

THE ROBUSTNESS OF BECKER'S ECONOMIC THEORY IN EXPLAINING CRIME

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ABSTRACT

Becker's work on economics of crime in 1968 has contributed to our general understanding of blue collar crime and punishment, and hence, governments of developed countries have invested extensively to address crimes associated with the poor. This paper aims at testing the robustness of the economics of crime theory pioneered by Becker using evidence from youths in Malaysia. Instead of applying the model to the adult criminals by using macro level data, this paper tests it using youth offenders in Malaysia. The evidence shows that punishments meted out to offenders do not sufficiently take into account the risks and rewards associated with them, suggesting that the direct relationship between penalty and intensity of crime is not a sufficient condition to deter crime. The empirical results show that youths are more likely to commit crimes when the gap between rewards and risk is higher than or otherwise. However, the evidence also shows the strong influence of the genetic and socio-cultural variables, such as gender. In other words, there are also other factors which influence a youth crime beyond the simplistic economic rationale advanced by Becker. Clearly there is more than one factor influencing youths to commit crime. Being dominant in societies, males more than females, appear to be more susceptible to indulging in illegitimate activities, such as crimes.

Keywords: youth crime, poverty, economic crime model, Becker model

1. INTRODUCTION

Albeit it is still contested, the empirical evidence shows that the punishment system in the Juvenile Justice System is generally commensurating with the intensity of crime committed by youths. In Malaysia, several court adjudications

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are pointers to the penalties meted out to criminals, the number of which reflects the intensity of crimes committed in the country (Lee and Rasiah, 2015). However, vivid examination of youth crimes in the country warrants the unravelling of the causes, which if profoundly studied and tackled will help check its expansion.

A common question in the minds of many has been whether the poor are susceptible to committing more crimes than others. In a very logical sequence of analysis, Becker³ (1968) demonstrated that the gap between rewards received and the risks of getting caught for committing an offence against the expected utility is the critical factors that largely explain common crimes. This gap is assumed to be low among the poor as the utility of small gains will be high. Using this theory, the poor and blue collar workers are likely to easily commit crime because of the utility of the small gains for them. The same theory also predicts that blue collar workers would require higher gains against the risks so that the higher the wealth or income endowment enjoyed by an individual the higher gain he or she will expect.

The majority of empirical studies on the economic causes of crime have used macro-level aggregate data. They have used either time series or cross-sectional data at the national, state or city levels (see Pyle, 1983) with the exception of Manski (1978) and Witte (1980) who used micro-level data to study adult criminal behaviour. Also, Levitt (1998) and Faisal (2004) studied juvenile crime and punishment using micro level data, which was based on an economic model of individual decision-making. Similar micro-level data was used by Faisal (2004), for estimating the determinants of youth crime.

We do acknowledge that there will always be exceptions to the rule, and hence, some crimes will show a mediating influence of risk between utility and reward. However, the general Becker (1968) rule tends to hold with all other factors are deemed to observe rational behaviour. Based on the foregoing, this article sets out to examine Becker's argument on the basic causes of crime in order to determine the critical variables that underpin youth crime in Malaysia. The rest of the paper is organized in six sections. Section 2 discusses the methodology adopted to examine Becker's postulation. Section 3 uses Becker's arguments to develop the conceptual framework of the paper. The analytic equations are specified and expected relationships are presented in Section 4. Section 5 analyses the statistical results and the findings. The paper finishes with the conclusions in Section 6.

³ Gary Stanley Becker (2 December 1930 – 3 May 2014), was an American economist and a professor of economics and sociology at the University of Chicago, United States. The study of economics of crime initiated by Becker in 1968 has contributed significantly to our understanding of crime and punishment. In 1992, Becker was awarded the Nobel Memorial Prize for his great contributions to the field of Economics Sciences.

2. METHODOLOGY AND SPECIFICATION OF VARIABLES

Early known work on the economics of crime in the English language was undertaken in the West, particularly in the United States (see, Levitt, 1996; Ahmed, Doyle and Horn, 1999; Raphael and Winter-Ebmer, 2001; Gould, Weinberg and Mustard, 2002). More research on the economics of crime emerged later, including in Britain (e.g. Cassel and Bernstein, 2001; Helfgott (2008), New Zealand (Winkelmann (2000), Germany (Sengler, 2002) and Spain (Rodriguez, 2003) and Sweden (Edmark, 2005).

We attempt to test Becker's (1968; 1993) theory on the economics of crime committed by youth offenders in Malaysia. The sample does have a bias in that it contains only offenders, and hence it is not a full assessment of Becker's theory. Nevertheless, the focused sample of the possible motives among them.

2.1 Sample Characteristics

Data was collected from a survey of 243 respondents who filled up a questionnaire. The demographic characteristics are shown in Table 1. The gender breakdown of the sample was 58% males and 42% females. The ethnic breakdown was 88.5% Malays, 5.4% Indians and 4.9% Chinese. The age group 16-18 years and 19-20 years dominated the sampled offenders the time the crimes were committed. Based on education, 88.9% had secondary education and the remaining 11.5% had primary education.

Table 1 : Demographic Characteristics of Respondents

Characteristics	N	Percentage
Gender		
(i) Male	141	58%
(ii) Female	102	42%
Ethnicity		
(i) Malay	215	88.5%
(ii) Chinese	12	4.9%
(iii) Indian	13	5.4%
(iv) Others	3	1.2%
Age when crime was committed		
(i) 13-15 years old	28	11.5%
(ii) 16-18 years old	126	51.9%
(iii) 19-20 years old	89	36.6%
Education		
(i) Primary (Std 4 - Std 6)	27	11.1%
(ii) Secondary (Form 1 - form 6)	216	88.9%
Lack of pocket money led to crime		
(i) Yes	164	67.5%
(ii) No	79	32.5%

Source: Authors' survey (2006 and updated in 2017)

2.2 Intensity of Crime

Criminal behaviour could be measured in terms of crime rates or intensity of crime. For the purpose of this study, the latter is chosen for thorough analysis. Intensity of Crime (IC) is sub-divided based on two different concepts. First, the concept assumes intensity of crime as proxy for criminal behaviour or crime per se, while the second concept uses intensity of crime to represent the 'rewards' gained by the offender or criminal who commits the crime. In this study, it is presumed that the youth offender gets the 'rewards' after the offence might have been committed. The largest offenders reported the lack of pocket money as the cause of their crime (67.5%).

The rewards attributed to the crime could be in monetary or non - monetary gains. The former could be calculated in dollar and cents, for example the value or the worth of the stolen goods or property whereas the latter, cannot be quantified in monetary terms rather it is measured in terms of emotional and psychological satisfactions such as happiness or ego achievements. Crime of passions and crimes involving physical harm are good examples of rewards of 'non-monetary gains. Besides acting as a measure of criminal behaviour, IC is used to calculate the gap between rewards and risk.

Table 2 tabulates the scoring of crimes by looking at their seriousness. The crime for running away was scored as zero while murder was scored as 15 with other crimes scored within this range. Interestingly most females have been remanded for running away from their homes without permission.

Table 2 : Intensity of Crime

No.	Types of Offences	Intensity of Crime
1.	Running away from home, incorrigible behaviour	0
2.	Running away from rehabilitation centre	1
3.	Drug addict	2
4.	Outrage modesty	3
5.	Possession of drug	4
6.	Motorcycle theft	5
7.	Running away from drug rehabilitation centre	6
8.	Selling/trafficking of drug	7
9.	Possession of stolen goods	8
10.	Theft	9
11.	Break in	10
12.	Robbery	11
13.	Extortion	12
14.	Murder without intention	13
15.	Rape	14
16.	Murder	15

Source: Authors' Survey (2006 and updated in 2017)

2.3 Penalties

The penalty index was computed by normalizing the period of imprisonment, fine and whipping if any. The normalizing formula is: $(X_i - X_{\min}) / (X_{\max} - X_{\min})$ where X , i , \min and \max refer to the variable, the i th value, minimum value, and maximum value respectively. The index scores presented in Table 3.

Table 3 : Penalty Index Computed Using Imprisonment, Fine and Whipping

Years of Imprisonment (Y)/2	Fine (F)	Whipping (W)	PI
0	No Fine (0)	No Whipping (0)	0.00
2	No Fine (0)	No Whipping (0)	0.10
2	No Fine (0)	No Whipping (0)	0.10
2	No Fine (0)	No Whipping (0)	0.10
2	Fine(1)	No Whipping (0)	0.10
4	Fine (1)	No Whipping (0)	0.20
5	No Fine (0)	Whipping (1)	0.25
5	Fine(1)	No Whipping (0)	0.25
5	Fine (1)	No Whipping (0)	0.25
7	Fine(1)	No Whipping (0)	0.35
10	Fine (1)	No Whipping (0)	0.50
10	Fine(1)	No Whipping (0)	0.50
10	Fine(1)	Whipping (1)	0.50
10	Fine(1)	No Whipping (0)	0.50
12.5	No Fine (0)	Whipping (1)	0.63
20	No Fine (0)	No Whipping (0)	1.00

Source: Authors' Survey (2006 and updated in 2017)

2.4 Estimation of Explanatory and Control Variables

The dependent variable used in this exercise is the penalty index, while the explanatory variables are the gap between risk and reward, and poverty (measured by pocket money since school kids are the offenders). The control variables used are gender, ethnicity and age. The penalty index (PI) was already explained earlier. Hence, the focus here is on the explanatory and control variables.

2.4.1 Explanatory Variables

Gap between Risks and Rewards

In this study, the gap between rewards and risks or its acronym (ICP) is measured by the deductions of the penalty index from the intensity of crime. The data on intensity of crime and penalty index are taken from Tables 2 and Table 3. It is assumed that the higher the gap of ICP, the more likely that a youth will commit a crime. In other words, a youth will likely commit crime when the reward is higher than risk. Likewise if the gap of ICP is lower, it is less likely that the youth will commit a crime. It supposes that the youth will not commit crime when there is little or no reward in comparison with the risks involved. However, since a separate variable is used to pick up poverty, which also indirectly measures the utility of reward, the gap between risk and reward in this exercise only measures the gap between PI and IC.

Pocket Money

Becker (1968) posited that the poor are highly predisposed to commit crime in light of high utility that is derivable from carrying out such act. Hence, the economic factor i.e. poverty is an important determinant of youth crime especially for youths from poor homes. The chosen variable is pocket money given to the youth, which is tenable in that teenagers and youngsters have greater access to it rather than family incomes.

Pocket money (PM) is therefore used as proxy to poverty. Due to difficulty of gathering precise figures, six categories were used here, viz., high (10), quite high (8), moderate (6), low (4), very low (2) and none (0). Pocket money is used as estimated as: $PM = 0$ where no pocket money was enjoyed by the offender and $PM = 10$ where the respondent gave high pocket money.

The hypothesis rests on the probability that the lower the pocket money the more likely that youth would steal. Out of the total number of respondents, 67.5% reported that they got little pocket money will encourage crime; while the remaining 32.5% did not accept the assumption that little pocket, and that had a strong influence on their decision to steal (see Table 1). It is pertinent to note that little

or no pocket money is a strong index of poverty owing to the fact that parents provide their young ones with some form of allowance to keep them contented, which subsequently dissuades them from stealing and other deviant behaviour. It is a good proxy for poverty as poor families generally offer little or no pocket money to their school going children.

2.4.2 Control Variables

Gender

Gender (G) is used as a control variable here, but it will also be included to examine its influences statistically. Gender is estimated as: $G = 1$ when the respondent is a male and $G = 0$ when the respondent is a female.

Age

Age (A) which is undoubtedly an important factor could not be used in the regression owing to multi-collinearity associated with gender. A separate test is rather enumerated to examine if intensity of crime soars since some crimes are committed by youths of about 20 years of age.

Education

We assume that education (E) plays an important role in a youth's ability to think before committing crimes. Education is represented as: $E =$ actual school level at the time of an offence was committed.

3. ANALYTICAL FRAMEWORK

According to Becker (1968), the economic rationale for committing crime involves an economic activity where crimes are committed at the margin when there is a utility which is taken as a function of the gap between the risks associated with it against the rewards to be gained from committing it. It is an activity that consumes time and effort and at the same time yields economic benefits to the perpetrator (see also Winter, 2008). The theoretical model is applicable to an individual, in this case a youth who has two choices, either to indulge in a legitimate activity for example going to school or committing an illegitimate activity i.e. to commit a

criminal activity. The model describes an individual or a youth's choice between school and crime as a source of income (future income for investing in education in schools). School and crime are regarded as alternative activities that cannot be carried out at the same time.

Following Becker's (1968) articulation of the incidence of crime model, the following general specification is formulated here.

$$Y_{ic} = f(\beta_1, \beta_2, \beta_3, \beta_4, \beta_5).$$

Where Y_{ic} is a dichotomous variable, which takes the value of 1 if individual i commits a crime and zero if otherwise. Vector β_1 , denotes deterrence factor that refers to the gap between reward and risks associated with criminal acts, Vectors β_2 , β_3 and β_4 refer to the individual characteristics of gender, education and age. Vector β_5 refers to poverty (pocket money), which is considered to influence the decision of youths whether or not to commit crime.

Stemming from the behavioural framework as discussed above, the factors influencing a youth's decision to commit crimes can be framed as follows:

$$IC = Z(\text{rewards-risk gap, gender, education, age pocket money}) \dots \dots \dots (1)$$

In Equation (1), IC is a dependent variable which represents the criminal behaviour. Independent variables in this equation are reward-risk gaps, gender, education, age and pocket money which are used to see the impact of these values.

According to Becker (1968), crime could be deterred through punishment. The question here is, could this premise be applied to youth offenders? So far the empirical evidences are ambiguous. The studies by Levitt (1998) and Mocan and Rees (2005) are in concordance with Becker's theory by affirming that increase in the incapacitation rates and arrest rates had reduced criminal activities among juveniles. On the other hand, empirical studies produced by Freeman (1996) and Faisal (2004) were sceptical about the effect of punishment on criminal activities among young Americans. All these studies were United States based.

The empirical evidence on youth criminal behaviour clearly shows that in Malaysia the punishments imposed on the youth offenders commensurate with the intensity of crime committed. Heavier punishment is imposed on those who commit higher intensity of crime (Lee and Rasiah, 2015). Consistent with economic theory of rational choice, youth offenders and potential offenders will react to heavier punishment by committing less crime.

Nevertheless, the burning issue in Malaysia is whether the punishments to youth offenders are sufficient and strong deterrents to forestall further crimes. If the punishment system is a sufficiently strong deterrent then the courts could use this as a guideline to continue its punishment policy. If it is not, then the courts or judges presiding over juvenile or youth cases should increase the penalty. Against this backdrop, it has become imperative to examine if the gap between rewards and risks for committing crime is a critical factor for a youth to consider when deciding to commit crime or otherwise. In making further contributions to this issue, the following hypothesis will be tested in order to provide better guidance: Is (i) the gap between reward and risk against utility in the decision making of a youth when committing a crime? And (ii) the poor is likely to commit crime more than others. Thus, both the above hypotheses will be tested.

From equation (1),

$$IC = Z \text{ (risk-reward gaps, gender, education, age, pocket money)}$$

In creating this empirical model, a functional form for IC is assumed (from Equation (1)). We then take the log of IC and log of reward-risk gap variable, giving:

$$\ln(IC) = \alpha + \beta_1 \ln(ICP) + \beta_2 G + \beta_3 E + \beta_4 A + \beta_5 PM + \mu \dots\dots\dots(2)$$

The dependent variable is the natural log of IC. The primary independent variable is the reward-risk gap variable (ICP), which estimates utility. In addition to conception of the risk and reward measure, a number of control variables are included in order to control for other factors that influence intensity of crime among the youths. The terms α and μ are the constant and error terms. The control variables are gender, education, age and pocket money.

4. MODEL SPECIFICATION AND EXPECTED RELATIONSHIP

The following model was specified to estimate the relationship between IC, and ICP and PM, and the control variables:

$$Tobit: IC = \alpha + \beta_1 ICP + \beta_2 G + \beta_3 E + \beta_4 A + \beta_5 PM + \mu \dots\dots\dots(3)$$

Using the Becker (1968) logic, the expected relationships of independent variables with dependent variable, intensity of crime are shown in Table 1. It is expected that ICP is positively related to IC because it is logical and rational

that higher gains from committing a crime will encourage oneself to commit the crime. Next, the expected relationship between G and IC should be significant as gender is defined by genetic properties and socio-cultural orientation. Given the higher earning capacity effected by higher levels of schooling, the relationship between E and IC should be negative. We assumed a positive relationship between IC and Age (a) as youths get more experience with age to commit crime. Last but not least, the expected relationships between PM (proxy to poverty) should negatively correlate with IC. This is also consistent with the Becker model, as the gap between risks and reward is lower for the poor as the utility of small gains will be high for the poor and low for the rich.

**Table 4 : Variables and their Relationships with Dependent Variable
i.e. Intensity of Crime**

Independent Variables	Acronym	Expected Relationships with Dependent variable
Gap between Intensity of Crime and Penalty Index	ICP	+ve
Gender	G	+ve
Education	E	-ve
Age	A	+ve
Pocket Money	PM	-ve

Source: Authors' Survey (2006 and updated in 2017)

5. STATISTICAL RESULTS AND ANALYSIS

This section uses E-views 5 packages to compute the data and applies statistical instruments to examine the relationship between the gaps inherent in reward and risk and the youth criminal behaviour (which is measured by intensity of crime) and other determinants which influence the youth to participate in criminal activities.

5.1 Descriptive Statistics

The descriptive statistics results are shown in Table 5. All the means are statistically significant at the 1% level. The ICP variable is also statistically highly significant and takes a score of 0.26. The PM variable has a mean of 2.4 against the maximum score possible of 10, which is very low. We dropped Age because it was not significant.

Table 5 : Critical Statistics

Variable	Mean	Std. Dev
IC	5.69*	5.11
ICP	0.26*	0.23
G	0.58*	0.5
E	8.65*	1.66
PM	2.4*	1.455

Note. *refers to one-tail t tests significant at 1% level.

Source: Authors' survey (2006 and updated in 2017)

5.2 Statistical Relationships

This section presents the statistical relationships between IC, and ICP and PM, and while controlling for other variables. The results shown in Table 6 generally confirm expected relationships (see Table 4). The analysis of results is explained below.

Relationship between IC and ICP

From Table 6, it is clear that ICP correlates positively with IC and it is statistically highly significant at 1%, which means that a youth decides to commit crime when the gap between reward and risk is higher. The bigger gap between reward and risk suggest that the youth will continue to commit crime even though the punishment is heavy. In other words, it shows that, though punishment is a deterrent to crime, it has been insufficient to deter youths from committing more crimes. The positive coefficient on ICP variable confirms the premise of Becker's (1968) model, which posits that punishment, could deter crime.

Relationship between IC and Gender

Unlike the Becker model, the result also shows that G positively correlates with IC and is statistically highly significant at 1% level, which implies that male youths have a very high tendency to commit crime compared to female youths. The crime male youths commit is also of higher intensity compared to their female counterparts. For example, it is discernible that cases like robbery, abduction, rape,

extortion and murder are mostly committed by male offenders. Contrary to the rationale advanced by Becker (1968), this could be attributed to genetic and socio-cultural factors, which make the males more aggressive and exposed to outdoor life (Scutt, 1978).

Relationship between IC and Age

IC showed no relationship with age, when run two-way with IC, and as a control variable in the regression. We dropped it from the regressions because of collinearity problems between Age and Gender. Separate sensitivity tests show that youth crime is low in age categories below 14 and jumps as the age categories rise above 14 years. Since age was used as a control variable in this study, no attempt was made to turn age into a dummy variable.

Relationship between IC and Education

Education of the youth is statistically significant but only at the 10% and the negative coefficient supports the analytical model used in the chapter implying that more educated youths are less likely to commit serious crimes than less educated youths. This is consistent with the rationale advanced earlier that the greater employability, as well as being longer in the schooling stream of the more educated youths are likely to reduce the incidence of participation in crimes.

Relationship between IC and MP

The results show that PM is correlated negatively with IC and is also statistically highly significant at 1%, suggesting that youths from poor backgrounds are likely to commit crime more than others. At this stage it may seem that the Becker (1968) is replicated as this is the economic rationale behind his starting theorisation. However, more careful assessments are required before firmer conclusions can be drawn as we did not take the population as a whole that included those who committed and those who did not commit crimes.

Table 6 : Tobit Regression of Intensity of Crime

	α	ICP	G	E	PM	N=243
Coefficients	-7.149**	19.853**	9.324*	-0.267***	-0.558*	X ² =16.40
P-value	0.051**	0.000*	0.000*	0.104***	0.008*	LL= -460.67

Note. * = statistically significant at 1%
 ** = statistically significant at 5%
 *** = statistically significant at 10%

Source: Authors' survey (2006 and updated in 2017)

5.3 Focused Drivers of Crime Intensity

Because the independent variables of age and gender were correlated, the following tobit regression is run again by retaining in the independent variables of ICP and G:-

$$\text{Tobit: IC}_1 = \alpha + \beta_1\text{ICP} + \beta_2\text{G} + \mu \dots \dots \dots \text{Equation (2).}$$

The results are presented in Table 7. ICP and G are positively correlated with IC and are statistically highly significant at 1%. The higher the gap between the risk and reward associated with crime the higher the intensity of crime that is likely to be committed. Also, males are more likely to commit serious crimes than females.

Table 7 : Tobit Regression with Intensity of Crime (IC1) as Dependent Variables and ICP and G as independent Variables

	α	ICP	G	N=243
Coefficients	-2.212*	18.569*	10.789*	X ² = 16.40
P-value	0.000*	0.000*	0.000	LL = 460.67

Note. * = statistically significant at 1%

Source: Authors' survey (2006 and updated in 2017)

We further analysed the relationship between IC, and, ICP and PM using a more skewed measure of IC. A tobit regression is run again by retaining the independent variables such as ICP and PM as shown in Equation (3):

$$\text{Tobit: IC}_2 = \alpha + \beta_1\text{ICP} + \beta_4\text{PM} + \mu \dots \dots \dots \text{Equation (3)}$$

The results in Table 8 showed that ICP positively correlates with IC, PM negatively correlates with IC, with both being statistically highly significant at 1% level. It means that the likelihood of committing serious crimes rises with rising gap between risk and reward. Also, the poorer youths having low or no pocket money are also likely to commit serious crimes in order to get by as compared to the others that have pocket money.

Table 8 : Tobit Regression with IC2 as Dependent Variable and ICP and PM as independent Variables

	α	ICP	PM	N=243
Coefficients	-0.993	25.885	-1.982	X2 = 16.40
P-value	0.29	0.000*	0.000*	LL = 460.67

Note. * = statistically significant at 1%

Source: Authors' survey (2006 and updated in 2017)

Table 9 shows the comparison between IC₁ and IC₂ which clearly shows that ICP, G and PM are the main determinants of crime among youths. IC₂ is produced a better result as the constant in the regression is not significant suggesting that the results do not suffer from endogeneity problems. In other words, a male youth from a poor family background will commit crime owing to the expected higher utility not minding the heavy punishment that comes with such a crime.

Table 9 : Comparison between IC₁ and IC₂

Variable	IC1	IC2
ICP	18.569* (0.000)*	25.885* (0.000)*
G	10.789* (0.000)*	-
PM	-	-1.983* (0.000)*
α	-2.212* (0.000)*	-0.993 (0.29)
N	243	243

Note. * = statistically significant at 1%

Source: Authors' survey (2006 and updated in 2017)

6. CONCLUSION

This paper tested the robustness of the economics of crime theory pioneered by Becker (1968). Instead of applying the model to the adult criminals by using macro level data, the test was done on youth offenders using micro data from Malaysia. Although it does not include the majority of non-offenders to affect the results, the focus on just youth offenders is of immense effect as it draws in only those committing crimes.

The evidence allows us to conclude that punishments meted out to offenders do not sufficiently take into account the risks and rewards associated with them, suggesting that the direct relationship between penalty and intensity of crime is not a sufficient condition to deter crime. The empirical results show that youths are more likely to commit crimes when the gap between rewards and risk is higher than otherwise. However, the evidence also shows the strong influence of the genetic and socio-cultural variables that are distinct to gender. In other words, there are also other factors which influence a youth crime beyond the simplistic economic rationale advanced by Becker.

The evidence in this study shows that there is more than one factor influencing youths to commit crime. These other factors include gender, education and poverty to mention but a few. As expected in any society, be it Western or Asian, males are always assuming dominating roles in the society and thus, more susceptible to indulging in more illegitimate activities such as committing more crimes than females. Hence, it is useful to examine more carefully if the relationship between youth crime and poverty is defined by economic factors alone. In order to establish this, further study has to be carry out on a detailed set of case studies.

It is also important to note that the most serious crimes, such as murder with intent were not committed by youths that enjoyed little pocket money, suggesting that it is important to examine causes of such crimes using different approaches. In others words, the Becker (1968) model is unlikely to explain why people plan to commit murder. Such a study may require the use of socio-psychological methodological instruments. Also, future studies on Becker's (1968) framework should include randomised samples of particular population, including those who have committed and those who have not committed crime.

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