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Gangs, Low Detection Rates, and Educational Achievement: Major Drivers of Violence

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Abstract

This study analyses violent crimes (murder, kidnapping, incest, sexual offences, rape, and suicide), their drivers, and associated factors. This descriptive study employs secondary violent crime data from Trinidad and Tobago over at least two decades. The data were collected from multiple search engines and websites and included the socio-demographics of perpetrators, gang and gun-related violence, crime detection levels, and socio-economic factors. A descriptive analysis was used to determine associations between these factors and crime rates. Overall, major crimes rose by 790% between 1990 and 2022, rising from 7.94 per 100,000 people in 1990 to 70.63 in 2022. The number of crime victims cumulatively increased from 7541 in 2013 to 68 322 in 2022, surging by 806%. Moreover, the number of people indirectly affected (family, friends, and members of the community) are estimated (using 10 per victim) to be at least 600 000 or half the population. The analysis shows no association between violent crimes and employment level, income, or national security and social welfare budgets. However, school performance/educational status, gang numbers, and detection rates are correlated with violent crime, suggesting that these factors are the driving forces behind violent crimes.

Keywords: crime burden, Republic of Trinidad and Tobago, crime, gang violence, crime detection levels

1. Introduction

Crime is ‘the intentional commission of an act usually deemed socially harmful or dangerous and specifically defined, prohibited, and punishable under criminal law’ (‘Crime | Definition,’ 2023). It is ‘a gross violation of law’ (‘Crime Definition & Meaning,’ n.d.) and is punishable by the State (Citizensinformation.ie., n.d.). Crime is quite prevalent across the world, with levels varying between a crime index of 83.76 in Venezuela and 1.107 in Iceland (‘Crime Rate by Country,’ 2023). Caribbean countries are particularly affected, with the Republic of Trinidad and Tobago ranking sixth-highest worldwide in crime/murder after Venezuela, Papua New Guinea, South Africa, Afghanistan, and Honduras (‘Crime Rate by Country,’ 2023). High crime rates in the Caribbean have ‘posed a clear and present danger’ for some time (Griffith, 2023), stunting growth and creating a vicious cycle of problems (Wong & Department, 2017). Besides criminal activity’s mental (Kiener-Manu, 2019), social (Taylor, 1995), economic (Shenk et al., 1984), and physical (World Health Organization, 2014) effects on victims, it reduces

leisure (Rees-Punia et al., 2018) and productive hours (Corso et al., 2007), increases disease burden, and reduces quality of life in later years (Koepfel & Bouffard, 2012). The genesis of crime is multifaceted—biological, sociological, psychological, geographical, and economical ('Strategic Policy Brief - Theories,' 2009)—and can be considered 'a public health issue' (Middleton, 1998).

This study explores violent crimes and their relationship with selected variables: gang and gun-related violence, crime detection levels, public health variables, national security, and welfare budgets. According to Crime and Problem Analysis (CAPA), crimes are classified as major and minor (Citizensinformation.ie, n.d.). Major violent crimes include murder, incest, rape, sexual offences, kidnapping, and suicide. This study's specific objectives include determining the: (1) crime burden and detection rates (intelligence and non-intelligence); (2) association between violent crimes and selected factors (public health issues, national security and social welfare budgets, gang, and gun-related violence); and (3) population affected by crime.

The Republic of Trinidad and Tobago has an area of 1864 square miles; its 2023 population was 1.53 million people (Kemp, 2023), predominantly Indo-Trinidadian (35.4%; 2011) and Afro-Trinidadian (34.2%; 2011) ('Trinidad and Tobago—Caribbean,' n.d.). It is the southernmost Caribbean Island and has links to South America and the United States. While there have been a small number of migrants from Venezuela over the decades, this has increased to an estimated 30,000 Venezuelan migrants within the last two years, putting additional strain on the country's financial, social, and security systems.

Investments in crime have always been a top priority; however, a multitude of additional crimes or interventions have been instituted by the government to curb this crime epidemic, including recent increases in policing (Bruzual, 2022) and laws. Additional officers have been recruited from retirees, special reserves, and the army, and the number of police officers grew from 2300 in 2019 (Kissoon, 2019) to over 6500 in 2021 ('About TTPS,' n.d.). Moreover, special units have been created, such as the anti-kidnapping squad, child protection unit, domestic violence unit, and Special Weapons and Tactics (SWAT) unit. Financial investments in the Ministry of National Security increased from 4.762 billion in 2011 to 6.497 billion in 2014 but then decreased to 5.664 billion in 2022 ('Budget Statements,' n.d.). These investments are reflected in the increasing number of physical structures, such as police stations, which grew to 77 in 2019 (Kissoon, 2019). Other changes were made to the police administration with the enactment of the Police Authority Bill ('The Supplemental Police,' 2022) and a new method of appointing a Commissioner of Police ('The Judiciary of Trinidad and Tobago,' 2021). The country also benefitted from a high gross domestic product (GDP), increasing employment, high education levels (nearly universal primary and secondary school enrolment), and other sectorial improvements (water, communication, electricity). Despite this, in keeping with the 'inverse care law,' which states that those who need services the most receive the least, many communities with high crime levels are deprived of these very facilities (Cookson et al., 2021).

2. Methods

This is a retrospective, observational study using secondary data obtained from multiple recognised websites such as the Pan American Health Organization (PAHO), Central Statistical Office (CSO), World Health Organization (WHO), Ministries of National Security and Health; Centre for Arms Control and Non-Proliferation, Crime and Problem Analysis (CAPA), World Databank, and Central Intelligence Agency (CIA) fact book from 1990 to 2022. The search words used were crime, public health, surveillance, violence, health, and Trinidad and Tobago. Additionally, a review of the literature included searches in PubMed, EBSCOHOST, and Google. The data were collected by research assistants who were university students. Secondary data on crime statistics, public health statistics (poverty, unemployment, internet users, SEA (Secondary Entrance Assessment) candidates scoring \leq 30%, social service grants), national security, social welfare budgets, and firearm availability were collected, documented, and analysed. Crime data included woundings and shootings, burglaries and break-ins, murders, kidnappings, kidnappings for ransom, rapes, incest and sexual offences, robberies, possession of firearms and ammunition, and domestic violence between 1990 and 2022. Gang sizes and detection rates from 2013 to 2022 were also collected. These were examined to determine links between violent crimes and socio-economic and criminal justice issues (detection rates, gang, and gun-related crimes). A descriptive analysis was conducted, and

the results were documented in graphs and tables. Crime rates are defined as the total number of crimes per 100,000 or total number of reported crimes of any kind divided by the total population, multiplied by 100,000 ('Crime Rate by Country,' 2023).

3. Results

3.1. Section A

3.1.1 Violent crime and associations

Although there are yearly fluctuations in criminal activities, there was a general increase in crime up to 2006, which was followed by peaks and troughs. However, there was a decrease in 2022 compared to earlier years (Figure 1). Over the last two decades, minor crimes such as burglaries and break-ins, robberies, and fraud offences decreased, while serious/major crimes, particularly murder, increased (Figure 1). Murder rates increased from 0.007% (1990) to 0.009% (2000) to 0.032% (2021); the incest, sexual offences, and rape rate increased from 0.023% (1993) to 0.052% (2010) and then decreased in later years from 0.027% (2020) to 0.026% (2021). Over the last two decades, there has been an increase in kidnappings from 0.001% (1990) to 0.012% (2000), and then a decrease to 0.005% in 2021. However, suicide rates decreased from 0.016% (2000) to 0.009% (2019).

Overall, there has been an increase in major crimes from 7.94 in 1990 to 70.63 in 2022 (an increase of 790%)

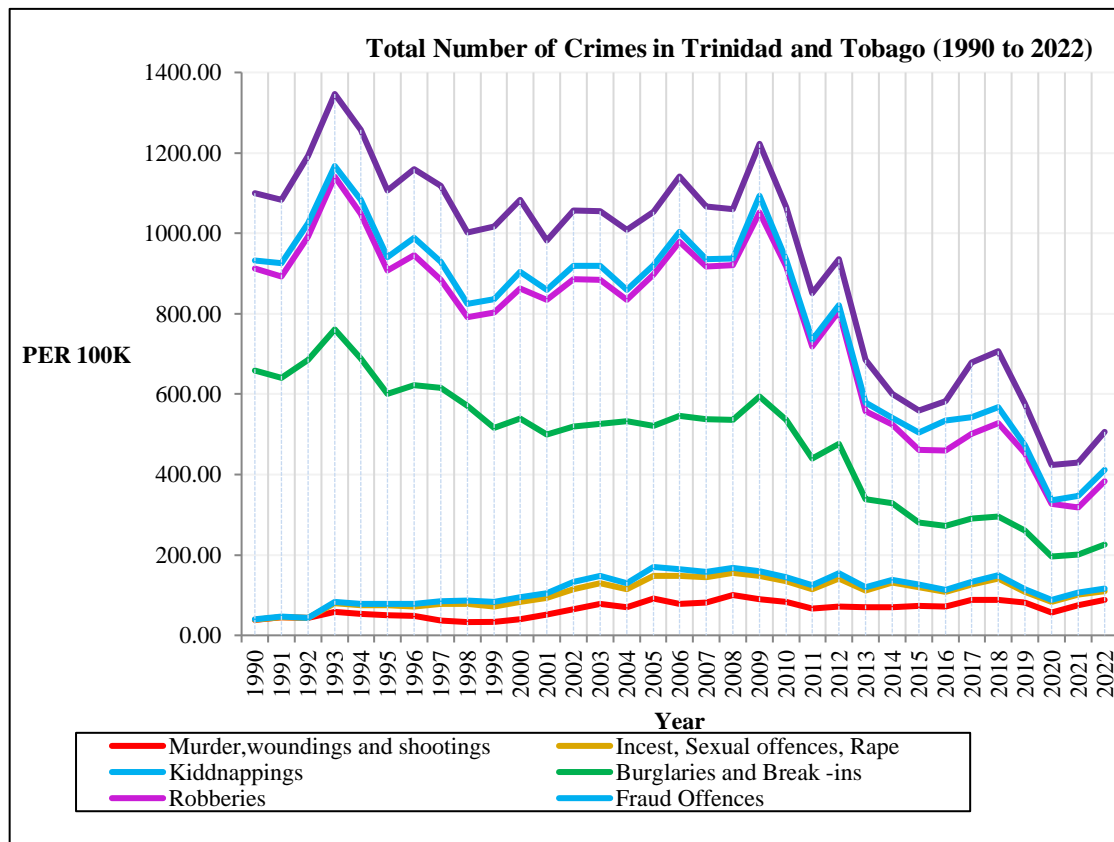


Figure 1: Total Number of Crimes in Trinidad and Tobago per 100 000 population (1990-2022)
 Sources: Crime Totals by Month. (n.d.). Retrieved November 26, 2023, from <https://www.ttps.gov.tt/Stats/Crime-Totals-By-Month>;
 Seepersad, R. (2016). Crime and Violence in Trinidad and Tobago: IDB Series on Crime and Violence in the Caribbean.
<https://publications.iadb.org/en/crime-and-violence-trinidad-and-tobago-idb-series-crime-and-violence-caribbean>

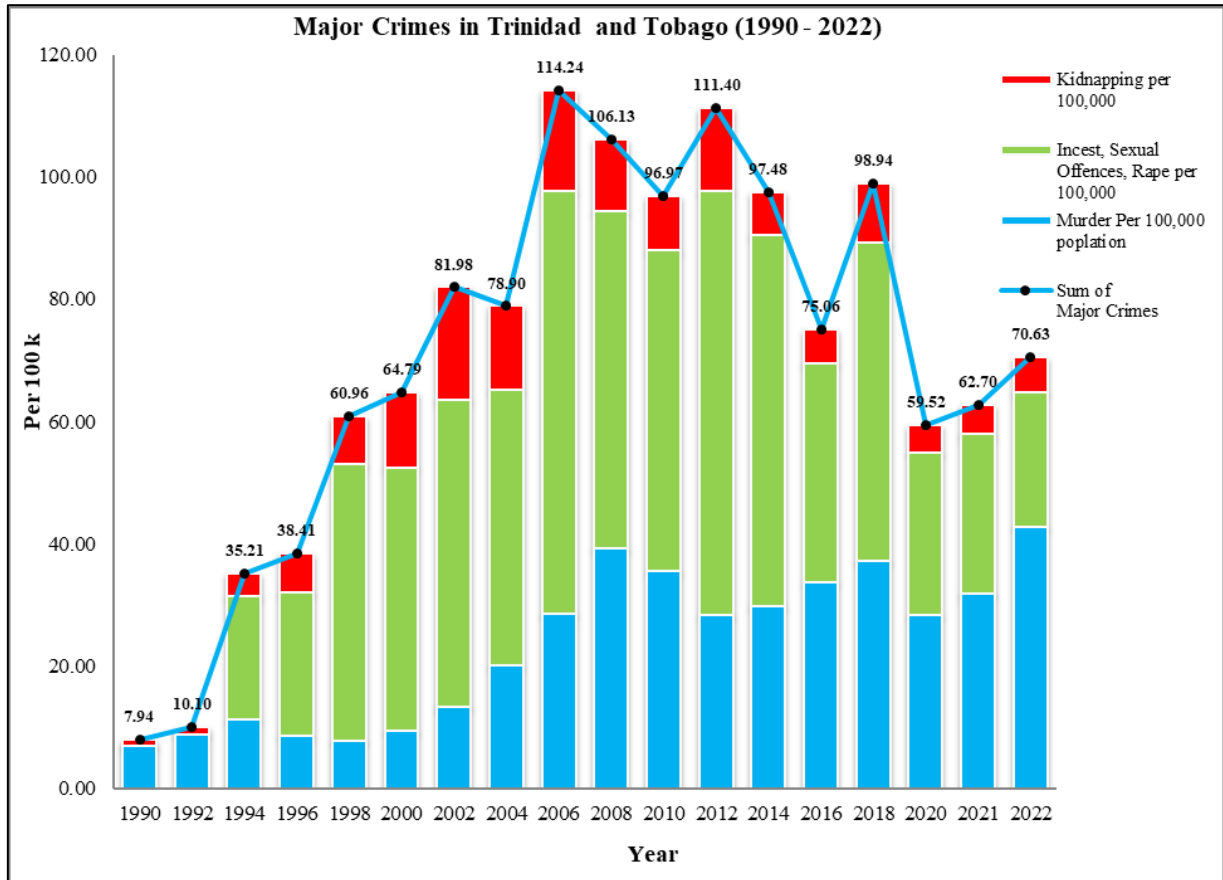


Figure 2: Total Major Crimes (Murder, Kidnapping, Incest, Sexual Offences, Rape) per 100 000 population (1990-2022)

Sources: *Crime Totals by Month*. (n.d.). Retrieved November 26, 2023, from <https://www.ttps.gov.tt/Stats/Crime-Totals-By-Month>; Seepersad, R. (2016). *Crime and Violence in Trinidad and Tobago: IDB Series on Crime and Violence in the Caribbean*. <https://publications.iadb.org/en/crime-and-violence-trinidad-and-tobago-idb-series-crime-and-violence-caribbean>

Note 1: Major Crimes–Murder, woundings and shootings, kidnappings, incest, sexual offences, and rape.

3.1.2 Crime, gang, and gun-related violence

There appears to be a correlation between the number of gangs and guns seized and the prevalence of violent crime (Figure 3).

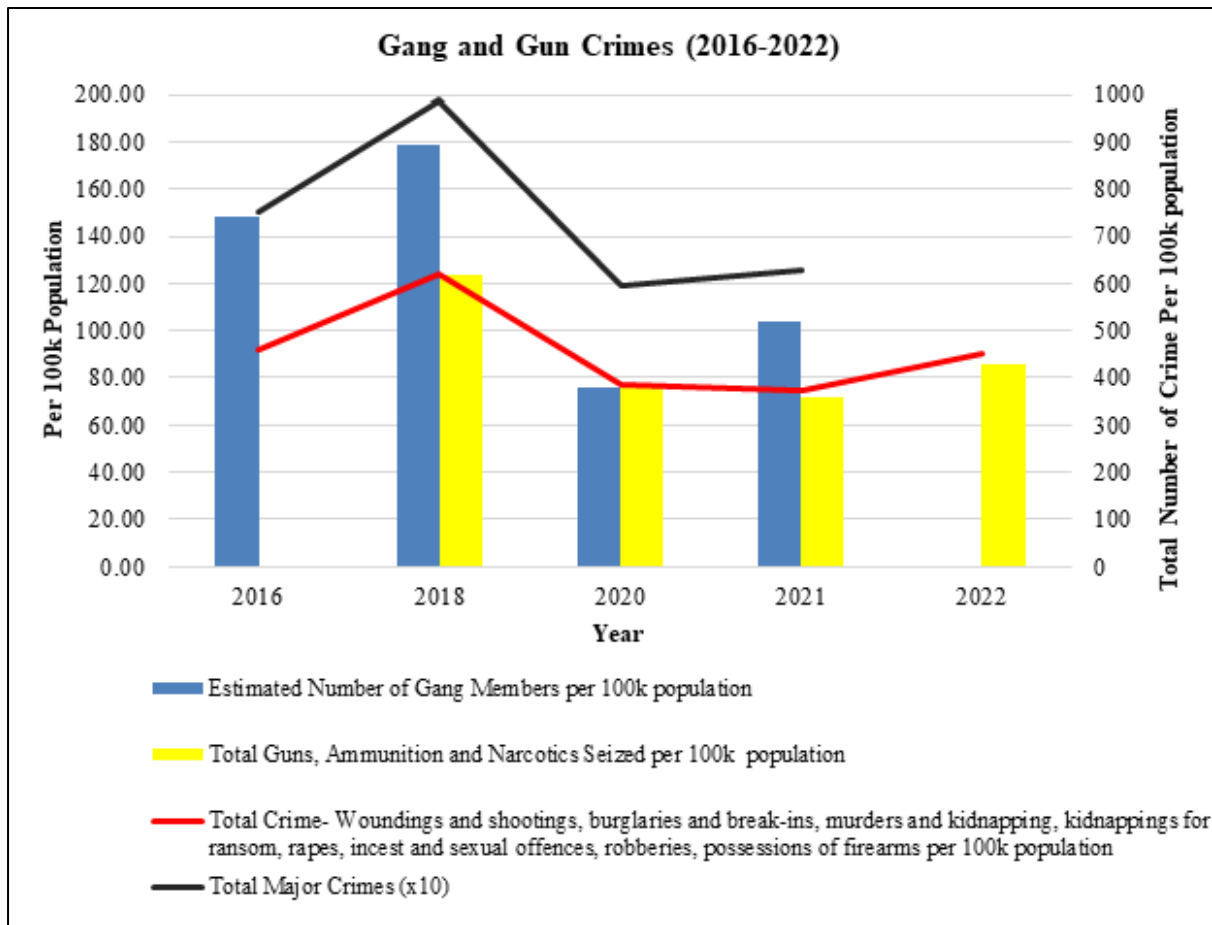


Figure 3: Gang and Gun Crimes, in Relation to Total Number of Crimes and Total Major Crimes (2016-2022)
 Note 1:

- Total Major Crimes are multiplied by a factor of 10 to create a clearer display of the crime trends.
- Major Crimes–Murder, woundings and shootings, kidnappings, incest, sexual offences, and rape.

Crime detection levels: Overall crime detection levels are very low at approximately 20 to 30%. However, upon dis-aggregation, the rate of intelligence-driven detection was even lower in 2014 at 14.04% and then decreased to 13.66% in 2022. In contrast, non-intelligence-driven detection saw an overall rise from 2016 to 2022, where it stabilised at approximately 50% to 60% (Figure 4). The low detection of intelligence-driven crimes is unlikely to deter the high level of crimes. Paradoxically, but not surprisingly, the relatively higher detection levels of non-intelligence-driven crime have also not curtailed violent crime. This may be because although the detection levels for non-intelligence crimes are higher, they are still quite low.

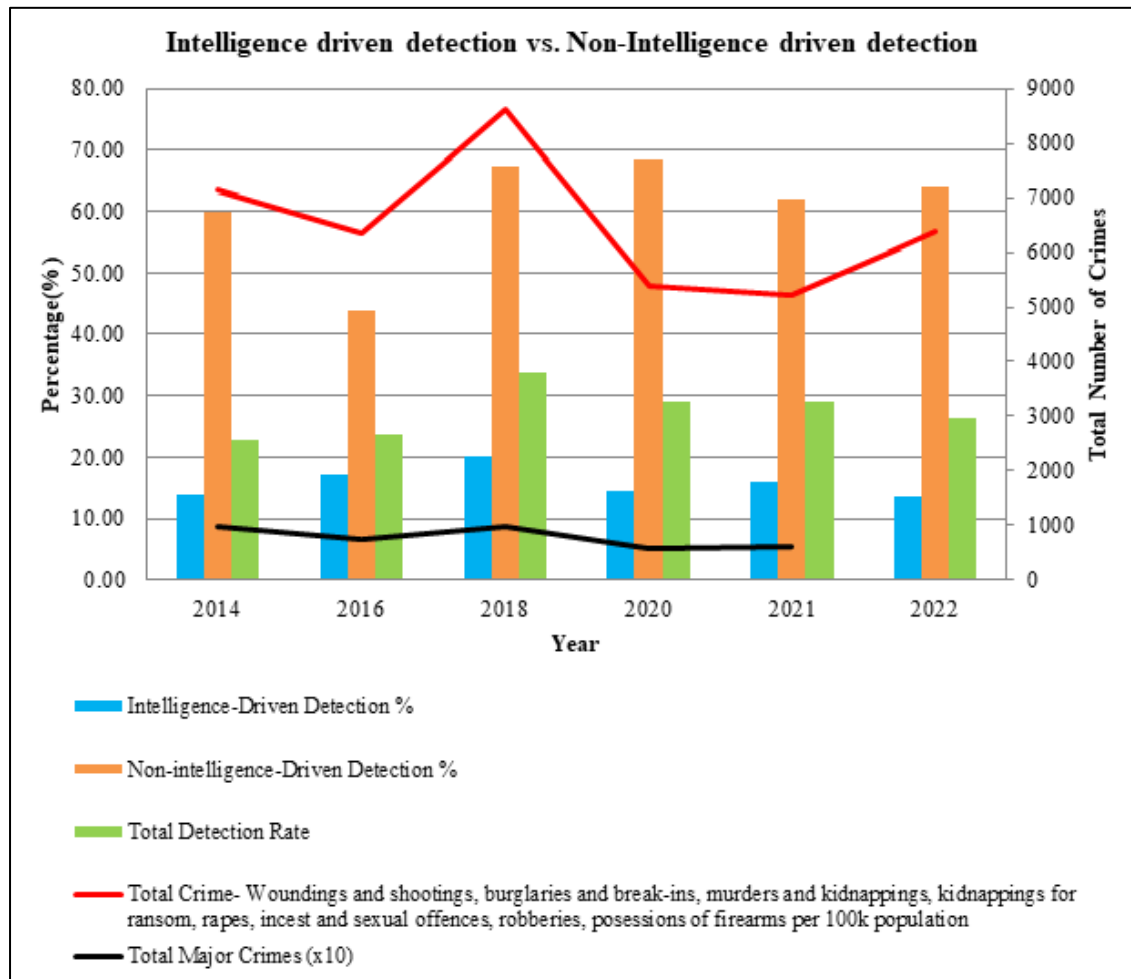


Figure 4: Detection Levels of Intelligence-driven and Non-intelligence Driven

Source: *Crime Totals by Month*. (n.d.). Retrieved November 26, 2023, from <https://www.ttps.gov.tt/Stats/Crime-Totals-By-Month>

Note 1:

- **Intelligence-driven detection**—Woundings and shootings, robberies, burglaries and break-ins, larceny-motor vehicles, larceny-dwellings, houses, murders, kidnappings, and general larceny.
- **Non-intelligence-driven detection**—Fraud offences, serious indecency, kidnappings for ransom, narcotics, other, rapes, incest, sexual offences, possession of firearms and ammunition.
- **Total detection rate**—Intelligence-driven and non-intelligence-driven, combined.
- **Total major crimes** are multiplied by a factor of 10 to create a clearer display of crime trends.

Over the last decade, unemployment has varied between 2 and 6% ('Trinidad and Tobago Unemployment,' n.d.), and poverty has remained at approximately 20% ('Trinidad and Tobago Poverty, n.d.). There was no significant association between overall violent crimes and the variables studied except SEA performance. Student performance on the SEA exam (students scoring $\leq 30\%$) increased specifically during the pandemic years (Figure 5). Poor performance on the SEA appears to be correlated with the crime rate. SEA performance may reflect society's educational status.

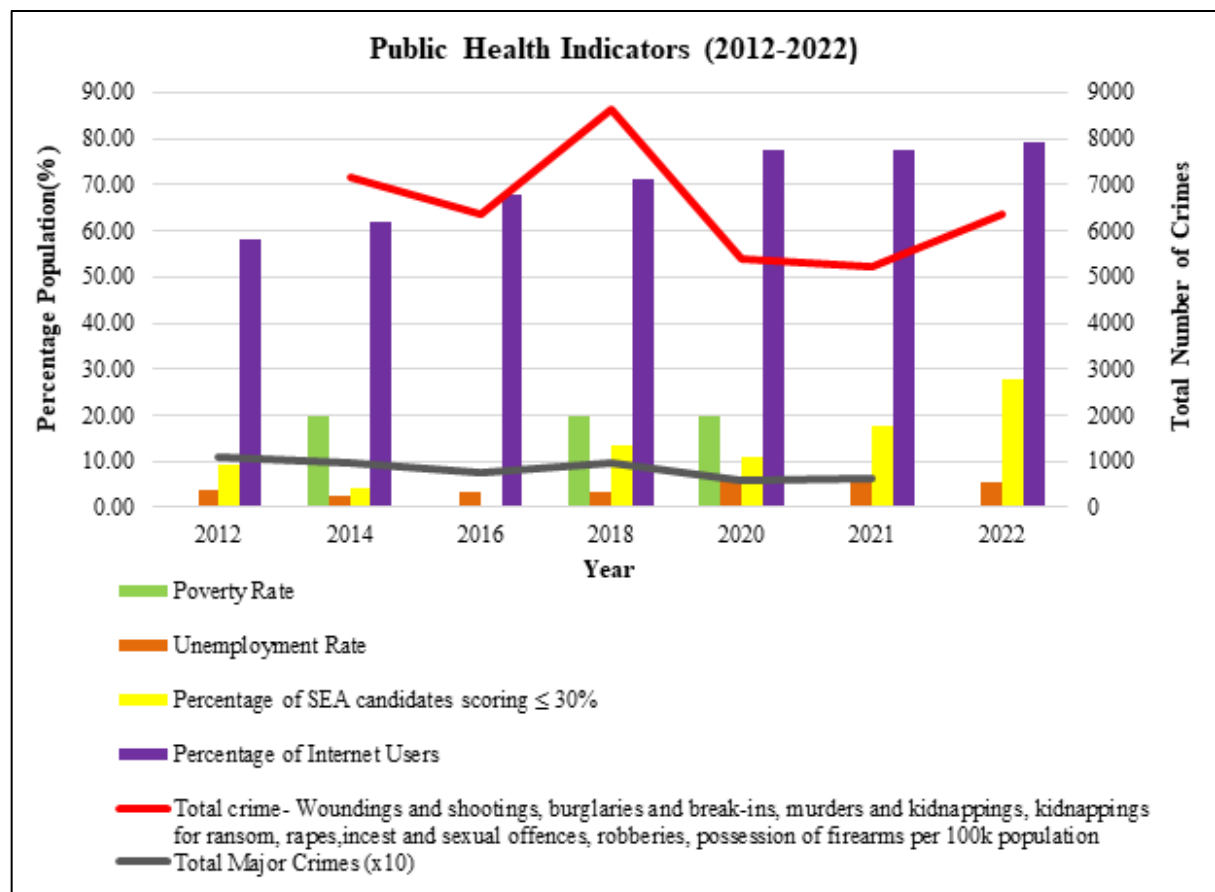


Figure 5: Total Crime and Public Health Indicators

Sources: *Crime Totals by Month*. (n.d.). Retrieved November 26, 2023, from <https://www.ttps.gov.tt/Stats/Crime-Totals-By-Month>;
 Seepersad, R. (2016). *Crime and Violence in Trinidad and Tobago: IDB Series on Crime and Violence in the Caribbean*. <https://publications.iadb.org/en/crime-and-violence-trinidad-and-tobago-idb-series-crime-and-violence-caribbean>; Doodnath, A. (2021, September 14). "Concerning" SEA statistics: Education Minister takes action | Loop Trinidad & Tobago. <https://tt.loopnews.com/content/concerning-sea-statistics-ministry-take-action>; Ministry of Education's Press Conference On SEA 2022 – TTT News. (2022, July 1). <https://news.ttlimited.com/ministry-of-educations-press-conference-on-sea-2022/>; Kemp, S. (2023, February 14). *Digital 2023: Trinidad and Tobago*. DataReportal – Global Digital Insights. <https://datareportal.com/reports/digital-2023-trinidad-and-tobago>; Kemp, S. (2022, February 16). *Digital 2022: Trinidad and Tobago*. DataReportal – Global Digital Insights. <https://datareportal.com/reports/digital-2022-trinidad-and-tobago>; Kemp, S. (2021, February 12). *Digital in Trinidad and Tobago: All the Statistics You Need in 2021*. DataReportal – Global Digital Insights. <https://datareportal.com/reports/digital-2021-trinidad-and-tobago>; Trinidad and Tobago Unemployment Rate 2023 & Employment Data | Take-profit.org. (n.d.). Take-Profit. Retrieved November 26, 2023, from <https://take-profit.org/en/statistics/unemployment-rate/trinidad-and-tobago/>

Note 1;

- Total Major Crimes are multiplied by a factor of 10 to create a clearer display of crime trends.
- Major Crimes–Murder, woundings and shootings, kidnappings, incest, sexual offences, and rape.

Financial support: The budgetary allocations to national security and social welfare ministries have remained fairly constant and show no association with the number of crimes (Figure 6).

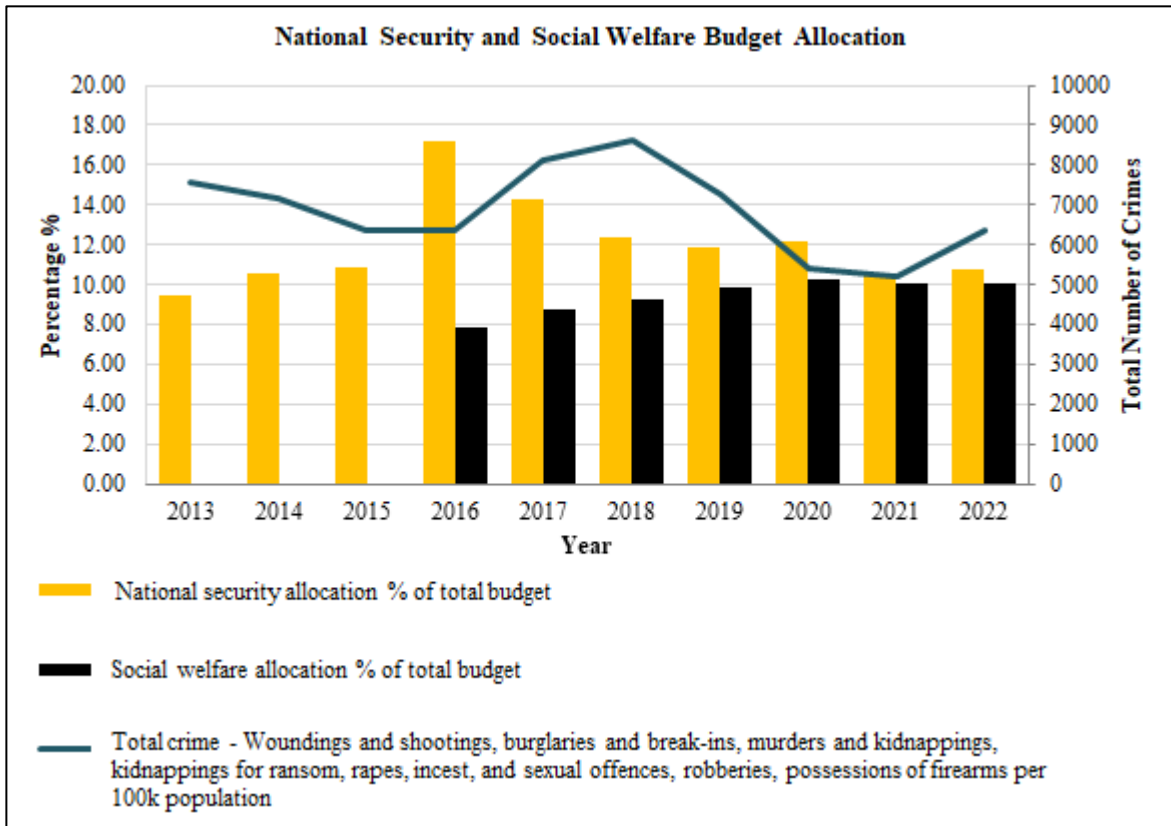


Figure 6: Total Crime and Budget Allocation of National Security and Social Welfare

Sources: Summary of the Ministry’s Expenditure, Divisions and Projects. Second Sessions of the 12th Parliament. (n.d). <https://www.tparliament.org/wp-content/uploads/2021/10/Budget-Summary-2022-Ministry-of-Social-Development-and-Family-Services.pdf>; Budget Statements – Ministry of Finance. (n.d.). Retrieved November 29, 2023, from <https://www.finance.gov.tt/publications/national-budget/budget-statements/>

3.2 Section B

3.2.1 Crime: human impact

The human impact of crime is reflected in the number and types of perpetrators (detected or overt, undetected or covert) and victims (directly and indirectly affected) of crimes. Using 2013 as a baseline, a total of 7541 crimes were reported in 2013. Assuming at least one perpetrator per victim and 10 people indirectly affected, over a 10-year period, the total numbers of people directly and indirectly affected are 68 322 and 683 220, respectively (i.e. at least 50% of Trinidad and Tobago’s population). While crimes spread, the number of potential victims who are ‘presumably unaffected’ decreased from 1 301 967 in 2013 to 511 814 in 2022, which is an overall 61% decrease in unaffected people (Figure 7).

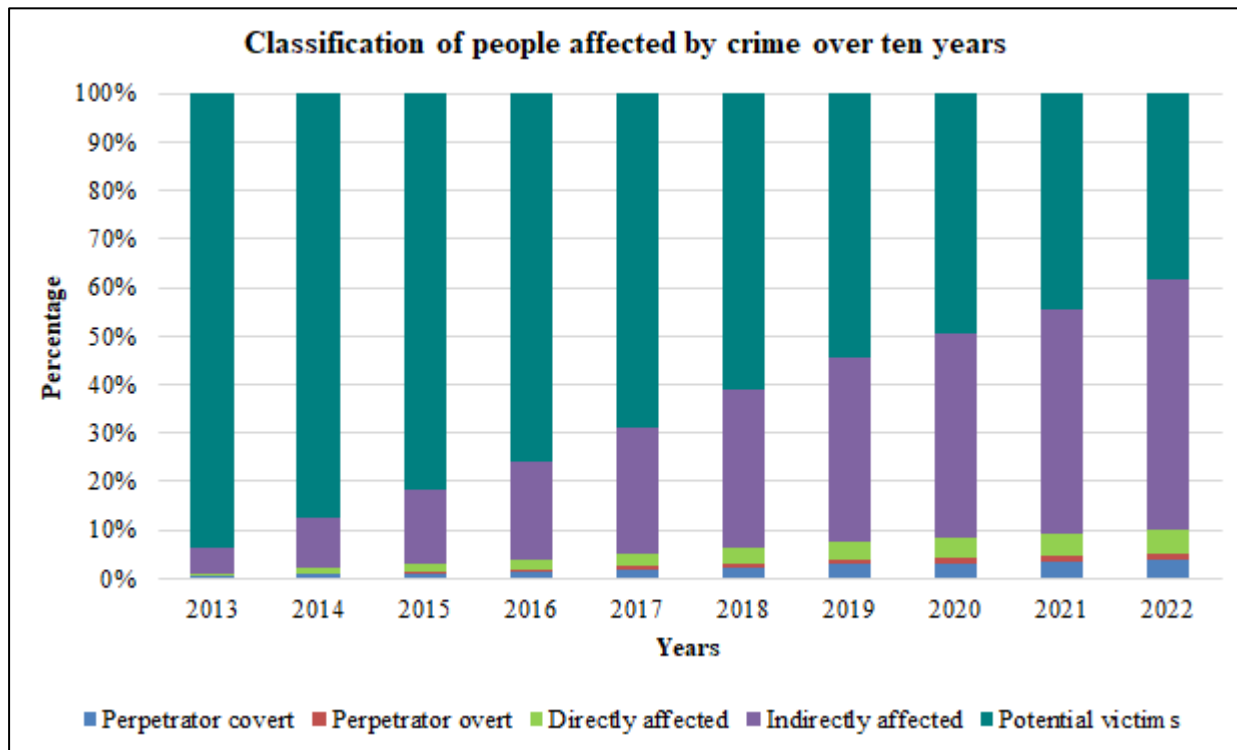


Figure 7: Classification of people affected by crime from 2013 to 2022 with 2013 as baseline

Source: *Crime Totals by Month*. (n.d.). Retrieved November 26, 2023, from <https://www.ttps.gov.tt/Stats/Crime-Totals-By-Month>

Note 1:

- True/Cumulative 2022 is the successive addition of affected people every year through 2022 with 2013 as a baseline.
- Baseline population for all years = 1.4 million persons

4. Discussion

4.1 Section A

4.1.1. General

With a crime level of **2 243.3 per 100 000 in 2022** ('Crime Statistics,' 2021), the Republic of Trinidad and Tobago is ranked sixth among the countries worldwide with the highest crime rates ('Crime Rate by Country,' 2023). Comparisons among some Caribbean and other countries reveal wide variations in murder rates, with Trinidad and Tobago faring worse and Denmark ranking the lowest worldwide (Figure 8). A comparative ratio of murder rates for Jamaica, Trinidad and Tobago, Barbados, the United States, Canada, and Denmark is 8:6:5:4:3:1, respectively. Iceland's crime rate of 1.107 is one of the lowest crime rates in the world ('Crime Rate by Country,' 2023).

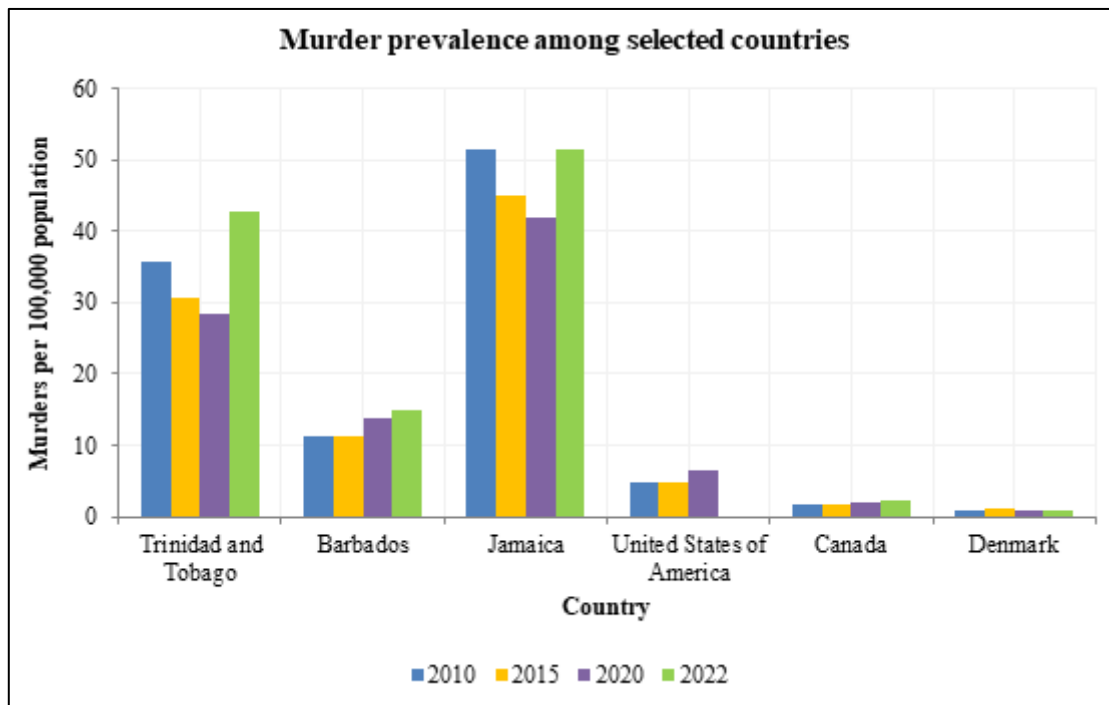


Figure 8: Murder prevalence per 100k population among selected countries (Trinidad and Tobago, Barbados, Jamaica, the United States, Canada, Denmark) 2010 to 2022.

Sources: *Crime Totals by Month*. (n.d.). Retrieved November 26, 2023, from <https://www.tps.gov.tt/Stats/Crime-Totals-By-Month>; *Barbados Murder Data and Statistics*. (n.d.). Retrieved November 26, 2023, from <https://murders.opendatabarbados.org/>; *Jamaica Murder/Homicide Rate 1990-2023* | MacroTrends. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/JAM/jamaica/murder-homicide-rate>; *Jamaica recorded 1,498 murders in 2022* | News | Jamaica Gleaner. (n.d.). Retrieved November 26, 2023, from <https://jamaica-gleaner.com/article/news/20230103/jamaica-recorded-1498-murders-2022>; *Jamaica population (2023) live—Countrymeters*. (n.d.). Retrieved November 26, 2023, from https://countrymeters.info/en/Jamaica#population_2023; *U.S. Murder/Homicide Rate 1990-2023* | MacroTrends. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/USA/united-states/murder-homicide-rate>; *Government of Canada, S. C. (2021, April 13). Number, rate, and percentage changes in rates of homicide victims*. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510006801>; *Denmark Murder/Homicide Rate 1990-2023*. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/DNK/denmark/murder-homicide-rate>; *Denmark: Number of homicides 2022*. (n.d.). Statista. Retrieved November 27, 2023, from <https://www.statista.com/statistics/576114/number-of-homicides-in-denmark/>

Overall, violent crimes are increasing. However, major crimes such as incest, sexual offences, and rape had minimal decreases or only marginal increases in some years. *Using a decade of data from 2013 to 2022, an additional 60,781 persons or 806% more victims are directly affected. However, total perpetrators between 2013 to 2022 increased by 16,598 persons (a 1223% increase).* While public health issues and crimes of necessity (crimes committed to attain basic needs) are important, the big drivers of violent crimes are an increase in gangs, low detection levels, and poor educational performance.

4.1.2. Crime rate drivers

Gang and gun-related violence: The number of gangs seems to be related to the number of violent crimes (Figure 3), which has increased from 75.46 to 104.18 per 100k of population between 2020 and 2021. The reported number of crimes increased from 384.57 to 450 per 100k of population between 2020 and 2022. Gangs represent ‘a group of lawbreakers who are primarily organized around violence and other illegal activities’ (Haskell & Yablonsky, 1982, as cited in Yearwood & Hayes, 2000). In our context, guns and gangs are major driving forces of violent crimes, a finding supported by other studies (Seepersad, 2013; ‘Youth Gangs and Violence,’ 1998). In the last decade, ‘gun-related homicides in Trinidad and Tobago (T & T) have risen about 1,000 per cent’ (Townsend, 2009). Gangs have been reported as contagious in many countries (Patel et al., 2013). In fact, certain areas, such as the eastern districts of the Port of Spain, are among the most dangerous places on the planet and ‘the murder rate for (the) Port of Spain is comparable to that of Baghdad’ (Kukis, 2009, as cited in Townsend, 2009). Strand

(2014) states that persons may join gangs for a sense of belonging, family situations, poverty, peer pressure, protection, and a lack of social structure and support.

Crime detection rate: Detection levels of overall crimes range between 22.94 to 33.80%. However, when disaggregated into intelligence- and non-intelligence-driven crime, intelligence-driven crimes had much lower detection levels, ranging between 14.04 to 20.01%. This compares poorly with other countries like Finland, which had a detection rate of 59.36% in 2022 ('Finland: Criminal Offenses,' 2023) and a low crime level (2.71 in 2023) ('Criminality in Finland,' n.d.). Detection levels are one of the major drivers of crime as demonstrated in many studies (Abramovaite et al., 2023; Drake & Simper, 2005). Bun et al. (2020) reveal that high detection and high conviction rates can serve as deterrents to crime. Furthermore, 'low detection rates produce a criminal multiplier effect' (Deosaran, 2022). Low levels of crime detection imply that a substantial number of perpetrators freely roam the streets with the potential for more crime.

Public health issues: The percentage of SEA candidates that score $\leq 30\%$ seems to be related to the extent of violent crime. School systems are microcosms of a larger society. The underperformance of SEA students may reflect the educational attainment of society at large, as reported in other studies ('The Impact of Local Crime,' 2019). There is no conclusive evidence that the other public health issues (poverty level, unemployment, Internet users) analysed are related to violent crimes (Figure 5). This contrasts with other studies, which reveal that crime is linked to public health indicators such as unemployment (Janko & Popli, 2015), poverty (Johnstone, n.d.), air pollution (Plain, 2019), education (Hjalmarsson & Lochner, 2012), and property prices (Braakmann, 2017).

Social and physical determinants ('Social Determinants of Health,' n.d.) form the basis for a healthy and nurturing environment. Crime is a social and cultural issue that originates within communities and is the result of a combination of numerous social factors. When crime risks are not identified and treated, significant increases occur in societal crime rates, leading to 'a society in disorder and chaos and unsafe for residents' (Onyeneke & Karam, 2022). According to the social disorganisation theory, 'a person's physical and social environments are primarily responsible for the behavioural choices that a person makes' (Bond, 2015). Poverty (Fafchamps & Minten, 2002), education (Lochner & Moretti, 2004), socialisation (McCord, 1991), and belief systems ('Religion and Crime,' n.d.) are some of the social factors that cause crime. In this study, the lack of an association between violent crime rates and national security and social welfare budgets contrasts with the findings of other studies. Foley (2011) reports the opposite and states that crime increases as welfare increases. However, Rudolph and Starke (2020) demonstrate that social welfare helps decrease crime. According to Halpert (2022) from Forbes, removing such benefits from young adults will more likely cause them 'to be charged with an illicit crime than they were to find and maintain steady employment'.

4.2 Section B

4.2.1 Crime solution

Gang violence and low detection levels must be addressed upfront through the criminal justice system. The educational system must be revamped to allow achievement and holistic development for everyone, not necessarily through the traditional methods (a classroom and student-teacher relationship) but perhaps through alternative means (e.g. out-of-classroom training). The governance structure must address the challenges of corruption, lack of transparency, and accountability. In general, a more holistic approach is required. This includes decreasing risks, increasing protective factors, minimising corruption, and ensuring transparency and accountability. (Figure 9)

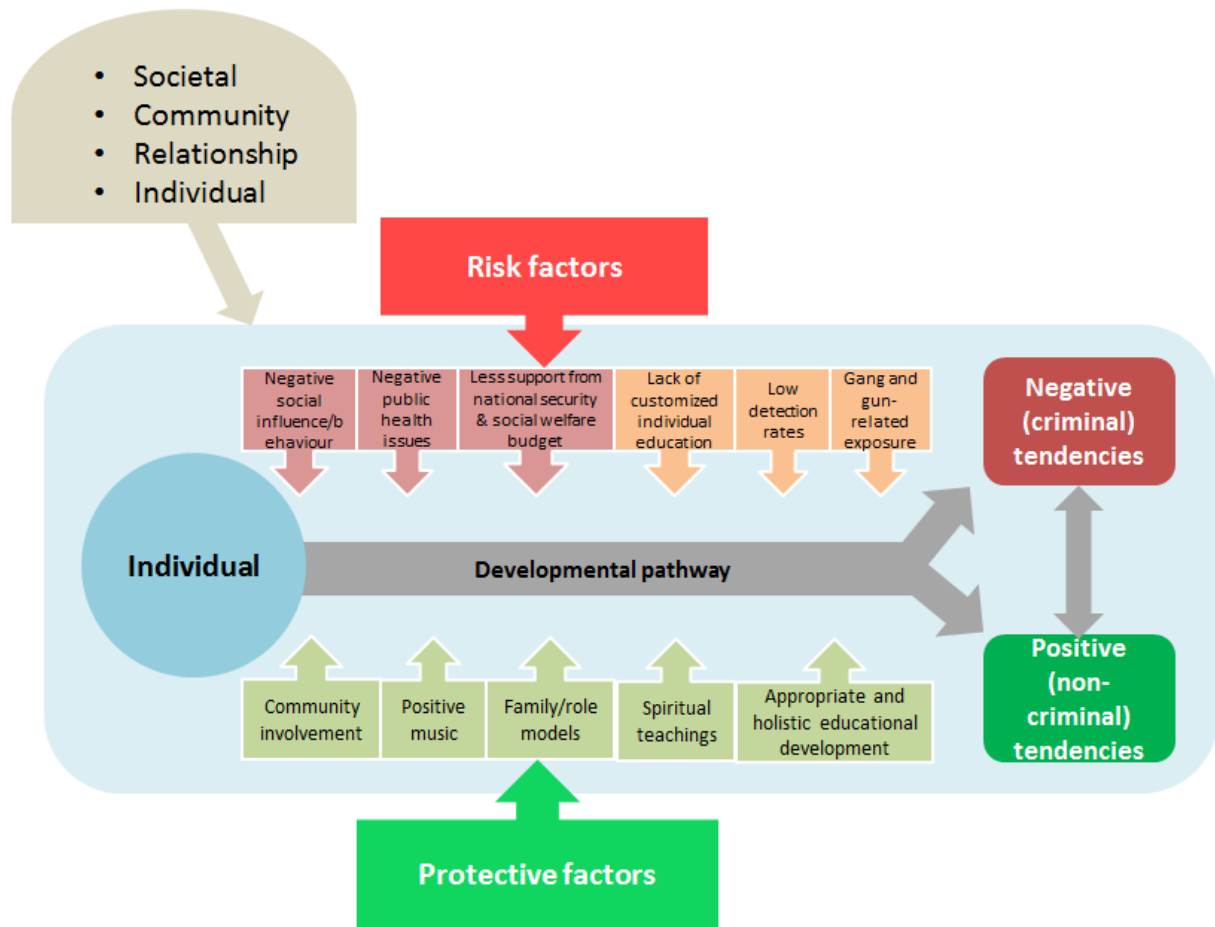


Figure 9: Criminal Tendency Development - Force Field Model

Note 1:

- Public health issues include poverty, unemployment, percentage of internet users, and SEA students scoring $\leq 30\%$.
- Negative social influences/ behaviours include alcohol consumption, delinquent peers and behaviours, and drug use.
- Community involvement helps develop social skills, and emotional maturity, amongst others.

Risks for criminal or deviant behaviour: low literacy, presence of neighbourhood crime, anti-social behaviour, low self-esteem, poverty etc. ('Risk and Protective Factors,' 2018) and anxiety and stress, poor supervision by parents, few friends etc. ('Strategic Policy Brief - Risk Factors,' 2009).

Protective behaviour: Parental supervision, availability of services, community engagement, steady employment, and positive attitudes, amongst others ('Risk and Protective Factors,' 2018), and self-control and good academics. ('Strategic Policy Brief - Risk Factors,' 2009).

4.3 Limitations

Data from government agencies are difficult to access, resulting in a lack of detail regarding at-risk individuals and communities.

5. Conclusion

Although crime is a universal phenomenon, the crime problem in the Republic of Trinidad and Tobago is predominantly observed in unhealthy environments and communities characterised by a self-sustaining gang culture and low levels of crime detection and educational attainment. While the public health system may play a significant role, the immediate needs require an efficient and results-oriented criminal justice system and a non-traditional educational approach.

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Conflicts of Interest: The author declares no conflict of interest.

Ethics approval and consent to participate: Not applicable.

Data Availability Statement: The data supporting the findings of this study shall be made available from the corresponding author upon reasonable request.

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References

- About TTPS.* (n.d.). TTPS. Retrieved November 29, 2023, from <https://www.ttps.gov.tt/About/About-TTPS>
- Abramovaite, J., Bandyopadhyay, S., Bhattacharya, S., & Cowen, N. (2023). Classical deterrence theory revisited: An empirical analysis of Police Force Areas in England and Wales. *European Journal of Criminology*, 20(5), 1663–1680. <https://doi.org/10.1177/14773708211072415>
- Barbados Murder Data and Statistics.* (n.d.). Retrieved November 26, 2023, from <https://murders.opendatabarbarados.org/>
- Bond, M. (2015, March 11). Criminology: Social disorganization theory explained. *E-Roll Call Magazine*. <https://andragogytheory.com/2015/03/11/criminology-social-disorganization-theory-explained/>
- Braakmann, N. (2017). The link between crime risk and property prices in England and Wales: Evidence from street-level data. *Urban Studies*, 54(8), 1990–2007. <https://doi.org/10.1177/0042098016634611>
- Bruzual, A. (2022, October 27). The “backbone” of policing. *Trinidad Express Newspapers*. https://trinidadexpress.com/news/local/the-backbone-of-policing/article_9ed02996-5596-11ed-a1f4-0b7fa27f9c75.html
- Budget Statements–Ministry of Finance.* (n.d.). Retrieved November 29, 2023, from <https://www.finance.gov.tt/publications/national-budget/budget-statements/>
- Bun, M. J. G., Kelaher, R., Sarafidis, V., & Weatherburn, D. (2020). Crime, deterrence and punishment revisited. *Empirical Economics*, 59(5), 2303–2333. <https://doi.org/10.1007/s00181-019-01758-6>
- Citizensinformation.ie. (n.d.). *Classification of crimes in criminal cases* (Ireland). Citizensinformation.ie. Retrieved November 26, 2023, from <https://www.citizensinformation.ie/en/justice/criminal-law/criminal-offences/classification-of-crimes-in-criminal-cases/>
- Cookson, R., Doran, T., Asaria, M., Gupta, I., & Mujica, F. P. (2021). The inverse care law re-examined: A global perspective. *The Lancet*, 397(10276), 828–838. [https://doi.org/10.1016/S0140-6736\(21\)00243-9](https://doi.org/10.1016/S0140-6736(21)00243-9)
- Corso, P., Mercy, J., Simon, T., Finkelstein, E., & Miller, T. (2007). Medical Costs and Productivity Losses Due to Interpersonal and Self-Directed Violence in the United States. *American Journal of Preventive Medicine*, 32(6), 474–482.e2. <https://doi.org/10.1016/j.amepre.2007.02.010>
- Crime | Definition, History, Examples, Types, Classification, & Facts.* (2023). In *Britannica*. <https://www.britannica.com/topic/crime-law>
- Crime Definition & Meaning.* (n.d.). In *Merriam-Webster*. Retrieved November 26, 2023, from <https://www.merriam-webster.com/dictionary/crime>

- Crime Rate by Country 2023*. (2023). In *World Population Review*. Retrieved November 26, 2023, from <https://worldpopulationreview.com/country-rankings/crime-rate-by-country>
- Crime Statistics—Central Statistical Office*. (2021, December 4). <https://cso.gov.tt/subjects/population-and-vital-statistics/crime-statistics/>
- Crime Totals by Month*. (n.d.). Retrieved November 26, 2023, from <https://www.ttps.gov.tt/Stats/Crime-Totals-By-Month>
- Criminality in Finland—The Organized Crime Index*. (n.d.). Retrieved November 26, 2023, from <https://ocindex.net/>
- Denmark Murder/Homicide Rate 1990-2023*. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/DNK/denmark/murder-homicide-rate>
- Denmark: Number of Homicides 2022*. (n.d.). In *Statista*. Retrieved November 27, 2023, from <https://www.statista.com/statistics/576114/number-of-homicides-in-denmark/>
- Deosaran, R. (2022, December 11). Low detection, loose killers. *Trinidad and Tobago Newsday*. <https://newsday.co.tt/2022/12/11/low-detection-loose-killers/>
- Doodnath, A. (2021, September 14). “Concerning” SEA statistics: Education Minister takes action. *Loop Trinidad & Tobago*. <https://tt.loopnews.com/content/concerning-sea-statistics-ministry-take-action>
- Drake, L. M., & Simper, R. (2005). Police efficiency in offences cleared: An analysis of English “basic command units.” *International Review of Law and Economics*, 25(2), 186–208. <https://doi.org/10.1016/j.irle.2005.06.003>
- Fafchamps, M., & Minten, B. (2002). Crime and poverty: Evidence from a natural experiment. *CSAE Working Paper Series*, Article 2002–23. <https://ideas.repec.org/p/csa/wpaper/2002-23.html>
- Finland: Criminal Offences 2022*. (2023). In *Statista*. <https://www.statista.com/statistics/529687/number-of-criminal-offences-finland/>
- Foley, C. F. (2011). Welfare payments and crime. *Review of Economics and Statistics*, 93(1), 97–112. https://doi.org/10.1162/REST_a_00068
- Government of Canada, S. C. (2021, April 13). Number, rate and percentage changes in rates of homicide victims. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510006801>
- Griffith, I. L. (2023). *The Crime Conundrum in the Caribbean*. <https://theglobalamericans.org/wp-content/uploads/2023/05/The-Crime-Conundrum-in-the-Caribbean-Ivelaw-Griffith.pdf>
- Halpert, M. (2022, June 7). Cutting welfare access for young adults with disabilities increases crime rates, study suggests. *Forbes*. <https://www.forbes.com/sites/madelinehalpert/2022/06/07/cutting-welfare-access-for-young-adults-with-disabilities-increases-crime-rates-study-suggests/>
- Haskell, M. R., & Yablonsky, L. (1982). *Juvenile delinquency* (3rd ed). Houghton Mifflin Co. **as cited in** Yearwood, D., & Hayes, R. (2000). *Perceptions of Youth Crime and Youth Gangs: A Statewide Systemic Investigation | Office of Justice Programs*. <https://www.ojp.gov/ncjrs/virtual-library/abstracts/perceptions-youth-crime-and-youth-gangs-statewide-systemic>
- Hjalmarsson, R., & Lochner, L. (2012). The impact of education on crime: International evidence. *CESifo Dice Report, Journal for Institutional Comparisons*, 10.
- Jamaica Murder/Homicide Rate 1990-2023 | MacroTrends*. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/JAM/jamaica/murder-homicide-rate>
- Jamaica recorded 1,498 murders in 2022 | News | Jamaica Gleaner*. (n.d.). Retrieved November 26, 2023, from <https://jamaica-gleaner.com/article/news/20230103/jamaica-recorded-1498-murders-2022>
- Jamaica population (2023) live—Countrymeters*. (n.d.). Retrieved November 26, 2023, from https://countrymeters.info/en/Jamaica#population_2023
- Janko, Z., & Popli, G. (2015). Examining the link between crime and unemployment: A time-series analysis for Canada. *Applied Economics*, 47(37), 4007–4019. <https://doi.org/10.1080/00036846.2015.1023942>
- Johnstone, J. (n.d.). *Does Poverty Cause Crime? - Project Sprouts*. Retrieved November 26, 2023, from <https://project-sprouts.com/does-poverty-cause-crime/>
- Kemp, S. (2021, February 12). *Digital in Trinidad and Tobago: All the Statistics You Need in 2021*. DataReportal – Global Digital Insights. <https://datareportal.com/reports/digital-2021-trinidad-and-tobago>
- Kemp, S. (2022, February 16). *Digital 2022: Trinidad and Tobago*. DataReportal – Global Digital Insights. <https://datareportal.com/reports/digital-2022-trinidad-and-tobago>
- Kemp, S. (2023, February 14). *Digital 2023: Trinidad and Tobago*. DataReportal – Global Digital Insights. <https://datareportal.com/reports/digital-2023-trinidad-and-tobago>
- Kiener-Manu, K. (2019, July). *Crime Prevention & Criminal Justice Module 11 Key Issues: 2. The impact of crime, including trauma*. //www.unodc.org
- Kissoon, C. (2019, April 11). Gary to reduce police stations from 77 to 30. *Trinidad Express Newspapers*. https://trinidadexpress.com/news/local/gary-to-reduce-police-stations-from-77-to-30/article_c73b8626-5c68-11e9-8e7b-830227d533fc.html

- Koepfel, M., & Bouffard, L. (2012). *The Burden of Victimization*. https://dev.cjcenter.org/_files/cvi/Burden%20of%20Vic.pdf
- Kukis, M. (2009, January 5). Is Baghdad now safer than New Orleans? *Time*. <https://content.time.com/time/world/article/0,8599,1894566,00.html> as cited in Townsend, D. (2009, December 31). *No Other Life: Gangs, Guns, and Governance in Trinidad and Tobago (Working Paper 8)*. <https://www.smallarmssurvey.org/resource/no-other-life-gangs-guns-and-governance-trinidad-and-tobago-working-paper-8>
- Lochner, L., & Moretti, E. (2004). The effect of education on crime: Evidence from prison inmates, arrests, and self-reports. *American Economic Review*, 94(1), 155–189. <https://doi.org/10.1257/000282804322970751>
- McCord, J. (1991). The cycle of crime and socialization practices. *The Journal of Criminal Law and Criminology (1973-)*, 82(1), 211. <https://doi.org/10.2307/1143796>
- Middleton, J. (1998). Crime is a public health problem. *Medicine, Conflict and Survival*, 14(1), 24–28. <https://doi.org/10.1080/13623699808409369>
- Ministry of Education's Press Conference on SEA 2022 – TTT News. (2022, July 1). <https://news.tttlited.com/ministry-of-educations-press-conference-on-sea-2022/>
- Onyeneke, C. C., & Karam, A. H. (2022). An exploratory study of crime: Examining lived experiences of crime through socioeconomic, demographic, and physical characteristics. *Urban Science*, 6(3), 43. <https://doi.org/10.3390/urbansci6030043>
- Patel, D. M., Simon, M. A., Taylor, R. M., & Institute of Medicine (U.S.). (2013). *Contagion of Violence: Workshop Summary* (p. 13489). National Academies Press. <https://doi.org/10.17226/13489>
- Plain, C. (2019, September 10). Air pollution linked to increases in violent criminal behavior—School of Public Health—University of Minnesota. *School of Public Health*. <https://www.sph.umn.edu/news/air-pollution-linked-to-increases-in-violent-criminal-behavior/>
- Rees-Punia, E., Hathaway, E. D., & Gay, J. L. (2018). Crime, perceived safety, and physical activity: A meta-analysis. *Preventive Medicine*, 111, 307–313. <https://doi.org/10.1016/j.ypmed.2017.11.017>
- Religion and Crime—Criminal Justice—IResearchNet*. (n.d.). Criminal Justice. Retrieved November 26, 2023, from <https://criminal-justice.iresearchnet.com/correlates-of-crime/religion-and-crime/>
- Risk and Protective Factors*. (2018, December 21). Public Safety Canada. <https://www.publicsafety.gc.ca/cnt/cntrng-crm/crm-prvntn/fndng-prgrms/rsk-fctrs-en.aspx>
- Rudolph, M., & Starke, P. (2020). How does the welfare state reduce crime? The effect of program characteristics and decommmodification across 18 OECD-countries. *Journal of Criminal Justice*, 68, 101684. <https://doi.org/10.1016/j.jcrimjus.2020.101684>
- Seepersad, R. (Ed.). (2013). *Gangs in the Caribbean* (1. publ). Cambridge Scholars Publ.
- Seepersad, R. (2016). *Crime and Violence in Trinidad and Tobago: IDB Series on Crime and Violence in the Caribbean*. Retrieved from <https://publications.iadb.org/en/crime-and-violence-trinidad-and-tobago-idb-series-crime-and-violence-caribbean>
- Shenk, J. F., Klaus, P. A., & Statisticians, B. (1984). *The Economic Cost of Crime to Victims*. U.S. Department of Justice. <https://bjs.ojp.gov/content/pub/pdf/eccv.pdf>
- Social Determinants of Health—Healthy People 2030 | health.gov*. (n.d.). Retrieved November 26, 2023, from <https://health.gov/healthypeople/priority-areas/social-determinants-health>
- Strand, S. (2014). *The Streets Are Cold, The Gangs Are Warm: An Interrogation of Why People Join Gangs*. https://digitalcollections.sit.edu/isp_collection/2029/
- Strategic Policy Brief - Risk Factors and Causal Mechanisms for Offending*. (2009). Ministry of Justice. <https://www.beehive.govt.nz/sites/default/files/Strategic%20policy%20brief%20-%20Risk%20Factors%20and%20Causal%20Mechanisms.pdf>
- Strategic Policy Brief - Theories of the Causes of Crime*. (2009). Ministry of Justice. https://www.beehive.govt.nz/sites/default/files/Strategic_policy_brief_theories_on_the_causes_of_crime.pdf
- Summary of the Ministry's Expenditure, Divisions and Projects. Second Sessions of the 12th Parliament*. (n.d.). <https://www.ttparliament.org/wp-content/uploads/2021/10/Budget-Summary-2022-Ministry-of-Social-Development-and-Family-Services.pdf>
- Taylor, R. B. (1995). The impact of crime on communities. *The ANNALS of the American Academy of Political and Social Science*, 539(1), 28–45. <https://doi.org/10.1177/0002716295539001003>
- The Impact of Local Crime on Children: Evidence from Pupils' Achievements in London*. (2019, April 16). Royal Economic Society. <https://res.org.uk/mediabriefing/the-impact-of-local-crime-on-children-evidence-from-pupils-achievements-in-london/>
- The Judiciary of Trinidad and Tobago: Law Library: New Materials: New Legislation—Trinidad and Tobago: Legal Notices: 277. The Commissioner of Police and Deputy Commissioner of Police (Selection Process) (No. 2) Order, 2021*. (2021, November 25). <https://www.ttlawcourts.org/index.php/law-library/news-alerts/new-legislation-trinidad-and-tobago/legal-notices/11018-277-the-commissioner-of-police-and-deputy-commissioner-of-police-selection-process-no-2-order-2021>

- The Supplemental Police (Amendment) Bill, 2022 – Parliament.* (2022). <https://www.ttparliament.org/publication/the-supplemental-police-amendment-bill-2022/>
- Townsend, D. (2009, December 31). *No other life: Gangs, guns, and governance in Trinidad and Tobago (Working Paper 8)*. <https://www.smallarmssurvey.org/resource/no-other-life-gangs-guns-and-governance-trinidad-and-tobago-working-paper-8>
- Trinidad and Tobago Poverty Rate 1988-2023* / MacroTrends. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/TTO/trinidad-and-tobago/poverty-rate>
- Trinidad and Tobago Unemployment Rate 1991-2023* / MacroTrends. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/TTO/trinidad-and-tobago/unemployment-rate>
- Trinidad and Tobago Unemployment Rate 2023 & Employment Data* / Take-profit.org. (n.d.). Take-Profit. Retrieved November 26, 2023, from <https://take-profit.org/en/statistics/unemployment-rate/trinidad-and-tobago/>
- Trinidad and Tobago—Caribbean, Islands, Colonization.* (n.d.) In *Britannica*. Retrieved November 29, 2023, from <https://www.britannica.com/place/Trinidad-and-Tobago/People>
- U.S. Murder/Homicide Rate 1990-2023* / MacroTrends. (n.d.). Retrieved November 26, 2023, from <https://www.macrotrends.net/countries/USA/united-states/murder-homicide-rate>
- Wong, J., & Department, U. R. I. W. H. (2017, November 14). *Crime and Youth Unemployment in the Caribbean*. IMF. <https://www.imf.org/en/News/Articles/2017/11/13/na111417-crime-and-youth-unemployment-in-the-caribbean>
- World Health Organization. (2014). *Global status report on violence prevention 2014*. World Health Organization. <https://iris.who.int/handle/10665/145086>
- Youth Gangs and Violence.* (1998). OJJDP. <https://ojjdp.ojp.gov/sites/g/files/xyckuh176/files/jjbulletin/9808/youth.html>