WELFARE : Jurnal Ilmu Kesejahteraan Sosial
ISSN : 2685-8517, (p) 2302-3759
Vol. 12, No. 1 (2023), pp.32-49
doi: 10.14421/welfare.2023.121-03
https://ejournal.uin-suka.ac.id/dakwah/welfare/index

Unraveling Crime Dynamics in Indonesia: Exploring the Impact of Population Density, Poverty, Average Years of Schooling (RLS), and Open Unemployment Rate (TPT) in Java in 2020

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Received: 16 Okt 2022.; Revised: 16 Okt 2023; Accepted: 26 Des 2023

Abstract: The fluctuating crime rate in Indonesia, particularly in the moderate category, highlights the intricate interplay of various factors influencing criminal activities. This research endeavors to uncover the correlations among different variables contributing to crime by utilizing a cross-sectional approach based on secondary data sourced from the 2021 BPS data. The study discerns a positive correlation between population density and the open unemployment rate (TPT) in relation to crime. Conversely, poverty and the average years of schooling (RLS) exhibit a relatively minor impact. During the examination of these relationships, it became evident that the population density variable exerts both direct and indirect influences on crime.
The indirect connection is established through the impact of population density on the poverty rate, which subsequently exerts a positive and direct influence on crime. Consequently, it is apparent that population density stands out as the predominant factor influencing the crime rate on Java Island. To address this, interventions targeting the decomposition of population density are essential, particularly through initiatives aimed at fostering increased solidarity. This is imperative because the correlation between population density and poverty, contributing to an escalation in crime, results in a decline in individual trust levels, fostering competition for resource access. This heightened competition, in turn, precipitates struggles that contribute to the emergence of criminal activities.

Keyword; *socio-economy factors, path analysis, direct effect, indirect effect*

Abstrak: Penurunan tingkat kriminalitas di Indonesia yang fluktuatif dengan jumlah kriminalitas dalam kategori sedang mencerminkan keragaman faktor yang mendeterminasi tindakan kejahatan. Penelitian ini bertujuan untuk menemukan hubungan antar varibel yang mempengaruhi tindakan kriminalitas dengan menggunakan *cross sectional* terhadap sumber data sekunder yang diperoleh dari data BPS 2021. Penelitian ini menemukan hubungan positif antara kepadatan penduduk dan tingkat pengangguran terbuka (TPT) terhadap kriminalitas. Sedangkan kemiskinan dan rata-rata lama sekolah (RLS) berpengaruh kecil. Dalam proses pengujian hubungan ditemukan variabel kepadatan penduduk memiliki pengaruh langsung dan tidak langsung terhadap kriminalitas. Hubungan tidak langsung ditemukan melalui pengaruh kepadatan penduduk terhadap tingkat kemiskinan yang berpengaruh positif dan langsung terhadap

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kriminalitas, sehingga varibel dominan yang mempengaruhi tingkat kejahatan di Pulau Jawa bersumber dari kepadatan penduduk. Intervensi yang dibutuhkan dalam penguraian kepadatan penduduk diperlukan melalui peningkatan solidaritas. Hal ini disebabkan hubungan kepadatan penduduk terhadap kemiskinan yang menyebabkan peningkatan kejahatan berdampak pada pengurangan tingkat kepercayaan individu yang menjadi pendorong persaingan terhadap akses sumber daya. Persaingan ini pada akhirnya memunculkan perebutan yang memunculkan beragama tindakan kriminalitas.

Kata Kunci: *faktor sosial ekonomi, analisis jalur, pengaruh langsung, pengaruh tidak langsung*

INTRODUCTION

Criminality, characterized as social conduct conflicting with established community rules (Lamond, 2007), has declined in Indonesia. According to the (Badan Pusat Statistik (BPS), 2021), data released by the Central Statistics Agency (BPS), crime rates in Indonesia decreased between 2017 and 2020. Despite this decrease, Indonesia's crime index is categorized as moderate (see Figure 1) according to the Numbeo criteria (Numbeo, 2022). The varying intensity of criminality in Indonesia (Insurly, 2020) is likely the result of multiple interconnected factors that drive conflicting and harmful actions. Lochner (Lochner, 2020) argues for a positive correlation between education levels and job opportunities, potentially suppressing criminal behaviors. Increases in salaries are also considered an indirect factor influencing efforts to mitigate criminality (Braun, 2019). The interaction of these diverse variables contributes to fluctuating patterns of crime rates in Indonesia.

Figure 1.
Indonesia Crime Index 2015-2020

Various studies have overlooked a thorough examination of the diverse interconnected factors, both direct and indirect, that contribute to understanding the fluctuating nature of criminality in Indonesia. Previous research has typically concentrated on three facets of the issue. First, the lack of knowledge is highlighted by Melan Bandi et al. (Bandi et al., 2023) and Kevin Regianda et al. (Regianda et al., 2022), who attribute criminality to a deficiency in awareness of the resulting consequences. Second, environmental influence was underscored by Yeni. Sinaga and Ahmad M. Anshori (Sinaga & Anshori, 2022) and Bambang Hartono et al. (Hartono et al., 2021), Febrizal Antama and Mukhtar Zuhdy (Antama & Zuhdy, 2021), and Nora Faradila (Faradila, 2022), indicating that the environment propels individuals to act contrary to established rules. Thirdly, economic problems are emphasized by Andini (Andini, 2021), Ryan Dirgantara (Dirgantara, 2020), Retno R. Utami and Martha K. Asih (Utami & Asih, 2021) identified meeting needs as a determinant factor in criminal actions. Despite these three commonly identified aspects addressing primary concerns, they overlook the examination of other dominant determinants crucial for shaping preventive efforts aimed at minimizing criminal actions.

This study seeks to rectify the deficiencies of prior studies by investigating the relationships between variables and the rise in criminality. To accomplish this goal, this study focuses on two main issues. First, the correlations between criminality and various influencing variables were explored. The identification of these relationships utilizes a curve-diagram model. Second, the impact of criminality quantity on variables, both directly and indirectly, was examined. This relationship test was also performed between variables to identify the key variables that have the potential to influence others and are directly linked to an increase in criminality. The two main issues discussed aim to uncover the interdependence of variables as the foundation for finding solutions to criminality on Java.

This research is based on the hypothesis that the level of criminality, as the dependent variable (Y), is influenced by other variables serving as its independent variables (X). The hypotheses of this study can be formulated as follows:

H1: Population density affects poverty.

H2: The average length of schooling influences poverty.

H3: Population density influences criminality.

H4: The open unemployment rate affects criminality.

H5: The amount of poverty influences criminality.

H6: Average length of schooling influences the level of criminality.

METHODS

Data Sources

This study utilizes cross-sectional secondary data from the 2020 edition of the "In 2021 Figures" publication by BPS, along with dynamic tables available on the official BPS website. This study encompasses 112 regencies and cities across six provinces in Java: DKI Jakarta, West Java, Central Java, Yogyakarta, East Java, and Banten. However, it is important to note that this study has limitations regarding crime data for each district/city in Java. Information on the number of crimes reported in 2020 is available for only 112 of the 119 regencies/cities in Java. The seven districts/cities not included in the study were Bekasi, West Bandung, Pangandaran, Bekasi City, and Depok City in West Java, as well as Tangerang City and South Tangerang City in Banten. Table 1 provides a detailed description of the variablesvided in Table 1.

Table 1. Variables Used

Data (1)	Variable (2)	Source (3)	Period (4)
Number of incidents of criminality	Y	Publication of "Province in Figures 2021"	2020
Population density	X1	Publication of "Province in Figures 2021"	2020
Open Unemployment Rate (TPT)	X2	Publication of "Province in Figures 2021"	2020
Number of poor people	X3	Publication of "Province in Figures 2021"	2020
average length of schooling (RLS)	X4	Dynamic Table IPM BPS 2021	2020

Analysis Methods

Path analysis was first introduced by Wright in 1920. Initially, it was used to study color derivatives in animals. However, over time, its application has expanded to examine socioeconomic issues. Fidelis & Sunday (2018) highlighted a key distinction between path analysis and regression analysis, noting that path analysis is flexible. In path analysis, the position of variables in the model can be altered, and interactive effects can be explored, allowing for the creation of different models from the same set of variables.

One practical use of path analysis is to construct a decomposition model that focuses on causal relationships, while excluding non-causal or correlational relationships

(Sarwono, 2011). In this study, the collected data were transformed into natural logarithms (Ln) to simplify the values and meet assumptions. The steps for conducting path analysis are as follows:

1. Form a path diagram and structural equation. The path diagram of this study is as follows.

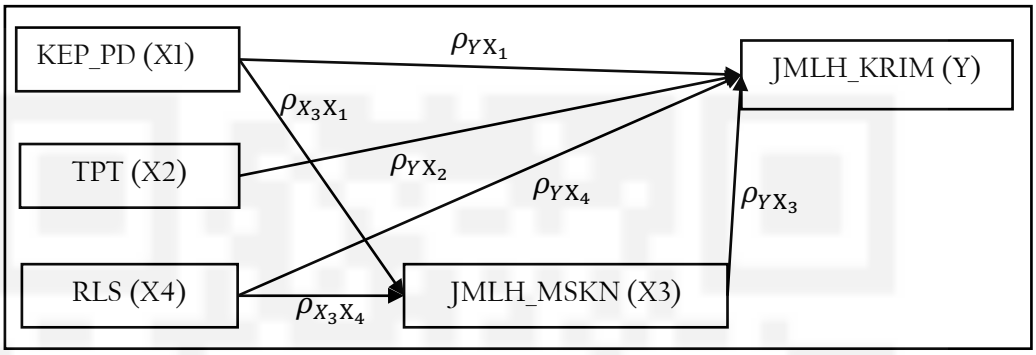


Figure 2.
Path diagram in research

The equation that can be formed from the research path diagram is as follows:

$$\text{JMLH_MSKN} = \rho_{X_3 X_1}\text{KEP_PD} + \rho_{X_3 X_4}\text{RLS}$$

$$\text{JMLH_KRIM} = \rho_{YX_1}\text{KEP_PD} + \rho_{YX_2}\text{TPT} + \rho_{YX_3}\text{JMLH_MSKN} + \rho_{YX_4}\text{RLS}$$

2. Conduct assumption testing, which involves assessing the assumptions of error normality, linearity, and multicollinearity in path analysis. Analysis can proceed if all of the following assumptions are satisfied.

a. Error Normality:

In this study, normality in errors is assessed using the Kolmogorov-Smirnoff test. The hypotheses for this test are:

- H_0: The error is normally distributed
- H_1: The error is not normally distributed

The decision to fail to reject H_0 is made when the p-value exceeds the 5 percent significance level, indicating that the error follows a normal distribution.

b. Linearity:

To test data linearity, this study employs the Lack of Fit test available in the application. The hypotheses for this test are:

- H_0: There is no linear relationship between exogenous variables and endogenous variables

- H_1: There is a linear relationship between exogenous variables and endogenous variables

H_0 is rejected if the linearity value is below the 5 percent significance level, signifying a linear relationship between the two variables.

c. Multicollinearity:

Multicollinearity among variables is examined using the Variance-Inflating Factor (VIF) value. If the VIF value exceeds 10, it indicates multicollinearity between explanatory variables. Conversely, a VIF value below 10 suggests the absence of multicollinearity between explanatory variables.

3. Estimation of Path Coefficients involves using the Ordinary Least Square (OLS) method and standardized regression coefficients.
4. Testing the Path Coefficients is conducted both jointly (simultaneously) and individually (partially).
   a. Simultaneous testing of coefficients.

      Performed using the F test with hypotheses such as the following::

      $H_0 : \hat{\rho}_{YX_1} = \hat{\rho}_{YX_2} = \ldots = \hat{\rho}_{YX_k} = 0$

      H_1 : there is at least 1 $\hat{\rho}_{YX_i} \neq 0$, where i = 1,2,..,k

      H_o is rejected when the p-value exceeds the 5 percent significance level, indicating that the combined impact of exogenous variables influences endogenous variables.

   b. Individual coefficient testing

      Performed using a t test with the following hypothesis:

      $H_0 : \hat{\rho}_{YX_i} \leq 0$

      $H_1 : \hat{\rho}_{YX_i} > 0$, where i = 1,2,..,k

      The decision to reject the null hypothesis H_o is made when the p-value exceeds the 5 percent significance level, indicating that the exogenous variable has an impact on the endogenous variable.

   c. Calculates the direct, indirect influence, and total effect of each exogenous variable on the endogenous variable. Details of the calculation will be presented by Table 2.

Table 2. Variables Used

Variable Path	effect		
	direct	Indirect	Total
(1)	(2)	(3)	(4)
KEP_PK – JMLH_MSKN	$(\hat{\rho}_{X_3 X_1})^2$	-	$(\hat{\rho}_{X_3 X_1})^2$
RLS – JMLH_MSKN	$(\hat{\rho}_{X_3 X_4})^2$	-	$(\hat{\rho}_{X_3 X_4})^2$
KEP_PK – JMLH_KRIM	$(\hat{\rho}_{YX_1})^2$	$\hat{\rho}_{YX_3} x\, \hat{\rho}_{X_3 X_1}$	$(\hat{\rho}_{YX_1})^2 + (\hat{\rho}_{YX_3} x\, \hat{\rho}_{X_3 X_1})$
TPT – JMLH KRIM	$(\hat{\rho}_{YX_2})^2$	-	$(\hat{\rho}_{YX_2})^2$
JMLH_MSKN – JMLH_KRIM	$(\hat{\rho}_{YX_3})^2$	-	$(\hat{\rho}_{YX_3})^2$
RLS – JMLH KRIM	$(\hat{\rho}_{YX_4})^2$	$\hat{\rho}_{YX_3} x\, \hat{\rho}_{X_3 X_4}$	$(\hat{\rho}_{YX_4})^2 + (\hat{\rho}_{YX_3} x\, \hat{\rho}_{X_3 X_4})$

RESULTS AND DISCUSSION

Identification of crime-increasing variables in Java Island

A crime is a social action conducted by an individual or group that violates established rules in a particular area (Ballantine & Roberts, 2010). The understanding of the concept of crime varies based on different tendencies and perspectives. In the context of sociological concepts, situational factors influence the determinants leading to an increase in crime (Newman & Clarke, 2016). The environment is deemed to contribute significantly to both the rise and fall of crimes. This concept introduces other factors, such as the economy, education, and environment, as the primary variables affecting crime (Eysenck & Gudjonsson, 1991).

Data from the Central Statistics Agency (BPS) recorded 78,166 crime cases in Indonesia in 2021. Among these, the island of Java ranks second after Sumatra (Badan Pusat Statistik (BPS), 2021). DKI Jakarta Province had the highest number of crimes, totaling 26,585 cases. This makes DKI Jakarta the only province on Java Island with a crime rate exceeding 20,000 cases (Figure 3).

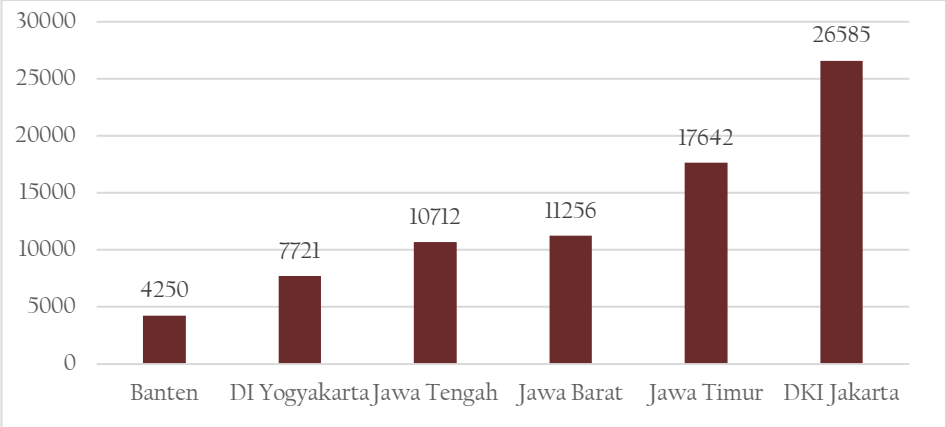
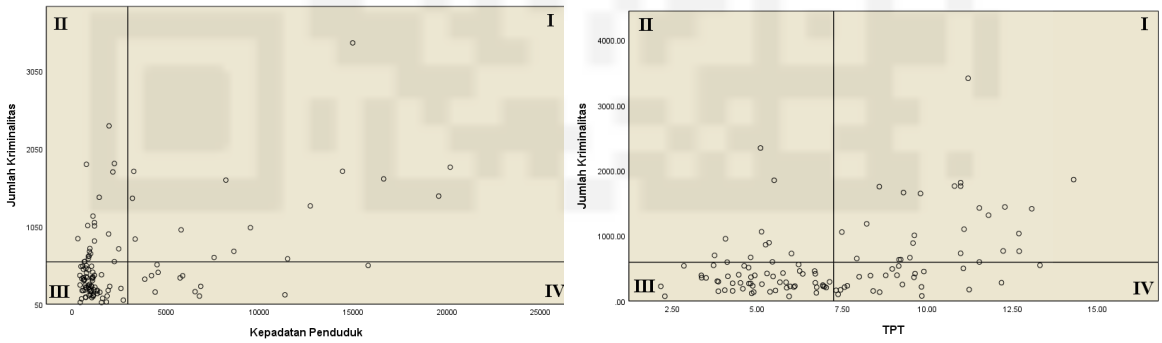


Figure 3.
Number of crimes in Java 2020

The Banten Province had the lowest number of crimes, recording 4,250 cases. When examined in sequence, the indications of crime on Java appear to be connected to its population size. This correlation is corroborated by Harahap's (Harahap, 2013) study, which demonstrates the relationship between social problems in densely populated areas and crime rates. However, other variables might also potentially influence the increase in crime in certain areas.

This section explores potential factors influencing the increase in crime in Indonesia. The exploration begins with the testing of each variable that has the potential to impact the rise in crime using quadrant diagrams. Examination of the effect of population density on crime (Figure 4a) reveals that ideal conditions lie in Quadrant 3, indicating that low population density is associated with low crime rates.



(4a) (4b)

Figure 4. The effect of population density and TPT on crime

A similar situation is observed for the RLS variables, where the dots tend to populate quadrants 1 and 3, forming an ascending or positive linear pattern. This pattern indicates

that the increase in crime in low-density areas was not influenced by the level of education attained.

The quadrant diagram revealed a significant correlation with the areas in Java identified as crime-prone. Among the 20 regencies/cities in quadrant I on the island of Java, this reflects the social reality of residents lacking employment opportunities. This observation aligns with the high population density in these cities, as reported by the (Kementrian Dalam Negeri RI, 2021). Consequently, the dominant variables influencing the rise in crime on Java Island are associated with the Open Unemployment Rate (TPT) and dense population. Regarding the TPT issue, the three provinces in Java exhibit higher TPT compared to all provinces in Indonesia. This finding aligns with Ismah (2015) findings, which indicate that unemployment and income reduction contribute to crime. In contrast to TPT and population, the poverty rate and number of school dropouts impact crime on a smaller scale.

Several variables influencing the crime rate, notably the Open Unemployment Rate (TPT) and population density, exhibit a correlation with a community's ability to meet daily needs. The limited employment opportunities in densely populated areas positively correlate with crime, aligning with the findings of Ikhsan and Amri (Ikhsan & Amri, 2023), Widya Gustriani Harahap et al. (Gustriani Harahap et al., 2023), and Fani et al. (Hariyantia et al., 2021), who identified population density as a determining factor affecting crime. Population density is linked to the unemployment rate and contributes to criminality (Gustriani Harahap et al., 2023). The impact of population density also renders poverty and education levels negative and insignificant (Hariyantia et al., 2021). Noneconomic factors, presented as the primary factor by Lilik Sugiharti et al. (Sugiharti et al., 2022), emerge as dominant and significant variables in escalating criminal acts.

In contrast, this study finds that poverty and education levels have a minimal influence on crime, diverging from the conclusions of Abdila et al. (Alfianita Abdila et al., 2022), Gunuboh (Gunuboh, 2023), and Manhica (Manhica et al., 2021) emphasize the dominant role of poverty in crime escalation. The discrepancy in results is more pronounced for non-economic drivers in demographic regions, motivating individuals to be more proactive in actions to meet daily needs. John Anders et al. (Anders et al., 2023) identify a reduction in crime through improved education, achieved by meeting economic needs through the provision of non-economic resources. The inclination of non-economic

variables to dominantly influence crime correlates with the challenges of fulfilling limited living needs, which are primarily attributable to high population density.

Effect of Variable on the Increase of Criminality in Java Island

The identification of the primary factor affecting the rise in crime on Java emerged from examining the path coefficients of each equation. Before conducting the path coefficient test, the analysis began by testing the assumptions of normality, linearity, and multicollinearity (see Table 3).

Table 3. Test Results of Normality, Linearity, and Multicollinearity Assumptions

Equation (1)	Value *Exact Sig. Uji Kolmogorov Smirnoff* (2)	Variable (3)	Value *Sig. Linearity* (4)	VIF Value (5)
1	0,256	KEP_PD	0,000	1,018
		RLS	0,000	1,19
2	0,722	KEP_PD	0,000	2,89
		TPT	0,000	1,245
		RLS	0,003	4,177
		JMLH_MSKN	0,002	2,578

Table 3 indicates that the significance value of the Kolmogorov-Smirnoff test for each equation is greater than 0.05 or fails to reject H_0. Therefore, it can be asserted that the error in each equation was normally distributed. Additionally, the linearity significance values are all less than 0.05 or reject H_0. This leads to the conclusion that all variables have satisfied the linearity assumption. Similarly, in multicollinearity testing, it is evident that all variables in each equation have a VIF value of less than 10, indicating the absence of multicollinearity symptoms between the independent variables. Consequently, it can be affirmed that each equation fulfills all the necessary assumptions for the path analysis.

The fulfillment of all assumptions renders the path analysis viable. The equations derived from this study are as follows:

Structural Equation 1

$$\text{JMLH_MSKN} = 0{,}681\ \text{KEP_PD} - 0{,}539\ \text{RLS}$$
$$R^2 = 0{,}753$$

Structural Equation 2

$$\text{JMLH_KRIM} = 0{,}260\ \text{KEP}_{\text{PD}} + 0{,}219\ \text{TPT} + 0{,}370\ \text{JMLH_MSKN} + 0{,}473\ \text{RLS}$$
$$R^2 = 0{,}506$$

The coefficient of determination for structural equation 1 is 0.753, indicating that 75.3 percent of the variability in the number of poor people can be explained by the variables population density and the average length of schooling (RLS), while the remaining 24.7 percent is attributed to variables not considered in this study. In structural equation 2, the coefficient of determination is 0.506, signifying that 50.6 percent of the variability in the number of crimes can be explained by the variables population density, open unemployment rate (TPT), number of poor people, and average length of schooling (RLS), while the remaining 49.4 percent is accounted for by variables not included in this study.

Subsequently, the formulated path coefficients undergo significance testing, both collectively and individually. Joint testing employs the F test, whereas independent testing utilizes the t test. The outcomes of the significance test for the path coefficients are detailed in Table 4.

Table 4. Results of Calculating F-count, t-count, and p-value Each Equation

Variable (1)	F-count (2)	t-count (3)	*p-value* (4)	Kesimpulan (5)
Equation 1	166,492		0,000	Significant
KEP_PD		14,316	0,000	Significant
RLS		-11,34	0,000	Significant
Equation 2	27,403		0,000	Significant
KEP_PD		2,251	0,026	Significant
TPT		2,883	0,005	Significant
JMLH_MSKN		2,664	0,009	Significant
RLS		4,333	0,000	Significant

The results obtained the simultaneous significance of the path coefficients. In the context of Structural Equation 1 (see Table 4), the p-value is 0.000. This outcome is deemed significant, signifying that both population density and RLS collectively affect the number of poor people. Similarly, Structural Equation 2 yields a p-value of 0.000, indicating that population density, TPT, the number of poor people, and RLS collectively influence the number of crimes.

Conducting independent significance testing yielded p-values for all variables below 0.05, rejecting H_0. In Structural Equation 1, population density and RLS are identified as variables that partially affect the number of poor people. In Structural Equation 2, population density, TPT, number of poor people, and RLS are recognized as variables that partially affect the number of crimes (see Figure 6).

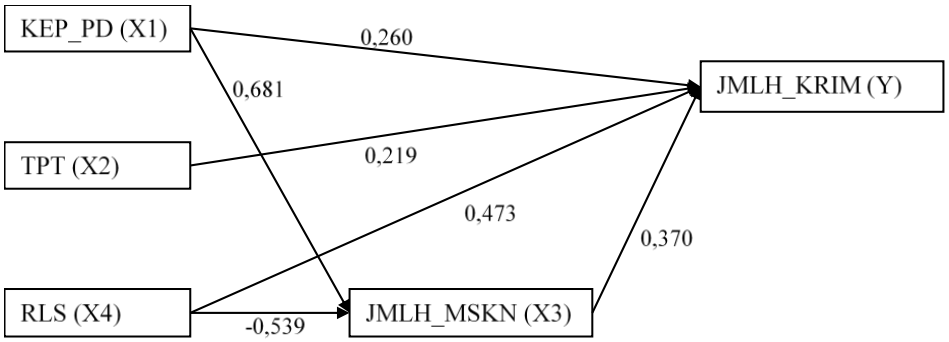


Figure 6.
Path diagram and coefficient of the research path

The path diagram provides insights into the direct, indirect, and total effect of each variable on crime. A detailed depiction of the relationships between variables is presented in the following table:

Table 1. Direct and Indirect Effects of Variables on the Number of Crimes

Variable Path (1)	Path Coefficient (2)	effect		
		Direct (3)	Indirect (4)	Total (5)
KEP_PD – JMLH_MSKN	0,681	0,463761	-	0,463761
RLS – JMLH_MSKN	-0,539	0,290521	-	0,290521
KEP_PD – JMLH_KRIM	0,260	0,0676	(0,681 x 0,370) = 0,25197	0,3196
TPT – JMLH KRIM	0,219	0,047961	-	0,047961
JMLH_MSKN – JMLH_KRIM	0,370	0,1369	-	0,1369
RLS – JMLH KRIM	0,473	0,223729	(-0,539 x 0,370) = -0,19943	0,024299

Table 5 demonstrates that population density significantly affected the increase in poverty (0.463761). The positive path coefficient (+0.681) in the relationship between population density and poverty indicates that, as the area becomes denser, the number of poor people in the area also increases. This observation aligns with Dalimunthe (2017) research, which emphasizes a strong correlation between population density and the number of poor people, resulting in a diminished quality of life. Christiani et al., (2014) support this, stating that increased population density leads to a decreased quality of life and challenges in prospering due to an inability to meet life's necessities.

Population density exerts a direct influence on the number of crimes (0.0676) and an indirect influence of 0.25197 through the number of poor people variable, resulting in a total influence of 0.3196. In other words, the variable population density affected the

number of crimes by 31.96 percent. The positive sign of this path coefficient indicates that an increase in the population density leads to an increase in the number of crimes. This aligns with the findings of Sabiq (2019) and Fajri dan Rizki (2019), who highlight that population density increases crime by fostering community competition. Furthermore, quality of life, as reflected in the number of crimes, is influenced by population density (Silvia & Ikhsan, 2021).

The TPT variable has a direct influence on the number of crimes (0.047961), contributing 4.79 percent directly. The positive coefficient (0.219) implies that an increase in TPT will elevate the number of crimes. This is consistent with the research conducted by Nabila et al. (Nabilah et al., 2021) and Sianturi (2020), which established that unemployment significantly influences crime. Simultaneously, the number of poor people directly affects the number of crimes (0.1369), contributing to 13.69 percent. The positive coefficient in this path signifies that an increase in the number of poor people will escalate the number of crimes, in line with Dulkiah & Nurjanah (2018) observation that poor individuals tend to commit crimes to fulfill their needs.

The RLS variable indirectly influences crime through its effect on the number of poor people. The total influence of the RLS variable on the number of poor people was 0.290521, indicating a direct contribution to the number of poor people by 29.05 percent. The negative sign of this coefficient suggests that a higher average length of schooling corresponds to fewer poor people in the area. This aligns with the findings of Ishak et al. (2020) and Reavindo (Reavindo, 2021), who demonstrate that RLS has a negative influence on poverty.

RLS directly affects the number of crimes by 0.223729 and has an indirect influence through the number of poor people by -0.19943. The total effect of RLS on crime was 0.024299, contributing 2.43% to the number of crimes. This presents an intriguing phenomenon considering that education is typically regarded as a means of enhancing well-being and reducing crime. However, this finding was in line with Ervina's (2020) study. Nucci et al. (2014) also noted the senior high schools that might be incompletely to encompass moral and character education. Edwart & Azhar (2019) further added that individuals with extensive knowledge might have increased opportunities to engage in white-collar crimes such as corruption.

Solidarity as a served Social Welfare in Overpopulated Areas

The positive linear relationship between overpopulation and crime rates highlights Java's vulnerability. A similar positive linear relationship was observed for average length of schooling. Poverty and open unemployment exhibited a weak linear relationship with crime. The results of the path analysis reinforced the connections between various variables, demonstrating the direct positive impact of overpopulation on crime. Other variables that positively influence crime, such as poverty, open unemployment (TPT), and average length of schooling (RLS), are directly influenced by overpopulation. This underscores that overpopulation is the dominant factor impacting poverty, open unemployment, and average length of schooling, significantly contributing to criminal behavior.

Overpopulation, which leads to limited access to resources, is a determining factor in the creation of a constrained societal state. This limitation prompts economic pressure on the community to meet its daily needs. Boserup (Boserup, 2014) argues that population growth in an area prompts various technical changes in society to fulfill personal needs. Changes in the technical mechanisms for resource access accelerate their utilization, creating resource scarcity, intensifying competition, elevating tensions, and potentially increasing crime (Crank, 2003).

The indirect impact of crime, influenced by population density, restricts resource access, and alters the dynamics of social networks. The gradual loss of community and trust diminishes social support and citizen interaction. Thomas Greider et al. (Greider et al., 1991) describe a similar reality, stating that population density leads to changes in communication patterns, reducing solidarity levels. A decline in solidarity affects social, economic, and cultural disparities, fostering individualism and uneven economic growth (Calnitsky, 2018). This, in turn, affects access to education and unemployment, directly correlating with poverty.

The main challenge in reducing crime rates in high-density areas is the diminishing social sensitivity. The ideal conditions for addressing this issue, as suggested by Douglas (Douglas, 2021), involve fostering a sense of community in densely populated areas. Contrary to popular belief, the primary concern for individuals in these areas is not the fear of poverty, unemployment, or crime but a desire for a peaceful environment (Kohm, 2009). Enhancing social dynamics, restoring solidarity, and improving access to resources can mitigate criminal activity resulting from overcrowding. Javad Nouri (Nouri et al., 2022)

also advocates for this approach in addressing the consequences of population density. Intervening with overcrowding issues by promoting increased solidarity emerges as a potential solution to combat crime without resorting to mass migration.

The identification of key crime determinants by researchers often emphasizes verifiable factors, such as the environment, economy, and education. However, such assessments are often limited. Economic-related crime is proposed to be alleviated through enhanced economic policies (Bandi et al., 2023; Regianda et al., 2022); environmental influences are addressed through character development (Faradila, 2022; Hartono et al., 2021); and knowledge improvement through increased socialization is suggested to reduce crime rates (Andini, 2021; Dirgantara, 2020). Notably, various studies have overlooked the variables that influence low education, impacting knowledge, economic problems, and the environment. The factors identified in previous research are linked to population density, identified in this study as direct factors contributing to economic problems, open unemployment (TPT), and average length of schooling (RLS).

CONCLUSION

This study diverges from prior research by identifying economic, educational, and unemployment factors as determinant variables subject to partial testing in the escalation of crime. The study reveals that the positive correlation of these factors with crime is primarily driven by population density, which directly impacts their emergence. Population density also has a positive and direct influence on criminal acts. This relationship is further supported by quadrant diagrams that illustrate the correlation between population density and increased crime. Consequently, efforts to curb crimes should be pursued without resorting to mass migration.

The non-exodus mechanism proposed in this study is rooted in the perspective of community development in areas with high population densities, as exemplified in Java. Adopting this perspective is expected to foster increased solidarity and address the fundamental needs of individuals in densely populated areas as a solution to reducing crime. However, it is essential to note that the solutions presented in this study are theoretical and lack practical testing. The limitations of this study serve as an entry point for future studies to either reinforce or critique the findings.

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