	0.791	**1.030**	**0.827**	**1.283**
	Obssessive-Compulsive	-0.163	0.111	2.135	1	0.144	0.850	0.683	1.057
	Interpersonal-sensitivity	0.362	0.172	4.445	1	**0.035***	**1.447**	**1.026**	**2.012**
	Depression	-0.022	0.122	0.033	1	0.856	0.978	0.770	1.242
	Anxiety	-0.087	0.134	0.422	1	0.516	0.916	0.704	1.193
	Hostility	-0.082	0.242	0.116	1	0.733	0.921	0.573	1.479
	Phobic Anxiety	-0.048	0.083	0.330	1	0.565	0.954	0.811	1.121
	Paranoid Ideation	-0.155	0.214	0.523	1	0.470	0.857	0.563	1.303
	Psychoticism	0.107	0.095	1.281	1	0.258	**1.113**	**0.924**	**1.341**
	Interpersonal	-0.008	0.193	0.002	1	0.966	0.992	0.679	1.448
	Affective	0.042	0.210	0.040	1	0.842	**1.043**	**0.691**	**1.573**
	Lifestyle	-0.456	0.230	3.939	1	**0.047***	**0.634**	**0.404**	**0.994**
	Antisocial	0.462	0.314	2.165	1	0.141	**1.587**	**0.858**	**2.936**
	Constant	3.840	3.148	1.488	1	0.222	46.529		
Step 15	**ParentMarriage(1)**	-1.397	0.660	4.478	1	**0.034***	**0.247**	**0.068**	**0.902**
	Obssessive-Compulsive	-0.131	0.061	4.694	1	**0.030***	**0.877**	**0.779**	**0.988**
	Interpersonal-sensitivity	0.181	0.078	5.359	1	**0.021***	**1.199**	**1.028**	**1.398**
	Lifestyle	-0.208	0.109	3.598	1	0.051*	0.813	0.656	1.007
	Constant	3.245	1.339	5.875	1	0.015*	25.671		
*p< 0.05 (two-tailed)									

Table 12.
Model fit coefficients and model R Squares (N = 64)

Model	Fit	X^2	df	p	Cox & Snell R^2	Nagelkerke R^2
Model 1	Omnibus	21.964	20	0.342	0.339	0.454
Model 15	Omnibus	12.148	4	0.016	0.205	0.274
Model 1	Hosmer and Lemeshow	8.042	8	0.429	-	-
Model 15	Hosmer and Lemeshow	5.231	8	0.733	-	-

Table 13.
Hierarchical binary logistic regression analysis on recidivism

Variables	B	S.E.	Wald X^2	df	Sig.	OR	95% CI for OR	
							Lower	Upper
Crime type			3.927	11	0.972			
Drug offenses	2.395	1.573	2.319	1	0.128	10.969	0.503	239.349
Stealing / theft	1.999	1.458	1.879	1	0.170	7.381	0.423	128.684
Violence / aggression	0.474	1.807	0.069	1	0.793	1.607	0.047	55.459
Sex offenses	3.332	1.991	2.801	1	0.094	27.995	0.565	1386.279
Model fit: $X^2(11) = 23.061$(Omnibus), $X^2(11) = 17.612$ (Hosmer and Lemeshow) Model $R^2 = 0.353$ (Cox & Snell), 0.470 (Nagelkerke)								

second highest odds for reoffending (OR = 10.969, SE = 1.573, 95% CI = 0.503 - 239.349) compared to participants in the reference group. The other prisoners with high likelihood for reoffending were those incarcerated for stealing (OR = 7.381, SE = 1.458; 95% CI = 0.423 - 128.684) and those convicted of committing violent / aggressive acts (OR = 1.607, SE = 1.879; 95% CI = 0.047 - 55.459). All the B regression coefficients were positive. With a non-significant Hosmer and Lemeshow coefficient, the model fit was good and the IVs shared between 3.5 and 4.7 percent common variance with the DV.

DISCUSSION AND RECOMMENDATIONS

Based on the findings of the present study, we now know some of the sociodemographic characteristics of the reoffenders in our Brunei sample and the factors related to their reoffending behavior. We identified a number of variables and crimes that, though most of them not significantly related to recidivism, had potential to contribute to reoffending (as illustrated by trends or patterns emerging from Table 11 and Table 13). Based on our results, both offender employment and marital statuses did not significantly influence (reduce or stop) recidivism among Brunei inmates who participated in this study. This might be due to the low wages that the participants who were employed prior to incarciration received. During the data collection interviews some of the participants who were imprisoned for stealing cited lack of money and the need to support the family as the main reasons for resorting to theft. In addition, parental marital status did not impact recidivism patterns downwards in the current study. The fact that there was almost an equal number of inmates from married and single parental backgrounds in the present study signaled that it was not the parents' marital status that was important in bringing up law-abiding offspring but rather the possession and use of effective parenting skills in conducive family environments as suggested by

developmental psychologists such as Shaffer (2002). Furthermore, inmates in the present study who committed certain crimes (e.g. drug-related offense, theft and sex-offenders) were more inclined towards recidivism (or repeating the offenses). Different interpretive reasons may be offered as to why these crimes were prone to being repeated. For example, drug trafficking was considered to be a highly profitable illegal business (worth risking) from which the perpetrator may quickly generate enough income to support his or her family dependants. Similarly, stealing was equally a risky task that could fast bring money, goods and services that the offender might use in supporting her/his family. With regard to sex offenses (e.g. rape, incest and adultery), the reasons for repeating these crimes were not clear in the present study but appear to be due to to personality or mental health problems. Qualitative research with interview probes is required to explore this finding.

Recidivism might be decreased in Brunei if preventive, educational, counseling, and psychotherapy intervention / work targetted and prioritized: (1) drug, theft, aggressive, and sex offenses; (2) addressed concerns about prisoners in age-groups 24-29 as well as 30-35; (3) helped inmates with primary education to increase their education and training; and (4) carefully looked into the problems of married prisoners who repeatedly offended (e.g. stealing to suport family). Previous research (Aba-Afari, 2011) identified many reasons for reoffending in a developing country context such as: limited and ineffective counseling services while in prison; lack of effective in-prison education and training programs; none availability of assistance programs to help released prisoners to obtain employment; and isolation of ex-convicts by family and friends due to carrying the label and stigma attached to former prisoners in the community. The discrimination arising from labelling and stigma needs to be addressed because it hinders and makes re-integration very difficult to achieve. Some of the crime prevention strategies (primary, secondary, tertiary, and situational / environmental) (Harrower, 2001) could be adapted for use in Brunei. For example, the community neighborhood watch schemes, CCTVs and security alarm bells are already in use in some parts of Brunei to help reduce the crime rate and more can be done. Harrower's (2001) crime and recidivism prevention strategies need to be studied carefully to determine what else could feasibly be adapted and applied in Brunei. In addition, attempts should also be made at minimizing litigation to the justice system which, after processing, often leads to being labelled a criminal and contributes to the development of a criminal identity (Harrower, 2001; Mundia et al., 2016a). Recidivism is a complex problem experienced in many countries including Brunei. Targetting the types of crime, sociodemographical factors, and variables with high odds for reoffending (based on the current study) would be appropriate for combating recidivism in Brunei. For example, the Sex Offender Treatment Program (SOTP) described by Ho & Ross (2012) might be useful in Brunei because it includes counseling and psychotherapy sessions that sound relevant for Brunei inmates.

CONCLUSION

Recidivism problem in Brunei inmates may increase if not curbed early. The present study produced evidence that revealed the complicated nature of recidivism found in all the variables investigated. According to evidence from the current study, a significant amount of crime that threatens the security and safety of people in Brunei might be attributed to the actions of recidivists. For example, recidivism was amply manifested in all the major types of crime committed in the present study as well as by a range of sociodemographic variables such as age, education, employment, and marital status of prisoners and their parents. In view of this, more attention, priority and efforts should be directed at combating recidivism to protect the people. This may be achieved through a variety of preventive measures, in-prison interventions, and community-based re-integration schemes. The recidivism issue in Brunei merits a large-scale mixed-methods research to shade more light on the problem and its possible solutions. The current study was an attempt to bridge a knowledge deficit gap on the nature, extent and impact of recidivism in Brunei prisoners.

LIMITATIONS OF THE STUDY

The present study was informed by two main limitations. First, There was no qualitative component to supplement findings from the quatitative survey. Second, we investigated the problem from a psychological / counseling view point consistent with our background. Inputs from other disciplines (such as sociology, anthropology, and social work) might have improved and strengthened the present study. Despite these shortcomings, the present prison-based study has practical significance and might be of value to both the local Brunei society as well as the international community elsewhere.

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Conflict of Interests

Although the authors received support funds from the University of Brunei Darussalam (UBD), they did not have any conflict of interests or competing interests.

Authors' Contributions

Each author made contributions to the study, saw and approved the final version of the manuscript submitted.

REFERENCES

Aba-Afari, S. (2011). *Investigation into guidance and counselling programmes in the Ghanian prisons: A case study of Kumasi Central Prison*. Master of Philosophy Dissertation in Art Education. Faculty of Art, College of Art and Social Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

Derogatis, L.R. (1994). Symptom Checklist-90-R: Administration, scoring and procedures manual. San Antonio, TX: Pearson Clinical Assessment.

Edens, J.F., Cox, J., Smith, S.T., DeMatteo, D., & Sörman, K. (2015). How reliable are Psychopathy Checklist–Revised scores in Canadian criminal trials? A case law review. *Psychological Assessment, 27(2)*, 447 - 456.

Hare, R.D. (2003). *Psychopathy* checklist – revised*: Technical manual*. North Tonawanda, NY: Multi-Health Systems.

Harrison, B. & Schehr, R.C. (2004). Offenders and post release jobs: Variables influencing success and failure. *Journal of Offender Rehabilitation*, *39(3)*, 35-68.

Harrower, J. (2001). *Pyschology in practice: Crime*. Abingdon, Oxon: Hodder & Stoughton.

Ho, D. K., & Ross, C. C. (2012). Cognitive behaviour therapy for sex offenders. Too good to be true? *Criminal Behaviour and Mental Health, 22*, 1–6.

Home Office Research Study 171. (1997). *Changing offenders' attitudes and behaviour – what works?* London: HMSO.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*, 607-610.

LeClair, D. (1988). The effect of community reintegration on rates of recidivism*:* A statistical overview *of data for the years 1971 through 1985.* Massachusetts Department of Correction, United States.

Leechaianan, Y. & Longmire, D. R. (2013). The use of the death penalty for drug trafficking in the United States, Singapore, Malaysia, Indonesia and Thailand: A comparative legal analysis. *Laws, 2*, 115–149.

Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

Lipsey, M.W. (1992). The effect of treatment on juvenile deliquents: Results from meta-analysis. In Loser, F., Bliesener, T. & Bender, D. (eds) *Psychology and Law: International Perspectives.* Berlin: de Gruyter.

Merport, A., & Recklitis, C. J. (2012). Does the brief symptom inventory-18 Case Rule Apply in Adult Survivors of Childhood Cancer?: Comparison with the symptom checklist-90. *Journal of Pediatric Psychology*, *37*(6), 650-659.

Mundia, L., Matzin, R., Mahalle, S., Hamid, M.H.S. & Osman, R.S. (2016a). Addressing crime problems in brunei darussalam: Qualitative analysis of alternatives to counseling and educational interventions. *The Social Sciences, 11(2)*, 53-58.

Mundia, L., Matzin, R., Mahalle, S., Hamid, M.H.S. & Osman, R.S. (2016b). Contributions of sociodemographic factors to criminal behavior. *Psychology Research and Behavior Management, 9*, 147–156.

Nojomi, M. & Gharayee, B. (2007). Medical students and mental health by SCL-90-R . *Medical Journal of the Islamic Republic of Iran*, *21(2)*, 71-78.

Patton, M.Q. (1990). Qualitative evaluation and research methods. Newbury Park, CA: Sage Publications.

Prison Department. (2012). Statistical Report of Jerudong Prison Records Unit. Bandar Seri Begawan: Ministry of Home Affairs.

Shaffer, D.R. (2002). *Developmental psychology: Childhood and adolescence*, 6th Edition. Belmont: Wadsworth/Thomson Learning.

Sherman, L.W. , Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P. & Bushway, S. (1998). *Preventing Crime: What works, what doesn't, what's promising: A Report to the United States Congress*. Washington, DC: U.S. Department of Justice.