Revealing Adolescent Drug Trafficking and Addiction: Exploring School Disciplinary and Drug Issues in the Federal Territory of Kuala Lumpur and Selangor, Malaysia

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Abstract
Previous studies have predominantly concentrated on drug trafficking and addiction amongst adults, with a relative dearth of research specifically dedicated to adolescents. However, it is crucial to recognise that drug-related issues amongst adolescents necessitate unique attention and understanding. This study sets out to identify high clusters of drug trafficking and addiction in Kuala Lumpur and Selangor, and scrutinise their relationship with schools that have disciplinary and drug-related issues. By analysing the data, the study seeks to comprehend the correlation between these high clusters and the presence of disciplinary problems and drug issues within schools in the region. Local Indicator Spatial Autocorrelation was utilised in this study to identify the patterns of adolescent drug trafficking and addiction in Kuala Lumpur and Selangor. The Local Indicator Spatial Autocorrelation analysis (LISA) from 2015 to 2020 disclosed consistent high-high clusters of adolescent drug trafficking and addiction in Pantai, Ampang, Jinjang, Tun H. S. Lee, Pudu, and Cheras areas. These clusters indicate a concentrated prevalence of drug-related activities amongst adolescents aged 17 years old and below. Secondary School of SMK Sri Pantai in Pantai faces disciplinary challenges related to drug issues, underscoring the importance of providing support for a safe learning environment. In contrast, SMK Bandar Ampang has managed to maintain a drug-free environment despite being in a high-high cluster area. SMK Dato Ibrahim Yaacob in Jinjang, along with SMK Dato Onn, Tun H. S. Lee, Cheras, and SMK Cochrane Perkesa, are closely associated with drug issues amongst adolescents. Schools grappling with discipline issues and drug-related problems are notably affected by their geographical locations. It's worth mentioning that a majority of these institutions are positioned in areas with a high concentration of drug trafficking and addiction, amongst adolescents (17 years old or younger). These findings emphasise the need for preventive measures and support to ensure student well-being and safety.

Keywords: Adolescent, Drug Trafficking, Addiction, School, Lisa

1. Introduction

The National Anti-Drug Agency reported that an adolescent between the ages of 15 and 25 who tested positive in a urine drug test was apprehended at a bar or karaoke pub in Kuala Lumpur [1]. The increasing concern of drug addiction among adolescents is alarming, as some start getting involved in drugs as early as 9 years old. It is unfortunate that children at such a young age may not fully realise the impact that drug use can have on their lives. Children and the new generation are crucial assets and play a vital role in the development of countries for the future [2]. Most of the time, drug users engage in their activities in flats, vacant houses, and playgrounds, which serve as locations for drug transactions. These places become hubs for the sale and purchase of drugs [3].

In the year 2019, the enrolment rates for adolescents in secondary and higher education were reported as 86.99% for girls and 80.70% for boys [4]. The prevalence of harmful drug use seems to be on the rise among teenagers. According to the 2017 National Health and Morbidity Survey, there was a reported increase in adolescent drug usage, with 3.4% admitting to current drug use (defined as the consumption of substances such as heroin, morphine, glue, amphetamine, or methamphetamines, marijuana) in 2014, a rise from 1.5% in 2012. Alarmingly, one out of every 25 secondary school students confessed to having experimented with drugs at some point. Even more distressing is the fact that seven percent of these students began using drugs at the tender age of seven or even younger [5]. In Malaysia, a total of 106,000 adolescents have reported using drugs at least once in their lifetime, while 60,000 adolescents are currently engaged in drug use. It is concerning to note that approximately three out of every four drug users in Malaysia initiated their drug use before the age of 14. According to the data, 2.8% of adolescents have reported ever using inhalants, such as glue or paint. Additionally, 1.1% have admitted to ever using marijuana, 2.3% have acknowledged ever using kratom, and 1.0% have disclosed ever using amphetamines or methamphetamines [6].

Figure 1 shows the sources of obtaining drugs among adolescents. According to the chart, the majority of adolescents bought drugs from someone, accounting for 38.4%, while the lowest percentage was through other means, with only 9.70%. Adolescents, specifically between the ages of 12 to 14, have been identified as a crucial period when the risk of substance use initiation is high. However, research indicates that the risk continues into the later teenage years, particularly between 15 to 17 years old. Furthermore, substance use may reach its peak among young adults aged 18 to 25 years [7]. The prevalence of cannabis uses among young people aged 15 to 16 years was 18% in North America and 20% in Europe, as reported by the United Nations Office on Drugs and Crime (2018). According to [8], there is a concerning prevalence of tobacco use among adolescents in Indonesia, Malaysia, Thailand, and the Philippines, with rates ranging from 11 to 15%. Drug abuse poses a significant threat to the younger generation as it can lead to addiction and dependency on harmful substances. The consequences of drug addiction are severe, and individuals who are addicted may experience torment and desperation when they cannot satisfy their cravings. Drug addicts may resort to engaging in criminal acts to fulfill their addiction and obtain the substances they crave [9].

The involvement of young people in gangs can have a profound impact on their lives, leading to a disruption of other life opportunities and potential negative outcomes. When young individuals become connected to gangs, it can significantly alter their lives, potentially resulting in school dropouts, exclusion, and increased interactions with individuals involved in similar activities. The affiliation with gangs can lead young people to engage in more criminal behaviour, such as drug dealing, as they become more deeply immersed in the gang lifestyle. The involvement of young individuals in gangs can have a detrimental effect on their future prospects, limiting their access to education, employment, and other positive life opportunities [10].

A majority of 16 to 17-year-old students in upper secondary school exhibiting risky behaviours, such as involvement in violence, drug use, smoking, exposure to sexual activities, occasional loneliness, and instances of self-harm attempts [11]. In a study conducted by the Criminal Legal Investigation Department involving interviews with police officers, it was found that student involvement in social issues, criminal acts, and school dropouts has consequences for the Malaysian government.

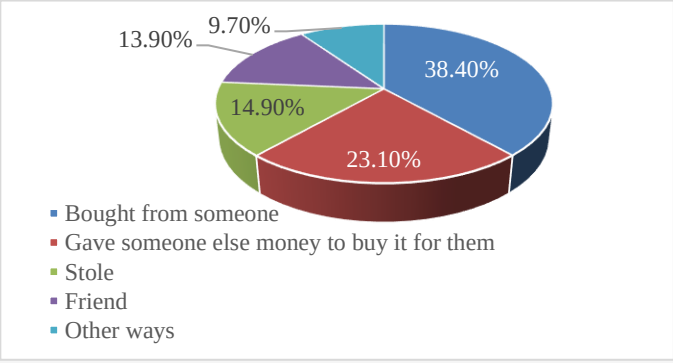

Figure 1: Sources to get drug among adolescents in Malaysia, 2022 [6]

Specifically, these issues can lead to increased costs for the government in terms of supporting at-risk adolescents and constructing rehabilitation centres [12]. According to a report by New Wisdom, individuals in Uganda who drop out of school between the ages of 16 and early adulthood are found to have a higher likelihood of engaging in substance use, including cigarettes, alcohol, marijuana, and illegal drugs [13]. Previous study [13] study focused on the social determinants of drug abuse among youth aged between 19 to 39 years old who were receiving treatment at the Serendah's Rehabilitation Centre. The study's findings revealed three key factors that contribute to the involvement of youth in drug abuse: the influence of the family environment, the impact of peers, and the influence of the neighbourhood. However, this study did not identify the specific hotspots of drug use among youth aged between 19 to 29 years old and failed to consider the prevalence of drug abuse within specific locations and populations. It is crucial for studies on drug abuse and drug dealers to take into account the geographical areas where drug use is most prevalent and to understand the specific populations affected.

The population of adolescents in Malaysia is estimated to be 5.5 million. However, the proportion of adolescents aged 10 to 19 as a percentage of the overall population has steadily declined over the past 50 years. This decline can be attributed to factors such as an aging population, rising life expectancy, and a decrease in fertility. The most common offences for which adolescents tend to be arrested in Malaysia include drug offences such as drug consumption, possession, and trafficking, as well as property offences such as theft, burglary, and robbery. Drug-related offences accounted for approximately 7% of arrests involving adolescents aged 0 to 18 in 2017. This suggests that there is a significant number of adolescents involved in drug-related activities, which is a concerning issue that requires attention and intervention. Additionally, property-related offences represented approximately 30% of adolescent arrests. This indicates that a considerable proportion of adolescent arrests are related to property crime [14].

This study is different from previous studies as it focuses on a younger age group, specifically 17 years old and below. Therefore, this study identifies the hotspots of drug use among youth aged 17 years old and below and considers the prevalence of drug abuse within specific police station boundaries and populations. The hypothesis of this study is a local measure of similarity between each area's value and those of nearby areas. This will provide a more nuanced understanding of the issue and enable policymakers, healthcare professionals, and community organizations to develop targeted interventions and allocate resources where they are most needed.

According to statistics from the Ministry of Education, the student dropout rate in the state of Selangor has shown an increasing trend from 2020 to 2022. The dropout rate at the primary level increased from zero dropout in 2020 to 0.10% in 2022. At the secondary level, the dropout rate also increased from zero dropout in 2020 to 0.61% in 2022 [15]. The issue of student dropout can potentially lead to a high unemployment rate, an increase in juvenile delinquency, and a rise in the influx of foreign nationals in both professional and non-professional sectors [16]. This study aims to address the research gap, as previous studies have not identified the clusters of drug trafficking and addiction among adolescents within school hotspots, using police station boundaries. This study is crucial for several reasons. Firstly, it helps to understand the patterns of drug trafficking and addiction among adolescents, particularly within school zones. This knowledge can lead to more effective prevention and intervention strategies. Secondly, by using police station boundaries for the identification of these clusters, it provides a new perspective and a more localized approach to tackling this issue. Lastly, it addresses a research gap, contributing to the broader understanding of drug-related issues among adolescents, which can inform policy and practice in education, law enforcement, and public health sectors. Thus, this study identifies high clusters of drug trafficking and addiction in Kuala Lumpur and Selangor and examines their relationship with schools that have disciplinary and drug-related issues among adolescents.

2. Methodology

This study utilises police station boundaries as the unit of analysis, specifically focusing on 22 police station boundaries in Kuala Lumpur and 88 police station boundaries in Selangor. To create a shapefile for police station boundaries, using ArcMap 10.7.1, first of all open ArcMap and access the catalog window. This can be done by clicking on the catalog button in the ArcMap toolbar or by selecting “Catalog” from the Windows menu. In the Catalog window, navigate to the location where you want to create the shapefile. Right-click on the folder or geodatabase where we want to store the shapefile and select "New" => "Shapefile". In the "Create New Shapefile" dialog box, specify the name of the shapefile and choose "Polygon" as the feature type. Click "Edit" next to the "Coordinate System" field.

In the "Spatial Reference Properties" dialog box, we can choose a predefined coordinate system by navigating through the folders in the left pane or by searching for a specific coordinate system using the search bar. After find the desired coordinate system, select it and click "OK". Back in the "Create New Shapefile" dialog box, click "OK" to create the shapefile with the specified name and coordinate system. After the shapefile is created, we can start digitizing the police station boundaries. Go to the Editor toolbar and click on the "Editor" dropdown menu. Select "Start Editing" to activate the editing mode. In the Editor toolbar, click on the "Editor" dropdown menu again and select "Create Features". Choose the shapefile created earlier from the list of available layers. With the shapefile selected as the target layer, click on the "Polygon" construction tool in the Editor toolbar. This tool allows us to create polygon features by clicking on the map to define the vertices. Begin digitizing the police station boundaries by clicking on the map to create the vertices of the polygon. Continue clicking to add more vertices until the entire boundary done. Double-click to finish the polygon. Repeat the digitizing process for each police station boundary that we want to create. Once we have finished digitizing, save edits by clicking on the "Editor" dropdown menu and selecting "Save Edits" or "Save Edits and Stop Editing" if we are done editing.

The data used in this study pertains to drug trafficking and addiction among adolescents aged 17 and below, and it was obtained from the Royal Malaysia Police at Bukit Aman. Additionally, this study incorporates schools that have been identified as hotspots for disciplinary and drug-related issues. By examining the intersection between police station boundaries, drug-related data, and problematic schools, this study aims to provide valuable insights into the dynamics of drug issues among adolescents within the police stations of Kuala Lumpur and Selangor from 2015 to 2020.

2.1 Local Indicator Spatial Autocorrelation (LISA) Analysis

LISA identified significantly hotspots, cold spots, and spatial outliers based on a set of weighted features. By analysing the spatial patterns and relationships among these features, the study aims to uncover areas that exhibit significant clustering or deviation from the expected spatial distribution. This approach provides valuable insights into the spatial dynamics of the analysed features, allowing for a deeper understanding of the underlying patterns and potential areas of concern. The z-scores and p-values provide measures of statistical significance, indicating whether to reject the null hypothesis on a feature-by-feature basis. They assess if the observed spatial clustering (either high or low values) or dissimilarity (a spatial outlier) is more pronounced than expected in a random distribution [17]. A high positive z-score suggests that surrounding features exhibit similar values (either high or low). The Cluster/Outlier type (COType) field in the Output Feature Class will be HH for a statistically significant cluster of high values and LL for a statistically significant cluster of low values. A low negative z-score (e.g., less than -3.96) indicates a statistically significant spatial data outlier. The COType field in the Output Feature Class indicates if the feature has a high value surrounded by low values (HL) or if the feature has a low value surrounded by high values (LH) [17]. LISA helps to identify locations with its neighbour as a high-high cluster, low-low cluster, high-low cluster, and low-high cluster [18]. Previous research, such as [19], used LISA to determine the hotspots of vehicle theft with statistical significance in Kuching, Sarawak. The past studies have chosen LISA as it is a powerful analytical tool for identifying spatial patterns and relationships among a set of weighted features. Lisa utilizes z-scores and p-values to measures the statistical significance of the observed spatial clustering or dissimilarity. The others research also using both global and local Moran's I measures of spatial association to identify drug dealing hotspots in Mexico City. The analysis also to understand the presence of spatial autocorrelation in drug dealing for sale purposes [20].

Figure 2 shows the spatial distributions of school disciplinary issues with drug problems in Kuala Lumpur and Selangor. There were 22 secondary schools identified as having disciplinary problems with drug issues in Kuala Lumpur, such as SMK Sungai Besi, SMK Sri Pantai, SMK Cochrane Perkasa, SMK Bandar Tun Razak, SMK Cheras, SMK Taman Tun Dr Ismail, SMK Bandar Tasik Selatan, SMK Seri Permaisuri, SMK Bukit Bandaraya, SMK Taman Yarl, SMK Taman Alam Damai, SMK Dato Onn, SMK Yaacob Latif, SMK Seri Bintang Selatan, SMK Seri Sentosa, SMK Dato Ibrahim Yaacob, SMK Bandar Baru Sentul, SMK Kepong Baru, SMK Batu Muda, SMK Tinggi Setapak, SMK Taman Sri Rampai, and SMK Danau Kota. All of these schools in Kuala Lumpur are facing drug issues and raising concerns among the community. In Selangor, there were eight schools classified as having disciplinary issues with drug problems, including SMK Taman Melawati, SMK La Salle PJ, SMK Seri Bedena, SMK Pandan Indah, SMK Pandan Mewah, SMK Bukit Sentosa, SMK Bandar Baru Batang Kali, SMK Seri Tanjung, and SMK Rantau Panjang. The map also display the distributions of police stations location.

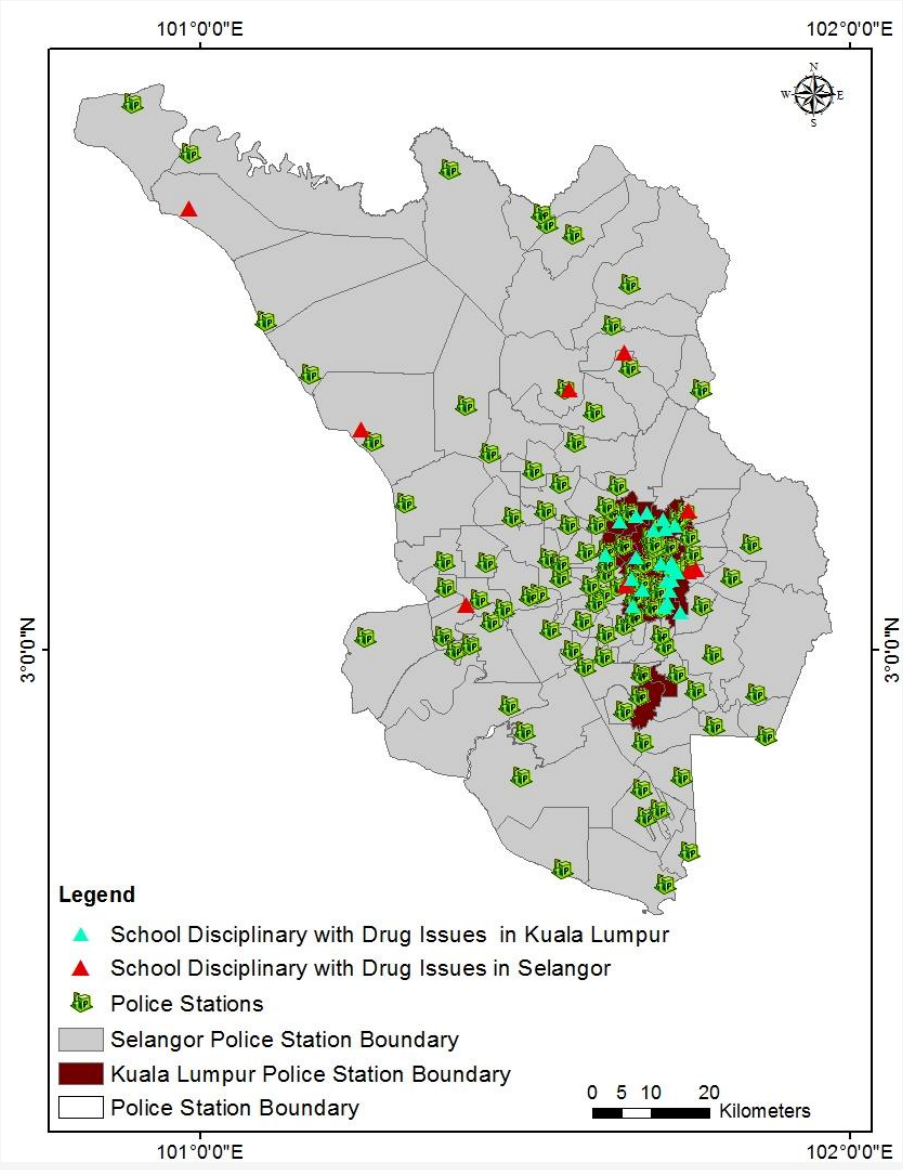

Figure 2: Kuala Lumpur, Selangor, Malaysia

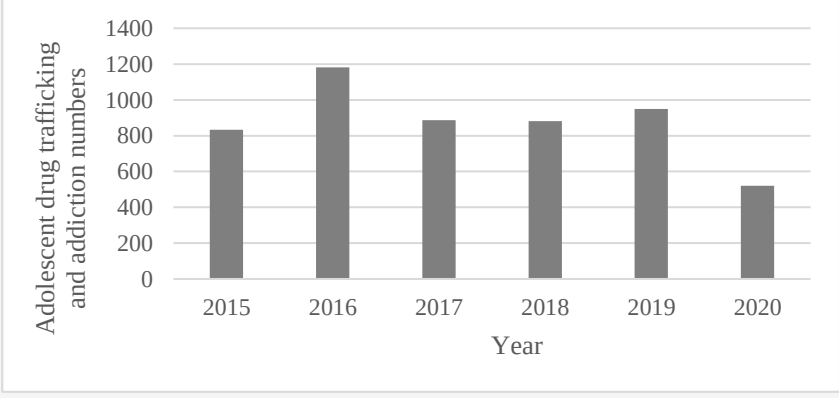

Figure 3: Adolescent drug trafficking and addiction trend 2015-2020

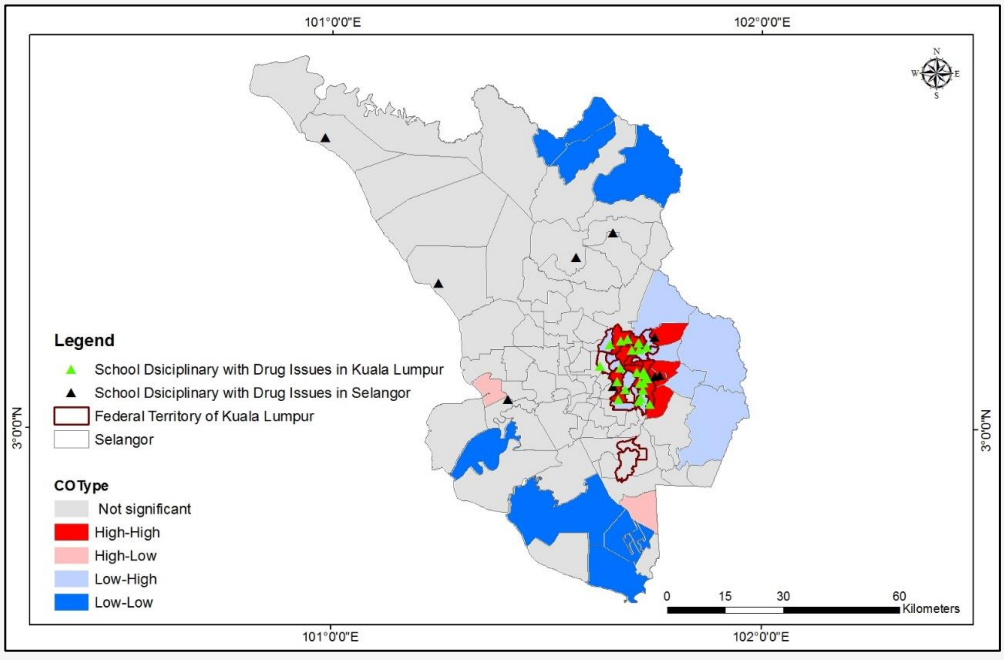

Figure 4: The LISA cluster analysis of adolescent drug trafficking and addiction in certain areas of Kuala Lumpur and Selangor in 2015

3. Results

According to Figure 3, there was a notable trend in adolescent drug trafficking and addiction in Kuala Lumpur and Selangor. The data shows that in 2015, a total of 834 adolescents were reported to be involved in drug trafficking and addiction. This number increased to 1,181 in 2016. However, there was a decrease in the number of adolescents involved in 2017 and 2018. In 2019, there was a slight increase with 949 adolescents reported, followed by another decrease in 2020. In 2015, a majority of the high-high cluster was identified in nine areas, namely Pantai, Serdang, Ampang, Jinjang, Tun H.S Lee, Pandan Indah, Pudu, Cheras, and Kajang as shown in Figure 4. These areas exhibited a concentration of high levels of a particular characteristic or phenomenon, indicating a specific trend or pattern in those locations. The study also identified five areas classified as low-low clusters of adolescent trafficking and addiction. These areas include Sungai Pelek, Pelabuhan Kelang, KLIA2, Ulu Bernam, and Kuala Kubu Bharu. These locations exhibited consistently low levels of the characteristic or phenomenon being studied. Furthermore, the remaining 20 areas were categorised as high-low and low-high areas, indicating random patterns in terms of adolescent drug trafficking and addiction.

In 2016, the number of areas with a significant high-high cluster of drug trafficking and addiction among adolescents increased to 14 (Refer Figure 5) These areas include Pantai, Taman Melawati, Salak Selatan, Ampang, Jinjang, Sentul, Setapak, Tun H. S Lee, Pandan Indah, Pudu, Cheras, Petaling, Batu 9, and Dang Wangi. On the other hand, there were nine areas classified as low-low clusters, namely Aeropolis, Sungai Pelek, Pandamaran, Banting, KLIA2, KLIA1, Ulu Bernam, Kalumpang, and Kuala Kubu Bharu.

In 2017, LISA's findings revealed that Salak Selatan, Ampang, Jinjang, Sentul, Setapak, Tun H.S Lee, Pandan Indah, Pudu, Cheras, Selayang, Dang Wangi, Sri Petaling, and Kajang were identified as areas with a high-high cluster of drug trafficking and addiction as shown in Figure 6. On the other hand, there were areas categorized as significantly low-low, indicating a lower incidence of drug trafficking and addiction. These areas included Aeropolis, Sungai Pelong, Sungai Pelek, Kapar, Saujana Utama, Sungai Besar, Jeram, Bandar Baru Salak Tinggi, Sepang, KLIA 2, and KLIA 1. These areas were identified as having a relatively lower prevalence of drug-related issues. Additionally, there were boundaries identified as high-low and low-high, indicating random patterns of drug trafficking and addiction. These boundaries included Pantai, Brickfields, Taman Melawawati, Batu 18, Salak Selatan Baru, Jalan Tun Razak, Sungai Besi, Kepong, Wangsa Maju, Petaling, Taman Tun Dr.Ismail, Batu 9, Travers, Hulu Kelang, Gombak, Semenyih, Chow Kit, Sri Hartamas, Bukit Jalil, Batu 14, Kuala Selangor, Banting, and Bukit Sentosa.

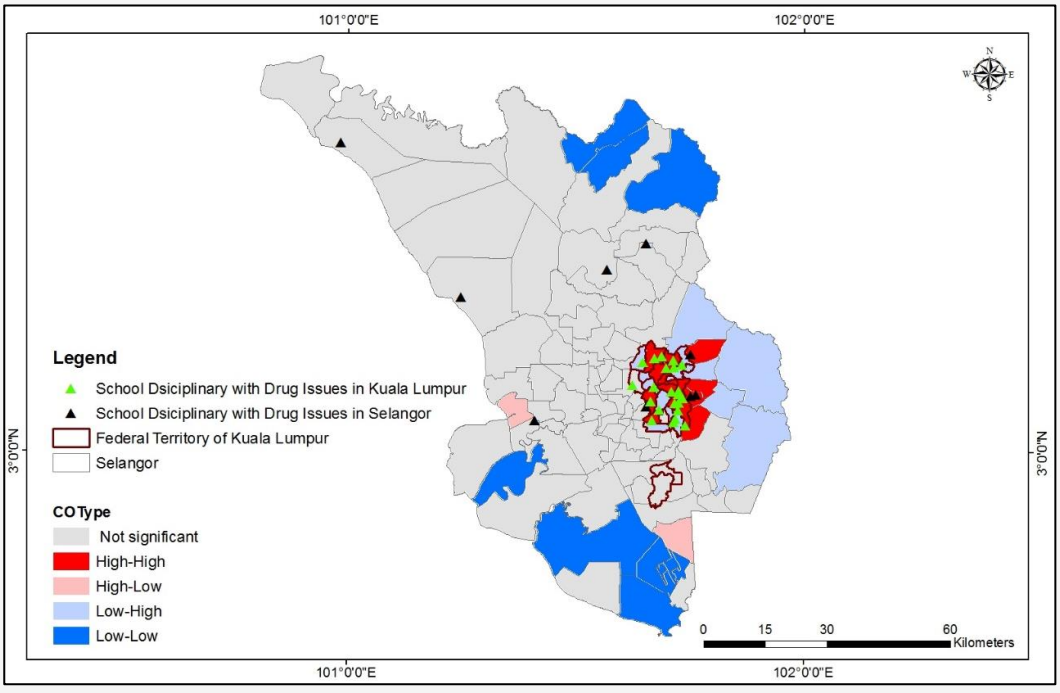

Figure 5: The LISA cluster analysis of adolescent drug trafficking and addiction in certain areas of Kuala Lumpur and Selangor in 2016

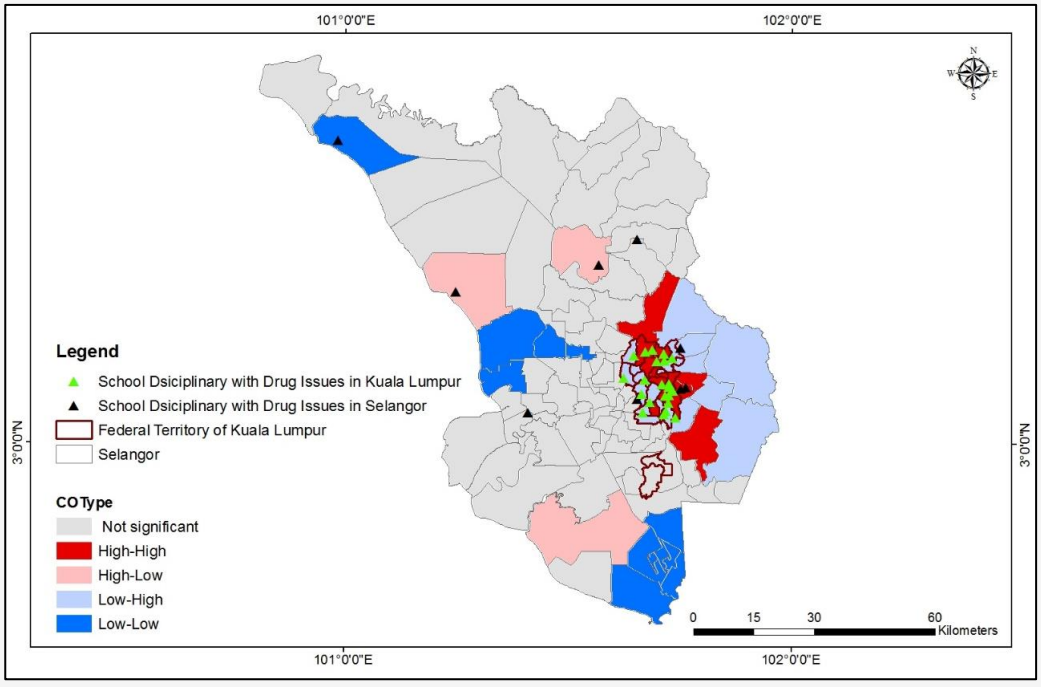

Figure 6: The LISA cluster analysis of adolescent drug trafficking and addiction in certain areas of Kuala Lumpur and Selangor in 2017

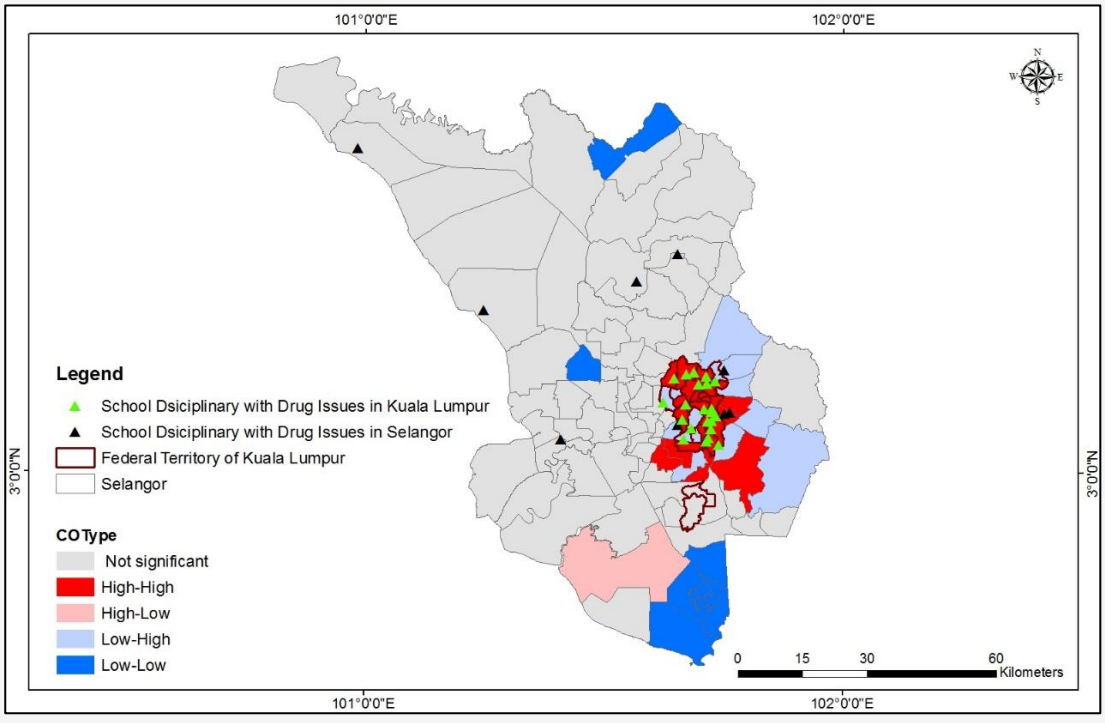

Figure 7: The LISA cluster analysis of adolescent drug trafficking and addiction in certain areas of Kuala Lumpur and Selangor in 2018

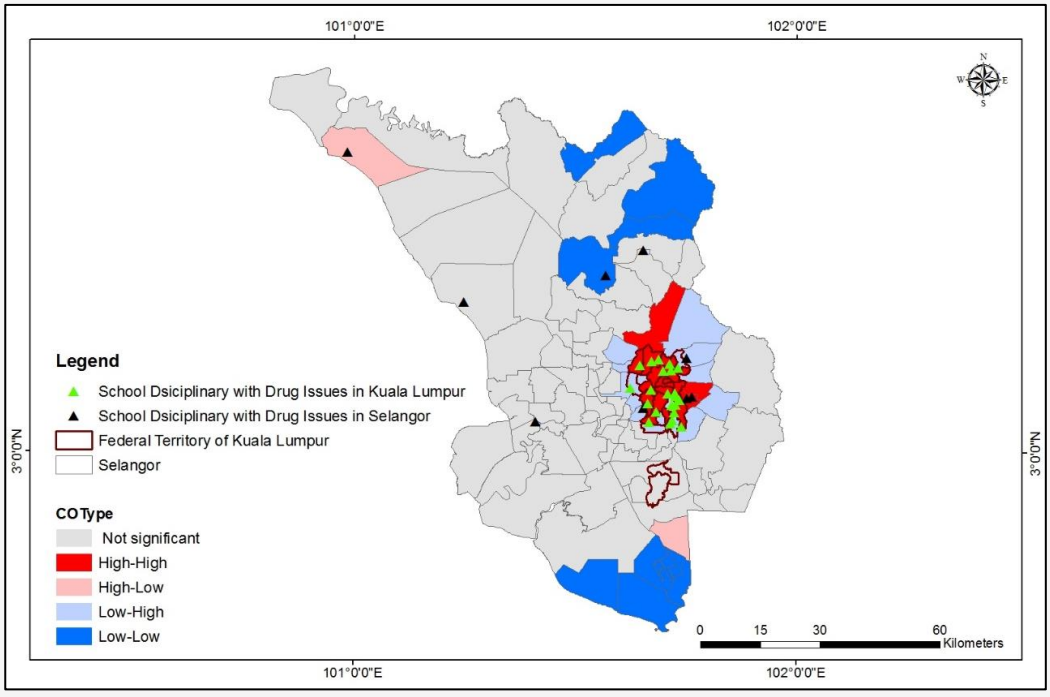

Figure 8: The LISA cluster analysis of adolescent drug trafficking and addiction in certain areas of Kuala Lumpur and Selangor in 2019

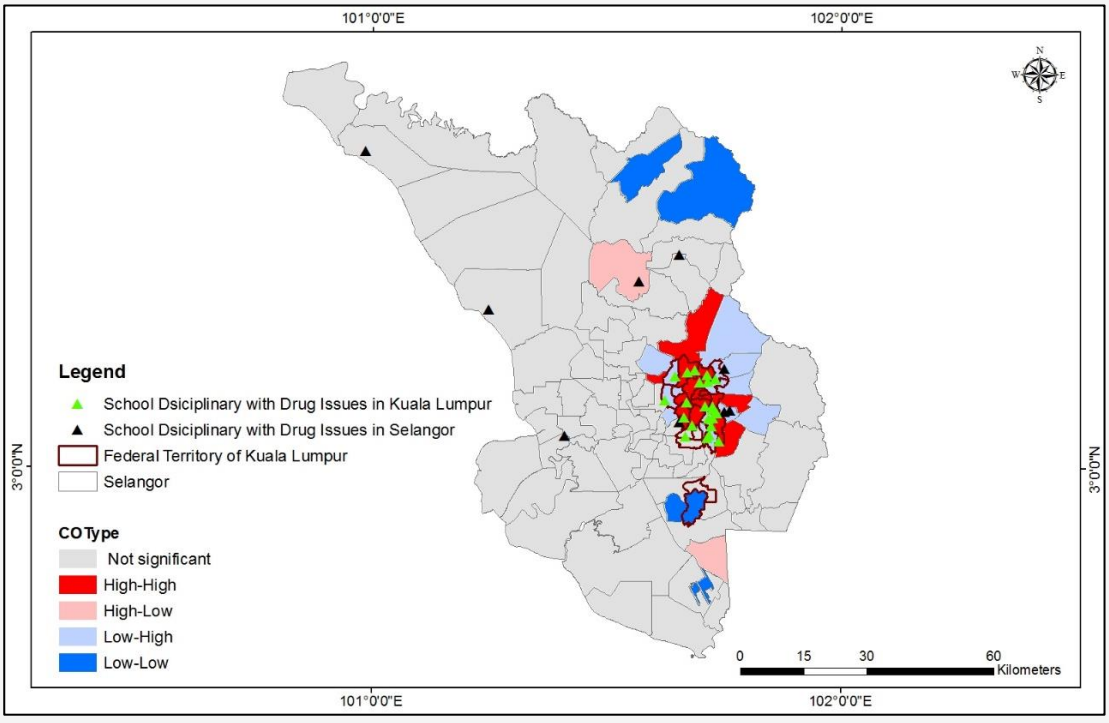

Figure 9: The LISA cluster analysis of adolescent drug trafficking and addiction in certain areas of Kuala Lumpur and Selangor in 2020

However, in 2018, the number of high-high cluster areas increased to 22, including Pantai, Serdang, Salak Selatan, Ampang, Salak Selatan Baru, Bandar Kinrara, Jalan Tun Razak, Sungai Besi, Kepong, Jinjang, Sentul, Setapak, Tun H.S Lee, Pandan Indah, Pudu, Cheras, Travers, Bandar Puching, Dang Wangi, Chow Kit, Bukit Jalil, and Kajang (Refer Figure 7). LISA also revealed that only eight areas were classified as low-low value of adolescent drug trafficking and addiction which including Aeropolis, Sungai Pelek, Saujana Utama, Bandar Baru Salak Tinggi, Sepang, KLIA2, KLIA 1 and Ulu Bernam. Some other areas spotted as high-low and low-high areas which comprises of Brickfields, Taman Melawati, Petaling Jaya, Wangsa Maju, Petaling, Taman Tun Dr.Ismail, Batu 9, Seri Kembangan, Hulu Kelang, Gombak, Semenyih, Sri Petaling, Sri Hartamas and Batu 14.

Moving forward to 2019 as shown in Figure 8, there were 18 areas classified as high-high clusters for drug trafficking and addiction among adolescents in Kuala Lumpur and Selangor. The areas with significant low-low value increases to 10 areas compare to year 2018. These areas including Aeropolis, Sungai Pelek, Tanjong Sepat, Sepang, KLIA 2, KLIA 1, Bukit Sentosa, Ulu Bernam, Rasa dan Kuala Kubu Bharu. The spatial patterns of adolescent drug trafficking and addiction was detected random patterns in Taman Melawati, Salak Selatan, Petaling Jaya, Sungai Besi, Wangsa Maju, Taman Tun Dr.Ismail, Sea Park, Batu 9, Damansara, Hulu Kelang, Gombak, Desa Jaya, Sri Petaling, Sri Hartamas, Bukit Jalil, Sri Damansara, Batu 14, Sungai Besar and Bandar Baru Salak Tinggi.

However, in 2020 (Figure 9) the number decreased to 15 areas categorised as high-high clusters. These changes in the distribution of high-high cluster areas highlight the dynamic nature of the issue and the need for ongoing efforts to address drug trafficking and addiction among adolescents in the region. The areas of Cyberjaya, Klia 2, Klia 1, Kalumpang, Kuala Kubu Bharu and Presint 7 were classified as low-low value which indicating cold spots areas. However, Taman Melawati, Salak Selatan, Salak Selatan Baru, Jalan Tun Razak, Sungai Besi, Kepong, Wangsa Maju, Pandan Indah, Taman Tun Dr.Ismail, Sea Park, Hulu Kelang, Gombak, Desa Jaya, Sri Hartamas, Batu 14 Bandar Baru Salak Tinggi and Bukit Sentosa.

4. Discussion

According to LISA's analysis spanning from 2015 to 2020, it was revealed that six areas consistently emerged as high-high clusters for adolescent drug trafficking and addiction. These areas, namely Pantai, Ampang, Jinjang, Tun H. S. Lee, Pudu, and Cheras, exhibited a concentrated prevalence of drug-related activities among adolescents aged 17 years

and below. This consistent identification of these areas highlights the urgent need for targeted interventions and support to address the persistent issue of drug trafficking and addiction within these communities. Efforts should be focused on providing resources, education, and prevention programs to help mitigate the impact on the vulnerable adolescent population in these specific locations. Adolescent drug trafficking and drug addiction are concentrated in certain areas and likely near around school disciplinary with drug issues.

In the area of Pantai, there is a school that has been classified as having disciplinary problems related to drug issues, known as SMK Sri Pantai. This particular school has been identified as facing challenges with drug-related incidents among its student population. Efforts to address these issues and provide support to the students and the school community are crucial in ensuring a safe and conducive learning environment for everyone involved. Collaborative measures involving school authorities, parents, and relevant stakeholders can play a vital role in tackling the drug issues and promoting a positive educational experience for the students of SMK Sri Pantai. Despite Ampang being classified as a high-high cluster for drug trafficking and drug issues, it's important to note that SMK Bandar Ampang, a school in the area, has not been involved in drug problems. Although the school has been classified as having disciplinary issues, it is commendable that they have managed to maintain a drug-free environment.

Located in the Jinjang area, SMK Dato Ibrahim Yaacob finds itself in an area that has been identified as a hotspot for drug trafficking and addiction among adolescents. The close proximity of the school to this high-risk environment underscores the importance of implementing preventive measures and providing support to ensure the well-being and safety of the students. SMK Dato Onn and Tun H. S. Lee, along with the Cheras area, have been closely associated with drug issues among adolescents. Additionally, SMK Cochrane Perkesa is also known to be connected to these drug-related challenges. Adolescent drug trafficking and drug addiction tend to be highly concentrated in specific areas, often in close proximity to schools that have a history of disciplinary issues related to drugs. These areas become hotspots for drug-related activities among young individuals. The presence of drug trafficking and addiction in these locations can be attributed to several factors.

Firstly, schools with a high prevalence of disciplinary cases related to drugs create an environment where drug use and distribution become normalized among students. This normalization can lead to an increase in drug-related activities, including trafficking, as students may feel more comfortable engaging in such behaviors within their immediate surroundings. Secondly, the close proximity of these areas to schools provides convenience for both drug dealers and potential buyers. Students who are involved in drug trafficking can easily access their target market within the school community, making it easier for them to distribute drugs discreetly. Likewise, students who are seeking drugs may find it more accessible to obtain them from peers within the school environment.

Furthermore, the social dynamics within schools play a significant role in the concentration of drug trafficking and addiction. Peer influence and pressure can contribute to the spread of drug-related activities, as students may be influenced by their peers to experiment with drugs or engage in drug trafficking. This social network within schools can create a self-perpetuating cycle of drug-related issues. It is important to note that these concentrated areas of adolescent drug trafficking and addiction are not limited to the immediate vicinity of schools but can extend to the surrounding neighborhoods. The presence of drug-related activities near schools can have a ripple effect, attracting other individuals, including adults, to engage in drug-related behaviors in the area.

According to the Survey Report 2020-2021, adolescent drug abuse remains a significant societal issue that demands urgent attention and effective solutions. Drug use and dealing openly in certain geographical locations can be perceived as problematic by authorities or the general public [21]. The schools that are associated with disciplinary problems and drug issues are significantly influenced by the areas in which they are located. It is notable that most of these schools are situated in high-high clusters of drug trafficking and addiction among adolescents aged 17 years and below. This correlation suggests a strong relationship between the prevalence of drug-related activities in the surrounding areas and the challenges faced by these schools. While most research on drug markets has primarily focused on adult-oriented locations associated with drug-related criminal activity, it is important to note that schools can also serve as environments conducive to such activity. Schools, particularly middle schools and high schools, bring together a large population of young individuals who may have limited supervision, some of whom may be potential drug users. Therefore, schools meet the criteria outlined by the routine activities perspective for the formation of a drug market node [22].

Previous studies have identified several factors that influence adolescents' involvement in drug trafficking and addiction. Individuals who have experienced depression are more likely to have engaged in tobacco smoking and alcohol consumption, which, in turn, increases the likelihood of drug use [23]. The results of the multiple regression analysis indicated that peer pressure played a substantial role in the initiation of drug abuse among young individuals in a rehabilitation centre in Kuala Lumpur [24]. Many students in schools and universities across the country are being lured into using psychotropic drugs instead of substances like heroin and cocaine. The primary reason for this trend is the ease of access and affordability of these drugs, with some pills being sold for as low as RM5 [25]. The Ministry of Education has pinpointed 402 schools across the country as areas of concern for disciplinary and drug-related issues. With 76 schools on the list, Selangor is the leading region. The schools have been classified into two distinct categories - those with disciplinary issues (Category 1) and those grappling with both disciplinary and drug problems (Category 3). The list reveals that among the 76 schools in Selangor, nine have been singled out as grappling with drug-related problems. Although Kuala Lumpur has a relatively smaller number of schools, with only 22 listed as hotspots, all of them have been categorized as having drug-related issues [26].

5. Conclusion

LISA analysis can be a valuable tool in identifying patterns of drug trafficking and addiction among adolescents. It is evident that schools classified as hotspots for disciplinary issues and drug addiction are often influenced by their surrounding environments. Notably, the majority of these schools are located in high-high cluster areas, indicating a concentrated prevalence of drug-related activities. To ensure a safe learning environment for students, it is crucial for the Ministry of Education to take action in addressing these problems. Collaboration between the community and government is essential in combating drug issues among adolescents, as the younger generation plays a vital role in the state's development. By working together, we can create a supportive and secure environment that empowers adolescents to thrive and contribute positively to society.

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