

A Survey of Survival Patterns of some Recidivists in Nigerian Prisons

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Abstract

Recidivism, one of the most fundamental concepts in criminal justice, refers to a person's relapse into criminal behavior, often after the person receives sanctions or undergoes intervention for a previous crime. It is measured by criminal acts that resulted in re-arrest, reconviction or return to prison with or without a new sentence during a three-year period following the prisoner's release. Recidivism has become a global phenomenon. Its high prevalence rate and associated menace to the Nigerian society in recent times provide a great motivation for this work.

As a result, this work considered the application of survival analysis to the rate of recidivism of prison inmates in Nigerian prisons. It also examined the factors influencing recidivism using Ado-Ekiti and Olokuta Prisons in Ekiti and Ondo states respectively.

Data of recidivists collected from Nigerian Prison Service in these two states between 2011 and 2016 were fitted using the Kaplan-Meier Procedure and the Cox's Regression Model while the influence of some factors on recidivism was carried out.

Results of the Cox regression model and the Cox-Mantel log-rank tests at 0.05 significant level show that employment status is the only factor influencing the rate of recidivism and it was concluded that of the factors considered, a major cause of high prevalence rate of recidivism in Nigeria is unemployment.

Keywords: survival analysis, prison, inmates, recidivists, offence, Time to Event, Censoring, Survival function and Hazard function

1.0. Introduction

Recidivism is a subject with numerous definitions. The word was derived from Latin 'recidere' to fall back. A recidivist is one who, after release from custody for having committed a crime is not rehabilitated. Instead, he or she falls back, or relapses into previous behavioral patterns and commits more crimes. However, recidivism could be technically defined as the event of an individual

committing a new criminal offense after committing previous offenses. Recidivism occurrence is not limited to a particular region, race or age group. It has become a global phenomenon. As reported in the United States of America in 2009, roughly 61% of adult offenders reoffended within a year of their release from a correctional institution (Iorizzo, 2012). In England and Wales for example, 57.6% of the prisoner released in 1998 were convicted again in the two years following release (Bowles and Florackis, 2007). These high recidivating rates generate substantial additional cost to society, whether directly or indirectly (cost to the victim, additional police and justice expenditures, cost of incarceration, loss of human and social capital, loss of production while incarcerated etc.).

Within the last few years, Nigerian prisoners have tremendously increased and many prisons are already crowded. In Nigeria, more than 300,000 offenders have been reported between year 2013 and second quarter of 2015 with male accounting for more than 90% and stealing as a leading crime (NBS, April 2016). However, within the time frame, about thirty thousand first-timer recidivists were documented while some recidivated as many as six times. In Nigeria, like other African countries where rehabilitation of prisoners is disproportionately inadequate, issue of recidivism is complicated and most offenders are three times more likely to be rearrested (Freeman, 2003). Ex-convicts are often perceived by other members of the societies as being harmful and dangerous. Consequently, it exposes the sufferers to a great deal of stigmatization irrespective of the offence category. Even families of some well reformed ex-convicts refuse to welcome them into their fold which often times worsens the situation. However, this perception is not limited to family integration but also affect employability of ex-convicts.

A study conducted among parolees in Texas prison showed that having employment after leaving prison does not only reduce incidence of repeated commission of crime but also elongate time of re-incarceration (Tripodi et al, 2010). As posted in a related report, many aspects of involvement in the criminalities can have long-term negative impacts on one's ability to lead a more pro-social life (Skeem & Peterson, 2010). Particularly in the area of employment, as those with criminal justice involvement face a variety of obstacles to obtaining quality, stable employment. Many ex-convicts find that their criminal record is an automatic barrier to finding work because employers often reject applicants with records of conviction (Howard, 2009). It was further noted that social rejection has been shown to have a negative effect on individual's physical and emotional well-being. The absence of societal acceptance had compelled many well reformed ex-convicts to rejoin criminals and become recidivists. Also, persistent rejection and discrimination against ex-prisoners is partly responsible for the high rate of recidivism among ex-convicts. This has been a great concern to the government given their socio-economic and security implications.

In Nigeria, discrimination and stigmatization of the ex-convicts is religiously and culturally pronounced in order to discourage potential recidivists. The various law enforcement agencies and justice tend to have unfavorable reaction towards ex-prisoners and in consequence, it could be observed that in a joint trial of different accused persons, leaving the court with no option than to impose higher degrees of punishment to persons found guilty of the same offence.

The ultimate cause of recidivism and the survival period are still sketchy. Quantitative research on recidivism and its determinants in Nigeria and sub-Sahara regions still remain a difficult venture due to unavailability or inaccessible data about prisoners. Though, reported educational attainment is one of the predictors of increase in the rate of recidivism among male prisoners in Ekiti State, South west, Nigeria (Tennibiaje, 2013) while in other studies, predisposing factors that increase recidivism among recidivists in Nigeria are gender, marital status, family background, imprisonment terms and type of crime (Abrifor et al., 2012; Yan & Janku, 2009; Oluyemi & Norma, 2014) but the effects of these variables on the out of prison survival time still remains elusive.

Furthermore, it was found that younger people are likely to recidivate more than their older counterparts (Oruta, 2016). This is an indication that some youths are channeling their energy to crime and unprofitable activities rather than national building. Similarly, Janku revealed in his study that those with little or no education are most likely to recidivate as compared to more educated people

(Yan and Janku, 2009). This might be connected to the fact that educated people might find it easier to be employed coupled with better level of reasoning.

Despite this, survival time and recidivating rate pattern are yet to be extensively discussed. Nevertheless, It is a known fact that marriage has a significant role to play in reducing crime perpetration but there is complex interplay as the quality of spouse determines the influence (Apel, & Nieuwbeerta, 2012; Andersen, 2015). Against this background, this work sought to determine the rate of recidivism and investigate the determinants of recidivism among inmates in Nigerian prisons. And also to estimate the median survival times across various risk factors.

2.0. Materials and Methods

The purpose of this research was to find out the time it will take an ex-convict to return to prison i.e. the time it takes to recidivate considering demographic and socio-economic variables. During the process of our study, data on discharged inmates were collected from Ado-Ekiti and Olokuta prisons between 2011 and 2016 and a three-year survivorship was considered.

In the process of analyzing our data, we employed the use of tables, percentages, Chi-Square for in our preliminary analysis. We later use Kaplan-Meier and Cox regression model for our main analysis

This work considers the application of survival analysis to the prevalence rate of recidivism in Nigerian prisons. It also investigated the factors influencing the rate of recidivism. In the nutshell, this work looks into the time it will take an ex-convict to return to prison. The quantitative nature or numeric effect of some basic characteristics on the 'out of prison' length of time of recidivists in Nigerian prisons present a case of survival analysis and hence the justification for its application to recidivism.

A recidivist in this study refers to a prison inmate who has been convicted once and was later reconvicted for committing another offence. Data on male inmates who regained freedom during the study period were extracted (and follow-up) from Ado-Ekiti and Olokuta prisons through the records department of the Nigerian Prison Service. Basic characteristics and predisposing factors of recidivists were collected. The factors considered are marital status, educational status, employment status and offence category. The data collected were classified based on a 3-year follow up as either recidivated or censored.

Survival analysis was carried out using Kaplan-Meier to obtain the mean and median survival time of the inmates and the hazard plot of the covariates while Cox regression model was used to establish the relationship between the covariates (age, employment status, educational status and offence categories) and recidivism. The log-rank comparison test will also be used to identify statistical significance between two or more groups of KM curves.

Survival analysis is a statistical procedure for which the outcome variable of interest is time until an event occurs. In using survival analysis to study recidivism, the idea is that an individual has committed a criminal offense in the past, and is put in a position where he has control over whether or not he will commit another offense of some sort. As an example, a prisoner is released from incarceration, and during this time after release, he is viewed as having the power to choose whether or not he will commit another offense. The lifetime, in this example, would begin with the release from incarceration, and the failure would be represented by the commission of a crime.

It is note-worthy to define some important terms in survival analysis in relation to recidivism as follow: Time, Event, Censoring, Survival function and Hazard function.

Time in the context of this work is defined as the number of days from the beginning of follow-up of an individual until second conviction while event actually means the occurrence of second conviction within the study period. The survival times were censored for those whose second conviction exceeded 3 years and inmates with multiple experiences within the time frame were excluded.

In survival analysis, time variable is usually referred to as survival time; because it gives the time an individual has "survived" over some follow-up period. Meanwhile, median survival time denotes the time at which the probability of survival $S(t)=0.5$.

2.1. Survivor Function and Hazard Function

The survivor function $S(t)$ gives the probability that a person survives longer than some specified time t . It gives the probability that random variable T exceeds the specified time t . The hazard function $h(t)$ gives the instantaneous potential per unit time for the event to occur, given that the individual has survived up to time t (Kleinbaum & Klein, 2005).

Mathematically, it is written as

$$h(t) = \lim_{\Delta t \rightarrow 0} \frac{P(t \leq T < t + \Delta t | T \geq t)}{\Delta t} \quad (1)$$

Note that, in contrast to the survivor function, which focuses on not failing, the hazard function focuses on failing, that is, on the occurrence of the event (that the inmate under study recidivates) and consequently measuring the rate at which an individual under study recidivated (falling back to crime and re-convicted) which is the focus of this work.

2.2. Kaplan-Meier Procedure

This method also known as the “product limit method”, is a non-parametric method used to estimate the probability or survival past given time points (i.e., it calculates a survival distribution). Furthermore, the survival distributions of two or more groups of a between-subjects factor can be compared for equality. This procedure was used alongside Cox regression model. Thus:

$$\hat{S}(t) = \prod_{t_i < t} \left(1 - \frac{d_i}{n_i}\right) \quad (2)$$

Where n_j = number of subjects living (convict discharged) at the start of time t_j .

d_j = number of death (re-convicted) recorded at time t_j

S_i = survival function estimator

The variance of Kaplan-Meier estimator can be estimated by

$$v[\hat{S}(t)] = \hat{S}(t)^2 \sum_{t_i < t} \frac{d_i}{n_i(n_i - d_i)} \quad (3)$$

called the Greenwood's formula.

2.3. Log-Rank Test

To evaluate whether or not Kaplan-Meier curves for two or more groups are statistically equivalent, the most popular testing method is called the log-rank test. The log-rank test is a large-sample chi-square test that uses as its test criterion a statistic that provides an overall comparison of the KM curves being compared. This (log-rank) statistic, like many other statistics used in other kinds of chi-square tests, makes use of observed versus expected cell counts over categories of outcomes. The categories for the log-rank statistic are defined by each of the ordered failure times for the entire set of data being analyzed.

For two groups, the log-rank statistic is based on the summed observed minus expected score for a given group and its variance estimate. The test statistic is approximately chi-square in large samples with $G - 1$ degrees of freedom, where G denotes the number of groups being compared.

The log-rank statistic LR for two groups is given by

$$LR = \frac{(O_2 - E_2)^2}{Var(O_2 - E_2)} \quad (4)$$

2.4. Cox Regression Model

In order to investigate the relation between the survival time and some risk factors (covariates), their influence on the survival, several statistical models can be used. The most common model for this kind of data is the Cox regression model, or the proportional hazards model. In this model, the hazard function for individual i is given by

$$h(t, x) = h_0(t) \exp\left(\sum_{i=1}^p \beta_i x_i\right) \quad (5)$$

Where $h_0(t)$ is a baseline hazard and $\beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p$ is the linear predictor. To estimate the coefficient β_1, \dots, β_p the maximum likelihood procedure is used, where the likelihood function is based on a conditional probability of failure.

We have that $t_1 < t_2 < \dots < t_k$ representing the failure times and n_i is the risk set of patients (convicts) at time t_i . For the particular failure at time t_i , conditional on the risk set n_i , the probability that the failure is on the individual is

$$\frac{\exp\left(\sum_{j=1}^p \beta_j x_{ji}\right)}{\sum_{i \in R(t_{(i)})} \exp\left(\sum_{j=1}^p \beta_j x_{ji}\right)} \quad (6)$$

Each failure contributes a factor and hence the conditional log-likelihood is

$$L(\beta) = \sum_{i=1}^k \sum_{j=1}^p \beta_j j_i - \sum_{i=1}^k \log_e \left[\sum_{i \in R(t_{(i)})} \exp\left(\sum_{j=1}^p \beta_j x_{ji}\right) \right] \quad (7)$$

Maximum likelihood estimate of β_i 's are obtained by solving simultaneously the p equations that are derivative of $L(\beta)$ with respect to β_1, \dots, β_p upon equating to zero.

The p equations can be solved numerically by the Newton-Raphson method of iteration. Interestingly, Cox regression model and Kaplan-Meier are machine-driven and the analysis was executed using IBM SPSS version 20.

3.0. Analysis Results

The study population comprised 272 ex-convicts from Ekiti and Olokuta State prisons and within the study period, 125 participants recidivated. That is, a recidivism prevalence of 49.6% was observed. Meanwhile, the preliminary analysis shows that the inmates' mean age is 30.3(5.9) years and the data show that all inmates understudy are still in their reproductive (18-45) years. See table 1 for the details.

Table 1: Recidivists Background Data

| Variables | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Marital status | | |
| <i>Single</i> | 73 | 58.4 |
| <i>Married</i> | 37 | 29.6 |
| <i>Widower</i> | 15 | 12.0 |
| Education background | | |
| <i>Primary</i> | 42 | 33.6 |
| <i>Secondary</i> | 65 | 52.0 |
| <i>Tertiary</i> | 18 | 14.4 |
| Employment history | | |
| <i>Unemployed</i> | 70 | 56.0 |
| <i>Employed</i> | 55 | 44.0 |
| Offence category | | |
| <i>Assault</i> | 30 | 24.0 |
| <i>Stealing</i> | 58 | 46.4 |
| <i>Possession of hemp</i> | 24 | 19.9 |
| <i>Other offences</i> | 13 | 10.4 |
| Prison location | | |
| <i>Ekiti</i> | 76 | 60.8 |
| <i>Ondo</i> | 49 | 39.2 |

The minimum and maximum conviction free follow-up period before the second conviction was 29days and 1222days respectively, with an overall estimated mean survival time of 453days. It was also observed that larger proportion of the inmates were single since 58.4% of them are not married, 52% were averagely educated and 56% unemployed after first conviction. In addition, 46.4%

of the inmates were convicted of stealing which is followed by assault 19.9% so that the most prevalent crime is stealing.

The median survival times between discharge after first conviction and reconviction for single, married and widower inmates in both States are 462, 424 and 283 days respectively. It could be deduced that the widowers recidivated faster than other counterparts but the disparity in the survivorship is not significant ($\chi^2 = 2.618, P= .277$) as obtained from log-rank comparison test. Consequently, it is evident that the (population) survival curves (figure1 (a)) are not different.

Also, the median survival times of those who had only primary, secondary and tertiary education in both states are 426, 402 and 351days respectively while the median survival times of inmates with age group (18-24), (25-34) and (35-45) are 449, 402 and 299days respectively (where these are the ages of recidivists at the time of discharge from prison after the first conviction). The comparison test for both factors revealed insignificant difference between the curves at 0.05 level of significance.

The median survival time of inmates for various types of crimes (offence category) are 351days for assault, 402days for stealing, 575days for possession of hemp and 468days for other offences ($\chi^2=4.192, P\text{-value}=.241$).

Figure 1: Recidivism vs. Marital Status, Education, Age and Offence Categories

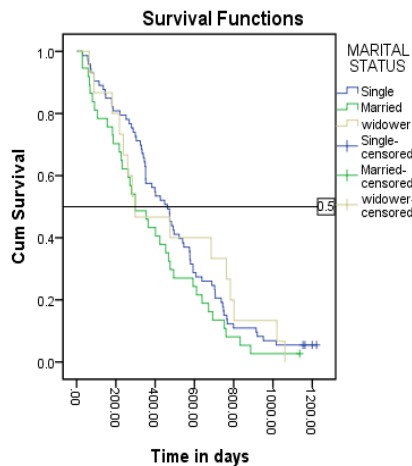


Fig.1(a)

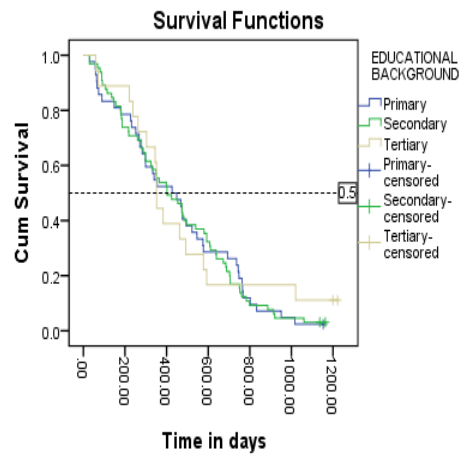


Fig.1(b)

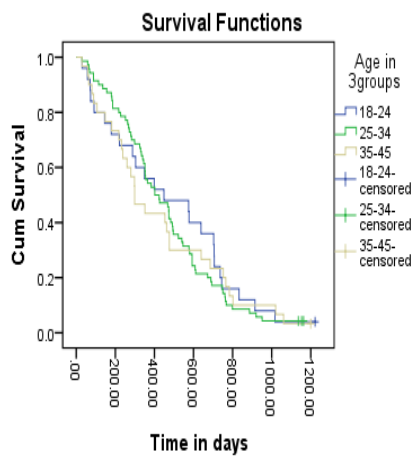


Fig.1(c)

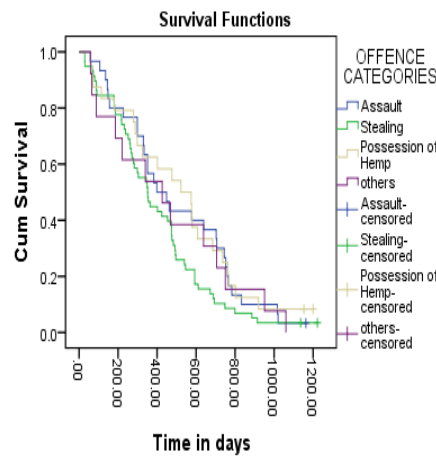


Fig.1(d)

Overall conviction free median survival time for Ekiti state prison inmates was 424 days compared with Olokuta prison of 402days. However, the median survivals for unemployed and employed for the pooled data are 279 and 593 days respectively ($\chi^2 =23.26, P\text{-value} < .001$). That is,

the result from the Log rank test reveals a significant difference between the two curves as shown in figure2. The employed stayed up to 270days before recidivating while the unemployed conviction-free survival declined sharply upon discharge.

Figure 2: Recidivism vs. Employment

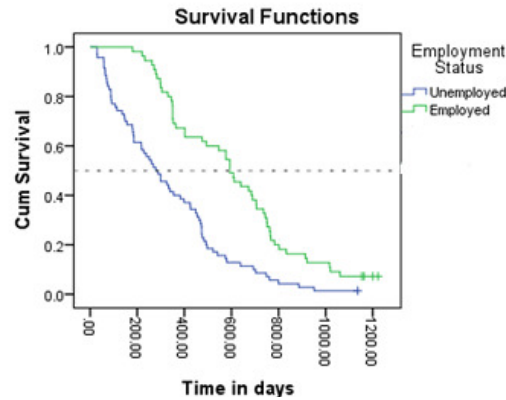


Table2 shows a semi-parametric model. The model assumes that each variable affects recidivating rates in a multiplicative and constant-over-time way. The baseline hazard is assumed to be constant for all the conviction-free ex-prisoners. Although, most of the historically potential determinants of recidivism considered in the current study could not explained hazard of recidivism among the participants but their contribution to the model fitness is noteworthy. And omnibus test, which is significant, confirmed the relevance of the variables included in the model. In our model specification, age was used as a continuous variable, centered around the mean while other covariates categorical. The hazard ratio for employment using the employed category as a reference is calculated thus: $HR = e^{0.906}$ i.e. $HR=2.474$. Meaning those who remained unemployed prior second conviction were 2.475 times more likely to indulge in criminal acts that could lead them back to prison. Also, those who were convicted as a result of committing assault, stealing, and possession of hemp are 1.071, 1.213, and 1.107 time likely to recidivate than other form of offence but the relationship was not statistically significant at 95% confidence level. Likewise, a unit increase in age of ex-convict reduces the hazard of recidivating by $100(1-0.995)\%$ i.e. it reduces the hazard by 0.5% after adjusting for other factors. Also, single or married ex-convicts are respectively 24.8% or 5% less likely to recidivate than widower category. In a similar fashion, those with tertiary or secondary education have 9.5% or 19.4% lesser chance to recidivate than their counterparts with basic education.

Table 2: Cox proportional Hazard of Recidivism among Ekiti & Olokuta Inmates

| | B | SE | Wald | df | Sig. | Exp(B) | 95.0% CI for Exp(B) | |
|--------------------|-------|------|--------|----|------|--------|---------------------|-------|
| | | | | | | | Lower | Upper |
| AGE | -.005 | .021 | .061 | 1 | .806 | .995 | .954 | 1.037 |
| MARITALSTATUS | | | | | | | | |
| Single | -.285 | .377 | .570 | 1 | .450 | .752 | .359 | 1.575 |
| Married | -.052 | .364 | .020 | 1 | .887 | .950 | .465 | 1.938 |
| EDUCATION ATTAINED | | | | | | | | |
| Tertiary | -.100 | .327 | .093 | 1 | .761 | .905 | .476 | 1.720 |
| Secondary | -.216 | .307 | .495 | 1 | .482 | .806 | .442 | 1.470 |
| EMPLOYMENT | | | | | | | | |
| Unemployed | .906 | .214 | 17.954 | 1 | .000 | 2.475 | 1.627 | 3.764 |
| OFFENCE CATEGORY | | | | | | | | |
| Assault | .069 | .349 | .039 | 1 | .843 | 1.071 | .540 | 2.125 |
| Stealing | .193 | .328 | .348 | 1 | .555 | 1.213 | .638 | 2.307 |
| Possession of hemp | .102 | .362 | .079 | 1 | .778 | 1.107 | .544 | 2.252 |

[Reference categories: widower, primary education, employed, other offence]

The general form of the Cox model was adapted in order to mirror the covariates (age, marital status, educational status and offence categories) in this work. Hence, equation (5) can be expressed as given below:

$$h(t, x) = h_0(t) \exp [-0.005 (\text{Age}) - 0.285M_1 - 0.052M_2 - 0.100 E_1 - 0.216E_2 + 0.906 \text{unemployed} + 0.069C_1 + 0.193C_2 + 0.102C_3] \quad (8)$$

$$M_j = \begin{cases} 1 : & \text{if individuals fall into } j\text{th marital status category} \\ 0 : & \text{otherwise} \end{cases} \quad j=1,2,$$

$$E_j = \begin{cases} 1 : & \text{if individuals fall into } i\text{th education category} \\ 0 : & \text{otherwise} \end{cases} \quad j=1,2,$$

$$C_i = \begin{cases} 1 : & \text{if individuals fall into } i\text{th offence category} \\ 0 : & \text{otherwise} \end{cases} \quad i=1,2,3$$

4.0. Discussion of Results

The prevalence of recidivism within 3-year follow-up period in Ado-Ekiti and Olokuta Prison is about 49%. This indicates that almost half of the subjects under study within the follow-up period recidivated. This is a pointer towards the need for urgent intervention. Moreover, results of the preliminary analysis of recidivists' data in both states revealed that 58.4% of the inmates are not married. This result was not substantive enough to contradict findings in the reviewed literature (Yan & Janku, 2009) where singles were adjudged to have recidivated more than their counterparts. Marriage related issues might also be responsible for the escalation of recidivating rate among married as compared to singles or widowers.

Results of the preliminary analysis of recidivists' data in both states which showed that 52% of the inmates had basic or higher education is consistent with the history and nature of the indigenes of that region (in Nigeria). This region is about the most educated population in Nigeria. In addition, analysis of the offence categories showed that 46.4% of the inmates were re-convicted of stealing. This shows that the most prevalent of all the offence categories is stealing and this is also in agreement with national report where stealing was also documented as the most prevalent (NBS, 2016).

Among the risk factors of recidivism, unemployment is undoubtedly the most discussed. Results showing that 56% of the inmates in this study were unemployed validate what has been widely reported by some researchers that unemployed people are more likely to recidivate than their employed counterparts (Tripodi et al, 2010). It is shown that unemployment increases recidivating rate by $(HR-1)*100\%$. i.e. by 147.5%. This is an indicative of precarious situation of unemployment and the need for urgent intervention. It was argued that unemployed offenders may find it difficult to prosecute their cases due to lack of fund. This may not justify the inequality as some among the employed were also convicted as a result of job related issues. Therefore, it could be more informative as our basis for comparison is based on survival time rather than mere preliminary analysis (frequencies).

The median survival time for Ekiti prison inmates was higher than that of Ondo state prisoners. None of the inmates in Ondo prison who was unemployed survived beyond five hundred (500) days. This was not the case among Ekiti inmates where point-to-point survivorship was very close. As reported elsewhere, younger ones usually indulge in vices that can often lead to persistent conviction (Oruta, 2016) but our findings revealed no clear distinction in the age contribution to time spent out of prison before second conviction in discordant to what was reported in another study (WYSAC (2008). Also, the nature of crime committed prior to the first conviction does not contribute significantly to conviction-free survival.

5.0. Conclusion

Our findings posit a considerable proportion of recidivism among the inmates and it is higher among unemployed and those whose offence was stealing. Kaplan-Meier curves to the survival times were compared by using Cox-Mantel Log Rank comparison test. The null hypothesis that assumed equality of curves was rejected at 95% confidence level for employment status only. Whereas, KM curves for marital status, educational background, offence category and age were not significantly different. This is consistent with the preliminary analysis using Chi-square test. It leads to the conclusion that unemployment is the major cause of recidivism. It then follows that lack of jobs after release makes ex-convict return to committing crimes and consequently returning to the prison. Unemployment in this fold may result from stigmatization of ex-convicts rendering them unemployable.

Also, absence of statistical relationship between risk factors (marital statuses, Educational background, Offence Categories, Age) and Recidivism does not imply that these variables do not influence recidivism, they do, but with only minimal effects and are inadequately explained in the model.

Results of the mean/median survival time of inmates show that in both states, married ex-convicts recidivated earlier than singles and the average time until recidivating is 453 days. This leads to the conclusion that people in Ondo State return to prison early compare to Ekiti State. In age group, people who are within the age group 25-34 returned to prison earlier than the other age categories during the first 400 days. In Offence Category, people who committed assault returned to prison early compared to others. Lastly, we observed that people with primary education recidivate early compare to others in this category.

Recommendation

The history of punishment has shown that the trend in penal policy has been to move away from infliction of physical pain and emotional suffering. Yet, the situation in Nigeria seems to contradict these logical assumptions. Here in Nigeria, there seems to be a steady move towards more and more imprisonment with all the pains, suffering and humiliation that it entails. In order to avert this situation which undoubtedly lead to recidivism, this study has made the following recommendations:

- (i) Provision of more intensive rehabilitation and reformative services within Nigeria prisons
- (ii) Increase funding by the government so as to enhance correctional and rehabilitative programmes in the prisons.
- (iii) Vocational training in prisons should be expanded and adequately equipped so as to prepare the ex-convict for discharge. Empowerments and funding also should be made available in form of loans and interventions by government with effective follow-up in order to put the training to professional practice.
- (iv) The public should adopt positive attitude towards ex-convicts. This could be done by re-integrating them into the social system after their release and Laws prohibiting stigmatization of ex-convicts should be enacted to discourage the act.
- (v) The government should create employment opportunities for ex-convicts.
- (vi) Finally, other non-institutional methods of punishment such as fines, restitution, restoration and parole should be used in cases of common offenders.

References

- [1] Abrifor C.A., Atere A.A., Muoghalu C.O. (2012), Gender differences, trend and pattern of recidivism among inmates in selected Nigeria prisons. *European Scientific Journal*, 8(24): 25-44
- [2] Andersen S.H., Andersen L.H., Skov P.E. (2015), Effect of Marriage and Spousal Criminality on Recidivism, *Journal of Marriage and the Family*. 77(2): 496-509.

- [3] D.G. Kleinbaum & M. Klein (2005), *Survival Analysis, A self-learning Text* Springer, Second Edition, 2005.
- [4] Evans Makori Oruta (2016), *Socio-Economic Factors That Influence Recidivism in Kakamega County, Kenya*. *Journal of Law, Policy and Globalization* : Vol.47,pp***
- [5] Freeman, R. (2003). *Can we close the revolving door? Recidivism vs. employment of ex-offenders in the U.S*, Urban Institute Reentry Roundtable, Washington, D.C.
- [6] Iorizzo, Jane (2012), *Helping Offenders Find a Way Out of Recidivism*, *Learning Disability Practice* 15 (5): 22-24.
- [7] John Howard (2009). *Crime and unemployment: what is the link?* Factsheet (24), John Howard Society of Ontario SSN:1857-7881 (Print) e-ISSN 1857-7431
- [8] Tenibiaje DJ 2013. *Educational attainment and peer group influence as predictors of recidivism*. *International Review of Social Sciences and Humanities*, 5(1): 30-37.
- [9] Tripodi S, Kim JS, and Bender K ,2010. *Is Employment Associated with Reduced Recidivism?: The Complex Relationship between Employment and Crime*. Faculty Publication, College of social Work, Florida State University
- [10] van Schellen M., Apel R., & Nieuwbeerta P. (2012). “Because you're mine, I walk the line”? marriage, spousal criminality, and criminal offending over the life course. *Journal of Quantitative Criminology*, 28 , 701–723. doi:10.1007/s10940-012-9174-x/
- [11] McElfresh, R., Yan, J. & Janku, A. (2009) *Juvenile Offender Recidivism Report: A 2009 Statewide Juvenile Court Report*. Submitted to Supreme Court of Missouri Office of State Courts Administrator.
- [12] Skeem, J. & Peterson, J. P. (2010). *Major risk factors for recidivism among offenders with mental illness*. (On-line: <http://www.riskreduction.soceco.vci.edu/wp-content/uploads/2010/12/CrimNeedsCSG-Revised-Clean.pdf> Assessed 20/05/2014).
- [13] Oluyemi Adetunji Stephens and Norma M. Nel (2014). *Recidivism and Emotional Intelligence of Male Recidivists in Lagos State, Nigeria*. *Kamla-Raj: J Psychology*, 5(2): 115-124
- [14] WYSAC (2008) *Recidivism Survival Analysis of the Serious and Violent Offender Reentry Initiative 2003-2007*, by M. McLean & S. Butler. (WYSAC Technical Report No. CJR-801). Laramie, WY: Wyoming Survey & Analysis Center, University of Wyoming.
- [15] Roger Arthur Bowles and Chris Florackis, (2007), *Duration of the time to reconviction: Evidence from UK prisoner discharge data*, *Journal of Criminal Justice*, **35**, (4), 365-378
- [16] National Bureau of Statistics (2016). *Crime statistics, Nigerian prisons. Summary Report*. National NBS, Abuja Nigeria. April 2016.
- [17] Janku A.D & Yan J (2009). *Exploring Patterns of Court-Ordered Mental Health Services for Juvenile Offenders: Is There Evidence of Systemic Bias?* *Criminal justice and behavior*, 36(2009). PP. 402-419