Research Article

Psychological and Cognitive Dimensions of Murder and Corruption in Jamaica: A Time-Series Analysis (2002–2025)

Paul Andrew Bourne[1*] and Nicola Brown[2]

[1]*Adjunct Professor, Northern Caribbean University (NCU), Manchester, Jamaica, WI*
[2]*Director of Nursing, National Chest Hospital, Kingston, Jamaica, WI*

Abstract

Murder and corruption represent interlinked structural and psychosocial challenges in Jamaica. While corruption has traditionally been examined as an institutional or economic phenomenon, less attention has been given to its psychological and cognitive implications for violent behaviour. This study examines the longitudinal relationship between homicide and perceived public-sector corruption in Jamaica using annual data from 2002–2025. An ARIMAX (1,1,1) model was estimated to assess whether corruption perception (Corruption Perceptions Index, CPI) predicts changes in homicide. The findings indicate that while improvements in CPI are negatively associated with homicide changes ($\beta = -12.717$), the effect is statistically insignificant ($p = 0.378$). Homicide dynamics are instead strongly driven by autoregressive persistence ($\varphi_1 = 0.556$, $p = 0.028$) and significant shock correction ($\theta_1 = -0.9999$, $p = 0.002$). These results suggest that lethal violence in Jamaica is primarily shaped by internal criminogenic momentum rather than immediate shifts in corruption perception. From a psychological standpoint, corruption may function as a structural stressor that erodes institutional trust, fosters cognitive normalization of deviance, and weakens moral inhibition mechanisms. However, its effects appear indirect and mediated by entrenched gang dynamics, retaliatory cycles, and social learning processes. The current findings contribute to the literature by integrating macro-institutional modelling with psychological and cognitive theories of violence.

Introduction

Jamaica has experienced persistently high homicide rates over the past three decades, positioning it among the most violent countries in the Caribbean [1]. Annual murder counts have frequently exceeded 1,000, with notable peaks during periods of heightened gang activity and social instability. Parallel to these trends are enduring concerns regarding public-sector corruption and institutional trust, which influence citizens' perceptions of law enforcement and judicial effectiveness [2]. The co-existence of high homicide and corruption raises questions about whether governance quality indirectly affects violent crime. Theoretical frameworks suggest that weak governance may operate through psychological and cognitive mechanisms, including erosion of legitimacy, moral disengagement, and diminished collective efficacy, thereby shaping individual and community-level propensity for violence [3,4]. Understanding these dynamics requires integrating criminological and psychological perspectives to examine whether perceived corruption influences homicide trends. This dual focus highlights the interplay between structural conditions and behavioural outcomes in the Jamaican context.

Research Gap

There is a notable paucity of longitudinal studies in Jamaica that explicitly test the dynamic relationship between perceived corruption and homicide. Most existing analyses are cross-sectional or descriptive, providing limited insight into temporal dynamics and causal pathways. Moreover, prior studies rarely integrate psychological and cognitive frameworks,

SHRINE PUBLISHERS
Crafting your Achievement

Advance Research in Psychology and Behavioural Sciences (ARPBS)

ISSN: 3069-2059

Volume 3 Issue 2, 2026

Article Information
Received date: February 13, 2026
Published date: February 25, 2026

***Corresponding author**
Paul Andrew Bourne, Adjunct Professor, Northern Caribbean University (NCU), Manchester, Jamaica, WI

DOI: 10.65070/ARPBS.2026.226

Keywords
Caribbean; Cognitive mechanisms; Corruption Perceptions Index; Social learning theory

such as institutional legitimacy theory, social learning theory, general strain theory, and moral disengagement, with macro-level econometric models. Without this integration, the literature provides only a partial understanding of how institutional conditions may shape behavioural outcomes related to violence. This gap limits the ability to design interventions that address both structural and cognitive mechanisms influencing homicide. Addressing it requires combining rigorous time-series analysis with theoretically grounded psychological interpretation.

This study, therefore, aims to bridge these gaps by examining the longitudinal relationship between perceived public-sector corruption, measured via the Corruption Perceptions Index (CPI), and homicide in Jamaica from 2002 to 2025. The approach integrates ARIMAX modelling to capture dynamic temporal patterns and assess short-run and lagged effects. By situating the findings within psychological and cognitive theories, the current study offers a nuanced understanding of how governance quality, institutional trust, and moral cognition interact to influence lethal violence. Ultimately, this research seeks to provide evidence not only for criminological analysis but also for targeted policy interventions that address both the structural and psychosocial determinants of homicide in Jamaica.

Research Objective

This study seeks to (1) examine the dynamic relationship between homicide and perceived corruption in Jamaica (2002–2025) using an ARIMAX model; (2) assess whether corruption perception exerts a statistically significant short-run effect on homicide changes; and (3) interpret findings through psychological and cognitive theoretical frameworks to explain potential indirect pathways linking governance and lethal violence.

Theoretical Framework

This study draws upon four complementary theoretical traditions to understand the psychological and cognitive pathways linking corruption perception and homicide in Jamaica. Institutional legitimacy theory posits that public compliance with law depends on perceptions of fairness, transparency, and integrity within governing institutions [9]. When citizens perceive high levels of corruption, trust in law enforcement and judicial systems may be eroded, weakening adherence to legal norms. This loss of legitimacy can reduce psychological inhibitions against violence and increase tolerance for deviant behaviour. By undermining institutional authority, pervasive corruption may indirectly foster environments in which lethal violence becomes more likely. Consequently, legitimacy theory provides a structural and psychological lens for interpreting how governance quality interacts with criminal behaviour.

General strain theory argues that exposure to negative stimuli, such as injustice or institutional betrayal, produces psychological strain that may manifest in anger and aggression [10]. Social learning theory suggests that behaviour is learned through observation and reinforcement, implying that if corruption is normalised, individuals may internalise scripts that legitimise rule-breaking behaviour [11]. Over time, this cognitive normalisation can weaken moral constraints against violence. Moral disengagement theory further explains how individuals cognitively restructure harmful conduct to avoid self-sanction, allowing violence to be justified as necessary or socially acceptable in corrupt environments [12]. Together, these frameworks suggest that perceived corruption may influence homicide indirectly, operating through cognitive, normative, and emotional mechanisms rather than through immediate statistical effects. By integrating institutional and psychological perspectives, this study situates homicide within the broader interplay of governance, cognition, and social behaviour.

Literature Review

Empirical research across Latin America and the Caribbean consistently indicates that weak governance and high levels of corruption are associated with elevated violent crime rates [13,14]. Cross-national analyses reveal that countries characterised by low institutional trust frequently experience higher homicide levels, often mediated by ineffective policing and judicial impunity [15]. Despite these associations, much of the evidence is correlational rather than causal, limiting definitive conclusions about the direct effects of corruption on violent crime. In the Jamaican context, homicide has been closely linked to factors such as gang fragmentation, political patronage networks, and the presence of drug trafficking corridors [5,6]. Harriott [5] argues that historical political clientelism has institutionalised violence within inner-city communities, embedding aggression into social structures. Similarly, Levy [7] emphasises the influence of transnational criminal markets in sustaining organised violent activity. These structural factors often overshadow the potential explanatory role of governance perception in understanding homicide trends.

Psychological and behavioural research further highlights the mechanisms through which corruption and institutional injustice may influence violence. Exposure to systemic injustice has been shown to increase aggression and antisocial behaviour [16], while procedural injustice in law enforcement reduces voluntary compliance with legal norms [9]. Studies in behavioural economics also demonstrate that corruption undermines social trust and weakens cooperative norms, creating environments conducive to crime [17]. Despite these theoretical insights, few studies have combined time-series modelling with psychological perspectives to examine the dynamics of corruption and homicide within a single national context. The existing literature thus suggests strong

theoretical plausibility but provides limited empirical evidence for Jamaica specifically. This gap constrains understanding of how governance and institutional perception interact with entrenched social and cognitive mechanisms influencing lethal violence. By integrating longitudinal econometric analysis with psychological interpretation, this study seeks to address these limitations and provide a more nuanced understanding of homicide dynamics in Jamaica.

Methods

theoretical plausibility but provides limited empirical evidence for Jamaica specifically. This gap constrains understanding of how governance and institutional perception interact with entrenched social and cognitive mechanisms influencing lethal violence. By integrating longitudinal econometric analysis with psychological interpretation, this study seeks to address these limitations and provide a more nuanced understanding of homicide dynamics in Jamaica.

Study Design and Data

This study employs a longitudinal time-series design using annual national-level data from Jamaica spanning the period 2002–2025. The time-series framework allows for the examination of dynamic changes in homicide alongside shifts in perceived public-sector corruption over more than two decades. Annual homicide counts were obtained from official national crime statistics compiled by the relevant governmental authorities responsible for crime reporting and public security documentation (Statistical Department of the Jamaica Constabulary Force). These figures represent recorded incidents of murder within each calendar year and are treated as the primary dependent variable in the analysis. Corruption perception was measured using the Corruption Perceptions Index (CPI), an internationally recognised composite indicator assessing perceived levels of public-sector corruption. The CPI is scaled from 0 (indicating high perceived corruption) to 100 (indicating low perceived corruption), thereby allowing higher scores to reflect stronger perceived institutional integrity.

CPI data are available for Jamaica from 2002 onward, which determines the analytical starting point of the study period (Transparency International). The dataset, therefore, consists of approximately 24 annual observations suitable for parsimonious time-series modelling. Given the relatively small sample size inherent in annual national data, model specification emphasised simplicity and statistical efficiency to avoid over-parameterisation. All variables were examined for stationarity before estimation in order to prevent spurious regression results, particularly because homicide series often display trend persistence. Where necessary, first differencing was applied to achieve stationarity before implementing the ARIMAX modelling framework. The longitudinal structure of the dataset permits assessment of both contemporaneous and dynamic relationships between corruption perception and homicide within Jamaica's evolving institutional and socio-political context.

Model Specification

To assess the relationship:

$$M_t = f(CPI_t)$$

where:

M_t = Annual number of murders at the time t

M_{t-1} = Annual number of murders at the time t-1 (or the previous year)

CPI_{t-1} = Corruption Perceptions Index (CPI) at time t

ε_t = White noise error term

An ARIMAX (AutoRegressive Integrated Moving Average with eXogenous variable) framework was used:

$$\phi(L)(1-L)^d M_t = \alpha + \beta CPI_t + \Theta(L)\varepsilon_t$$

Because homicide exhibited non-stationarity, first differencing was applied:

$$\Delta M_t = \alpha + \phi_1 \Delta M_{t-1} + \beta CPI_t + \theta_1 \varepsilon_{t-1} + \varepsilon_t$$

Statistical Procedures and Interpretation Strategy

Stationarity of the time-series variables was assessed using Augmented Dickey–Fuller (ADF) tests to ensure that the homicide and corruption perception series were suitable for dynamic modelling. Because the homicide series exhibited trend persistence, first differencing was applied where necessary to achieve stationarity and prevent spurious regression results. Model selection followed principles of parsimony, given the relatively small sample size ($n \approx 24$), to avoid over-parameterisation while capturing essential dynamics. The ARIMAX(1,1,1) specification was chosen to account for both autoregressive and moving-average components, while incorporating the Corruption Perceptions Index (CPI) as an exogenous predictor. Statistical significance of estimated coefficients was evaluated at the conventional threshold of $p < 0.05$, with careful attention to the robustness and interpretability of short-run effects. Diagnostic checks were performed to verify model adequacy and the absence of residual autocorrelation or heteroskedasticity.

Beyond purely statistical inference, the results were interpreted within the context of established psychological and cognitive frameworks. Particular attention was given to whether perceived corruption exerted a direct short-run effect on homicide changes or functioned as an indirect structural factor influencing behaviour over time. The analysis considered mechanisms such as institutional legitimacy, moral disengagement, social learning, and

strain-induced aggression to explain observed homicide dynamics. Emphasis was placed on understanding how entrenched criminogenic patterns and cognitive normalisation of violence may mediate the relationship between governance perception and lethal outcomes. This approach allowed for a nuanced interpretation that integrates econometric evidence with behavioural theory. The combination of rigorous time-series modelling and psychological interpretation provides a comprehensive framework for understanding homicide trends in Jamaica.

Findings

strain-induced aggression to explain observed homicide dynamics. Emphasis was placed on understanding how entrenched criminogenic patterns and cognitive normalisation of violence may mediate the relationship between governance perception and lethal outcomes. This approach allowed for a nuanced interpretation that integrates econometric evidence with behavioural theory. The combination of rigorous time-series modelling and psychological interpretation provides a comprehensive framework for understanding homicide trends in Jamaica.

References

Description of Data

Table 1 presents a 26-year longitudinal profile of homicide counts and perceived public-sector corruption in Jamaica, highlighting a complex and partially decoupled relationship between violent crime and governance perception. Between 2000 and 2025, murders fluctuated substantially, ranging from 673 in 2025 (a 60% decrease from the peak of 1,683 in 2009) to the 2009 peak itself, representing a 56% increase from 1,083 murders in 2002. In contrast, the Corruption Perceptions Index (CPI) varied narrowly from 30 to 44, reflecting a 47% improvement over the period but demonstrating much less volatility than homicide. Early 2000s homicide levels were moderate, declining from 1,139 in 2001 to 975 in 2003 (a 14% decrease), while CPI values in 2002–2003 were 40 and 38, respectively. Between 2004 and 2005, murders surged from 1,471 to 1,674 (a 14% increase) despite CPI improving slightly from 30 to 36 (a 20% increase), suggesting that other structural factors, such as gang proliferation, organised crime, drug trafficking, and economic shocks, influenced homicide trends more strongly than corruption perception alone. The 2007–2009 period recorded the highest homicides, peaking at 1,683 in 2009, coinciding with low CPI scores of 30–33, hinting at an indirect link between weak institutional trust and violence, though this association remained correlational rather than causal.

After 2010, murders declined from 1,442 in 2010 to 1,005 in 2014 (a 30% decrease), while CPI improved from 33 to 38 (a 15% increase), indicating potential long-term structural benefits from governance improvements. By 2015, murders slightly rose to 1,192 (an 18% increase from 2014) with CPI at 41 (an 8% improvement from the prior year). Between 2012 and 2017, CPI reached a peak of 44 (a 33% improvement since 2008), yet homicides remained volatile, including a 1,616 count in 2017 (a 35% increase from 2014). From 2018 to 2023, CPI stabilised at 43–44, its highest sustained level, while homicides ranged between 1,287 and 1,508 (14–23% above the 2014 low), indicating that enhanced governance perception alone did not produce immediate reductions in lethal violence. The most dramatic decline occurred in 2024–2025, with murders dropping to 1,141 (a 25% decrease from 2023) and then to 673 (a 41% decrease from 2024), while CPI remained constant at 44. This pattern suggests that short-term homicide reductions likely resulted from intensified security interventions, legislative reforms, and shifts in criminal group dynamics rather than changes in corruption perception. Overall, the data indicate that while governance quality forms the structural backdrop for crime, homicide dynamics are primarily shaped by proximate criminogenic, social, and institutional factors, underscoring the need for longitudinal modelling such as ARIMAX or OLS with structural breaks to quantify the effects of corruption on lethal violence.

Table 1: Annual Number of Murders & Corruption Perceptions Index (2000–2025).

Year	Murders (Count)	% Change from	CPI
2002	1,045	—	40
2003	975	-6.7%	38
2004	1,471	50.80%	30
2005	1,674	13.80%	36
2006	1,340	-19.9%	37
2007	1,583	18.10%	33
2008	1,618	2.20%	30
2009	1,683	4.00%	30
2010	1,442	-14.4%	33
2011	1,124	-22.0%	33

2012	1,087	−3.3%	38
2013	1,200	10.40%	38
2014	1,005	−16.3%	38
2015	1,192	18.60%	41
2016	1,350	13.30%	39
2017	1,616	19.60%	44
2018	1,287	−20.3%	44
2019	1,340	4.10%	43
2020	1,333	−0.5%	44
2021	1,474	10.50%	44
2022	1,508	2.30%	44
2023	1,393	−7.6%	44
2024	1,141	−18.1%	44
2025	673	−41.%	44

Inferential Analysis of Homicide and Corruption in Jamaica

The relationship between homicide and corruption perception in Jamaica (2002–2025) was examined using an ARIMAX(1,1,1) model, where annual changes in murders (M_t) were regressed on contemporaneous Corruption Perceptions Index (CPI) scores, an autoregressive term (M_{t-1}), and a moving-average term (ε_{t-1}) to account for past shocks. Formally, the model is expressed as:

$$\Delta M_t = \alpha + \phi_1 \Delta M_{t-1} + \beta CPI_t + \theta_1 \varepsilon_{t-1} + \varepsilon_t$$

Substituting the estimated coefficients yields the empirical equation:

$$\Delta M_t = -12.717 CPI_t + 0.556 \Delta M_{t-1} - 0.9999 \varepsilon_{t-1} + \varepsilon_t$$

This formulation accounts for both the endogenous momentum in homicide trends and the potential influence of perceived corruption, allowing for contemporaneous and lagged effects. Prior stationarity testing using Augmented Dickey–Fuller tests confirmed that homicide counts were integrated of order one $(I(1))$, while CPI was stationary $(I(0))$, justifying first-differencing in the model.

Table 2: ARIMAX(1,1,1) Coefficients for Jamaica (2002–2025).

Variable	Coefficient	Std. Error	z-value	p-value
CPI	-12.717	14.412	-0.882	0.378
AR(1)	0.556	0.253	2.197	0.028
MA(1)	-0.9999	0.322	-3.103	0.002
σ^2	41,558.71	—	—	—

(Table 2) The ARIMAX results indicate that the CPI coefficient was negative ($\beta = -12.717$), suggesting that a one-point increase in CPI—representing improved governance—would theoretically reduce murders by approximately 13 in the short run. However, this effect was statistically insignificant ($p = 0.378$), indicating that contemporaneous perceptions of corruption do not independently drive short-term homicide fluctuations. By contrast, the autoregressive term ($\varphi_1 = 0.556$, $p = 0.028$) and moving-average term ($\theta_1 = -0.9999$, $p = 0.002$) were significant, highlighting strong temporal dependence and rapid shock adjustment in the homicide series. These parameters suggest that about 56% of the previous year's change persists into the current year, and that unexpected disturbances—such as episodic gang conflicts or intensified policing—are largely absorbed within a single year.

Overall, the findings reveal that Jamaica's homicide trends are primarily determined by internal time-series dynamics rather than by contemporaneous corruption perception. Short-run homicide fluctuations are path-dependent, exhibiting momentum and correction mechanisms, while CPI appears to influence homicide indirectly through structural or institutional channels rather than directly. The sharp reductions in murders observed in 2024–2025, with CPI constant at 44, reinforce the conclusion that governance

perception alone is insufficient to produce immediate declines in lethal violence. Structural interventions such as targeted policing, legislative reforms, and disruption of criminal networks likely explain these short-term decreases more effectively than changes in CPI.

In terms of model fit, the ARIMAX(1,1,1) specification demonstrates moderate explanatory power, with a pseudo-R^2 of approximately 0.41, indicating that 41% of the variation in annual homicide changes is captured by the model. Information criteria (AIC ≈ 340; BIC ≈ 344) support model adequacy and allow comparison with alternative specifications, such as ARIMA models without CPI or models including lagged corruption terms. Most of the explanatory strength derives from the autoregressive and moving-average components rather than the corruption variable, highlighting the importance of temporal persistence and shock-correction in homicide dynamics.

In conclusion, the ARIMAX(1,1,1) analysis shows that while institutional legitimacy theory predicts a negative association between perceived corruption and violent crime, empirical evidence suggests that short-run effects in Jamaica are negligible once endogenous dynamics are accounted for. Future research could improve robustness by incorporating lagged CPI terms, macroeconomic covariates (e.g., GDP, unemployment), or transnational spillover effects, or by estimating a Vector Error Correction Model (VECM) to explore potential long-run equilibrium relationships between governance quality and lethal violence. This integrated approach would allow policymakers to distinguish between structural governance improvements and proximate interventions when designing homicide reduction strategies.

Discussion

Institutional Legitimacy and Psychological Compliance

Institutional legitimacy theory asserts that citizens' adherence to law depends on perceptions of fairness, transparency, and integrity within public institutions [9]. In this study, the ARIMAX model produced a negative but statistically insignificant CPI coefficient, directionally consistent with the theory: higher perceived integrity was associated with reduced murders. However, the absence of significance suggests that improvements in corruption perception alone do not directly translate into behavioural change in the short term. This may reflect the layered psychological reality of violence in Jamaica, where individuals embedded within violent subcultures are influenced more by local norms than national governance signals. Tyler [9] emphasises that legitimacy has its strongest impact when individuals engage directly with institutions, such as police or courts. In contexts where state presence is uneven or weak, corruption perception may operate only as an indirect, structural influence. Consequently, short-term homicide fluctuations are more strongly governed by internal dynamics than by immediate institutional trust.

Cognitive Normalisation and Entrenched Violence

The significant autoregressive coefficient ($\varphi_1 = 0.556$) highlights the persistence of homicide dynamics in Jamaica over time. From a cognitive perspective, repeated exposure to violence normalises aggressive behaviour and desensitises communities to lethal conflict [11,12]. Violence thus becomes routinised, embedded, and self-reinforcing. Bandura's moral disengagement framework [12] provides a lens for understanding how individuals justify violent acts in contexts of historical clientelism, organised crime, and social marginalisation [5]. Cognitive restructuring allows individuals to perceive violence as protective, retaliatory, or economically necessary, reducing internal moral sanctions. Over time, these cognitive scripts perpetuate homicide cycles independently of macro-level governance improvements. Therefore, homicide persistence reflects both behavioural reinforcement and community-level cognitive adaptation rather than immediate shifts in corruption perception.

Strain, Frustration, and Structural Stress

Agnew's general strain theory suggests that exposure to negative stimuli, such as injustice or corruption, generates psychological strain that may manifest as anger or aggression [10]. In Jamaica, persistent corruption perception may contribute to structural strain by reinforcing beliefs that opportunities and resources are distributed unfairly. However, the manifestation of strain often requires mediating factors such as unemployment, poverty, inequality, and social marginalisation [4,13]. The ARIMAX results, showing insignificant short-term effects of CPI, do not invalidate strain theory but rather indicate that its influence operates indirectly through these broader socio-economic mechanisms. In other words, corruption perception may shape the context of frustration and resentment without immediately triggering homicidal behaviour. Thus, understanding the psychological pathways requires integration of macro-level governance measures with mediating social and economic variables. This reinforces the importance of multi-layered explanatory models in explaining homicide fluctuations.

Shock Correction and Systemic Adjustment

The moving-average coefficient ($\theta_1 \approx -1$) in the ARIMAX model signals rapid correction of shocks in the homicide series. Psychologically, this implies that extraordinary events—such as intensified policing, gang crackdowns, or episodic criminal violence—produce temporary deviations in murder counts but are absorbed into pre-existing dynamics. The sharp homicide decline observed in 2024–2025, occurring without any change in CPI,

exemplifies this phenomenon. Such short-term reductions likely reflect operational security interventions, legislative reforms, or the disruption of criminal networks rather than immediate improvements in governance perception. This dynamic demonstrates that while corruption forms part of the structural environment, it does not function as a proximate behavioural trigger. The temporal correction of homicide shocks suggests a system resilient to minor macro-level changes, requiring targeted interventions to produce a substantial short-term impact. Consequently, effective crime reduction necessitates strategies that address both structural conditions and acute disturbances.

Structural Decoupling of Governance and Violence

The analysis highlights a partial decoupling between corruption perception and homicide dynamics. While periods of low CPI coincided with peak murders (e.g., 2008–2009), sustained improvements in CPI did not guarantee prolonged reductions in lethal violence. This finding aligns with comparative research suggesting that institutional reform alone is insufficient without addressing entrenched criminal networks, gang culture, and socio-economic marginalisation [14,15]. At the psychological level, macro-level legitimacy improvements may enhance abstract trust in institutions but fail to alter micro-level cognitive scripts within violent subcultures. Homicide trajectories appear to be shaped more by entrenched behavioural norms, retaliatory cycles, and survival strategies than by immediate shifts in corruption perception. The interplay between structural reform and cognitive adaptation underscores the complexity of crime reduction in Jamaica. Thus, interventions targeting subcultural violence and cognitive moral disengagement may be critical complements to governance improvements.

Integration of Psychological and Econometric Insights

Together, these findings indicate that homicide in Jamaica is primarily driven by internal time-series dynamics, cognitive normalisation, and socio-structural stressors, rather than short-run variations in corruption perception. The ARIMAX(1,1,1) model quantitatively captures path dependence, shock absorption, and persistence effects, while psychological theory provides a lens for interpreting why macro-level improvements in institutional legitimacy may not immediately translate into behavioural change. Corruption perception functions as a structural backdrop, shaping the broader context of frustration and moral disengagement but not as a direct driver of annual homicide fluctuations. This integration underscores the value of combining econometric modelling with cognitive and psychological frameworks to explain complex social phenomena. Policy implications suggest that governance reforms should be paired with community-level interventions, violence prevention programs, and targeted security measures. Future research could expand the model to include mediating socio-economic factors, lagged corruption effects, and transnational crime spillovers. Such an integrated approach would provide a more nuanced understanding of the interplay between governance, cognition, and lethal violence.

Policy Implications

The significant autoregressive coefficient ($\varphi_1 = 0.556$) highlights the persistence of homicide dynamics in Jamaica over time. From a cognitive perspective, repeated exposure to violence normalises aggressive behaviour and desensitises communities to lethal conflict [11,12]. Violence thus becomes routinised, embedded, and self-reinforcing. Bandura's moral disengagement framework [12] provides a lens for understanding how individuals justify violent acts in contexts of historical clientelism, organised crime, and social marginalisation [5]. Cognitive restructuring allows individuals to perceive violence as protective, retaliatory, or economically necessary, reducing internal moral sanctions. Over time, these cognitive scripts perpetuate homicide cycles independently of macro-level governance improvements. Therefore, homicide persistence reflects both behavioural reinforcement and community-level cognitive adaptation rather than immediate shifts in corruption perception.

Policy Implications

Beyond Institutional Reform: Addressing Cognitive Scripts

Anti-corruption reforms remain essential for strengthening long-term legitimacy. However, the findings indicate that governance perception improvements alone will not rapidly reduce homicide. Policy must therefore incorporate community-level psychological interventions aimed at reshaping cognitive norms surrounding violence. Violence-interruption programmes, restorative justice initiatives, and social learning interventions can disrupt retaliatory cycles [11].

Strengthening Procedural Justice in Policing

Even though CPI was not statistically significant, institutional trust remains theoretically relevant [9]. Policing strategies grounded in procedural justice—fair treatment, transparency, and community engagement—may strengthen micro-level legitimacy more effectively than macro-level corruption perception improvements alone.

Integrated Socioeconomic and Psychological Strategies

Because corruption may operate indirectly through structural strain [10,13], integrated policies addressing unemployment, inequality, and youth marginalisation are critical. Psychosocial support services, trauma-informed interventions, and cognitive-behavioural programmes targeting at-risk youth may mitigate the normalisation of violence.

Incorporating Structural Break Analysis

Given the sharp decline in homicide in 2024–2025, future modelling should incorporate structural break variables to identify whether intensified security operations created regime shifts. Policymakers should evaluate whether these interventions produce sustainable reductions or temporary shock corrections.

Long-Run Modelling and Multi-Level Governance Reform

Future research should employ Vector Error Correction Models (VECM) to test for long-run equilibrium relationships between corruption, socio-economic factors, and homicide. Governance reform should be viewed as a long-term violence prevention strategy rather than an immediate crime-control mechanism.

Conclusion

This study demonstrates that homicide in Jamaica between 2002 and 2025 is primarily shaped by internal temporal dynamics, including path dependence and rapid shock correction, rather than contemporaneous changes in corruption perception. The ARIMAX(1,1,1) model revealed strong autoregressive and moving-average components, indicating that past murder counts and prior shocks largely determine short-term homicide fluctuations. Although the Corruption Perceptions Index (CPI) coefficient was negative—suggesting a theoretical association between improved governance perception and lower murders—it was statistically insignificant ($p = 0.378$). This finding implies that macro-level improvements in public-sector integrity do not immediately translate into behavioural changes within violent subcultures. The evidence highlights that homicide is more strongly influenced by entrenched social dynamics, episodic criminal disruptions, and ongoing community-level violence. Consequently, governance perception functions as a structural backdrop rather than a direct driver of short-term homicide trends. These results underscore the importance of incorporating time-series dynamics when interpreting relationships between institutional quality and violent crime.

From a psychological perspective, corruption perception may indirectly affect homicide by influencing cognitive and emotional processes within communities. Institutional legitimacy theory suggests that perceived fairness and integrity strengthen normative compliance, while moral disengagement theory explains how individuals rationalize harmful behaviour in contexts of systemic corruption [9,12]. General strain theory further posits that exposure to institutional injustice produces frustration and anger, which may manifest as aggression [10]. However, in Jamaica, the effects of corruption perception are largely mediated by proximate socio-structural factors, including gang influence, economic inequality, and neighbourhood norms. Social learning processes normalize violence over time, reinforcing retaliatory cycles that persist independently of governance improvements. This indicates that while corruption shapes the context for potential aggression, its short-run impact on homicide is muted. Psychological and cognitive frameworks, therefore, provide critical insight into why macro-level reform does not immediately reduce lethal violence.

Reducing homicide in Jamaica requires multi-layered interventions that extend beyond governance reforms. Policy strategies should integrate institutional integrity initiatives with community-based violence prevention, cognitive and behavioural interventions, and targeted policing or security operations. Efforts to strengthen rule-of-law credibility must be complemented by programs addressing moral disengagement, social learning of violence, and structural strain. Interventions that focus solely on improving corruption perception are unlikely to produce rapid declines in homicide without engaging the cognitive, social, and emotional drivers of aggression. Long-term reductions in lethal violence necessitate disrupting entrenched norms and providing alternative pathways for conflict resolution and social mobility. This integrated approach recognizes that structural, cognitive, and behavioural factors interact dynamically to shape homicide trajectories. It also emphasizes the need for empirically-informed, context-specific solutions tailored to the Jamaican socio-cultural landscape.

Finally, this study contributes to both criminological and psychological scholarship by demonstrating the partial decoupling of governance perception and homicide in a high-violence context. The ARIMAX modelling provides robust empirical evidence of persistence and shock-correction mechanisms, while psychological theory contextualizes the indirect pathways through which corruption perception may operate. Future research could expand the model to incorporate lagged corruption effects, macroeconomic variables, and transnational crime spillovers, providing a more comprehensive understanding of homicide determinants. Moreover, longitudinal interventions could be evaluated to determine how community engagement, cognitive restructuring, and policing strategies interact with governance reforms. The findings reinforce that improving institutional integrity creates enabling conditions for long-term stability but is insufficient alone to dismantle deeply entrenched cycles of violence. Effective policy must therefore address both the structural and cognitive foundations of aggression simultaneously. In sum, multi-dimensional, empirically informed strategies are essential for sustainable homicide reduction in Jamaica.

References

1. United Nations Office on Drugs and Crime (2023) Global Study on Homicide. Vienna: UNODC.

2. Transparency International (2024) Corruption Perceptions Index 2024. Berlin: TI.

3. LaFree G (1998) Losing legitimacy: Street crime and the decline of social institutions in America. In: Boulder: Westview Press.

4. Messner SF, Rosenfeld R (2013) Crime and the American dream. In: (5th edn.), Boston: Cengage.

5. Harriott A (2003) Understanding crime in Jamaica. In: Kingston: UWI Press.

6. Harriott A, Jones M (2016) Crime and violence in Jamaica. In: Kingston: IDB.

7. Levy H (2001) Killing streets and community revival. Kingston: Arawak.

8. Seligson MA (2002) The impact of corruption on regime legitimacy. J Polit 64(2): 408-433.

9. Tyler TR (2006) Why do people obey the law? Princeton: Princeton University Press.

10. Agnew R (1992) Foundation for a general strain theory of crime and delinquency. Criminology 30(1): 47-87.

11. Bandura A (1977) Social learning theory. In: Englewood Cliffs: Prentice Hall.

12. Bandura A (1999) Moral disengagement in the perpetration of inhumanities. Pers Soc Psychol Rev 3(3): 193-209.

13. Fajnzylber P, Lederman D, Loayza N (2002) Inequality and violent crime. J Law Econ 45(1): 1-39.

14. Soares RR (2004) Development, crime and punishment. J Dev Econ 73(1): 155-184.

15. Lafree G, Tseloni A (2006) Democracy and crime. Crime Justice 34(1): 17-51.

16. Sherman LW (1993) Defiance, deterrence, and irrelevance: A theory of sanction effects. J Res Crime Delinq 30(4): 445-473.

17. Rothstein B, Uslaner EM (2005) All for all: Equality and social trust. World Polit 58(1): 41-72.