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CONTENTS

LECTORI SALUTEM!

Dear Readers,

All the discipline have their milestones. We hope publishing this journal is such a milestone in criminal geography, since, criminal geographical journal has not been published yet as far as we know.

Many years of organization, the involvement and hard work of dozens of researchers have preceded the publishing of this scientific journal.

The Criminal Geographical Journal was founded by Hungarian researchers, and later researchers from other countries have joined to the editorial board.

I really hope that this journal will help developing criminal geographic researches, and more and more research results and studies will be published that can be used in practice in law enforcement.

The editorial board conists of researchers from 6 countries. This guarantees that different criminal geographical aspects will be represented in the journal. We plan to further broaden the editorial board.

I wish you useful pastime with the CGJ. If you have any ideas or feedbacks to develop this journal, please share them with the editorial board.

We are waiting for your scientific articles, reviews and any other relevant script.

Szabolcs Mátyás

Chair of the editorial board

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KNOWN INDIVIDUALS AND ANALYSIS METHODS OF CRIMINAL GEOGRAPHY IN HUNGARY

Keywords: crime, criminal geography, map, research

1. Introduction

"Public safety is a collective performance for society. The protection of public order and safety cannot be formulated as an official task, there is no authority, there is no authority competence that would leave public security without social assistance. Sin is born in society. The causes of sin arise in society and the members of society also commit crimes. Law enforcement is at the service of society and the authority is given to society. How powerful this authority is, how massive it is that depends on the law-abiding power of this society. It depends on the economic situation. It depends on knowledge, the quality of culture and depends on morality" – said Prof. Dr. Géza Finszter, Professor Emeritus at the National University of Public Service in his presentation by the Civil Guard on crime prevention and public weal, on November 26, 2012.
Scientific criminological research have played an important role in recognizing what has been said, such as criminal geography studies, whose practical use can only be the first step in creating good public safety.

2. The history of criminal geographic research in Hungary

In Hungary, Béla Földes was the first associated person with a criminal geographic study (1889). From the period between the two world wars we can highlight the work of lawyers and statisticians. In the 1950s it was not possible to conduct criminological research, because the data of criminal statistics were secret. Criminology only revived in the early 1960s. From the 1980s onwards, more and more work by criminologists investigating the area of crime was born. Geographers can only carry out criminal geographic research since the late 1980s.
Zoltán Kovács was the first to draw attention to criminal geography in 1989. He considered the typing of crime, the designation of criminological districts and the creation of crime risk maps to be an important step.

István Vavró examined the territorial differences in crime in several of his studies, including in the Southern Great Plain region (2000). He also found it important to analyze the crime rate when analyzing territorial data, as there is a different detection rate besides the different crime rates of the population.

Klara Kerezsi, Géza Finszter, József Kó and Géza Gosztonyi have examined the districts of Budapest with different crime profiles for crime prevention. The crime maps of the districts were prepared and analyzed in detail. For the purpose of the investigation, they asked the people's opinion who living in the districts and suggestions were made on crime prevention (2003).

György Ritecz and János Sallai have published criminal geographic studies on the state border and border area on several occasions. The particular, special sub-area of criminal geography is the investigation of unlawful acts related to the state border and the border area.

István Kobolka researched the criminal geography of the border, with special regard to the crime of organization, including illegal migration and cross-border crime.

Gábor Michalkó primarily focuses on the specific relationship between tourism and crime, the spatial and temporal relationship of tourism-related crime through social geographic analysis of offenses committed by foreigners and the crime of foreign tourists. One of the first geographers has published a Criminal Geographic Cartographic Chart, an Intensity Cartogram, and a Point Map.

In his studies, Andrea Pődör formulated a comprehensive definition of the purposes of criminal geographic research, and drew attention to the possibilities and significance of the use of GIS in law enforcement and crime prevention.

In addition to the theoretical issues of criminal geography, Antal Tóth focused his research primarily on the unlawful acts revealed by Hajdú-Bihar County and the Border Guard. In addition, it defined the possible territorial dimensions of domestic criminal geography research, whereby it separated six territorial levels to investigate the spatial structure of crime: national or international level, regional level, county level, subregion level, settlement level, and level within the settlement: larger districts, smaller homogeneous neighborhoods, residential districts (TÓTH A. 2007, 21 p.).

Gábor Erdei demonstrated the role of crime analysis in social geography studies, with a historical overview of criminal geographical schools, and the introduction of the most important theoretical findings of foreign researchers and the application of GIS.

Szabolcs Mátyás, besides the investigation of Hajdú-Bihar County, dealt with the criminal geography of Debrecen primarily at the settlement level. In his work, the main indicators of criminal statistics were analyzed and compared for Hungary's regional centers. He also conducted surveys on the ethnic investigation of criminals in Hajdú-Bihar county. At the national level, the topic of several studies and lectures was the geographic comparison of Hajdú-Bihar County and Debrecen as well as Bihar County and Oradea.

Zsuzsa Piskóti-Kovács studied the application possibilities of modern trends in criminal geography at three regional dimension, international, regional and county levels. During her research, he put special emphasis on exploring the socio-economic factors behind crime. Using GIS more complexly, it has highlighted crime prediction as one of the possible directions for domestic crime-related investigations. She found that the most suitable territorial dimension for the application of territorial statistical methods would be the level within the settlement in the future.

Antal Forró, PhD student at the University of Debrecen, carried out an investigation into the spatial appearance of crime in Békés County, highlighting the area of competence of the Gyula Police Department. Particular attention was paid to some socio-economic contexts determining crime, and to estimating latency within the settlement level.

3. Modern criminal geography

3.1 Crime map

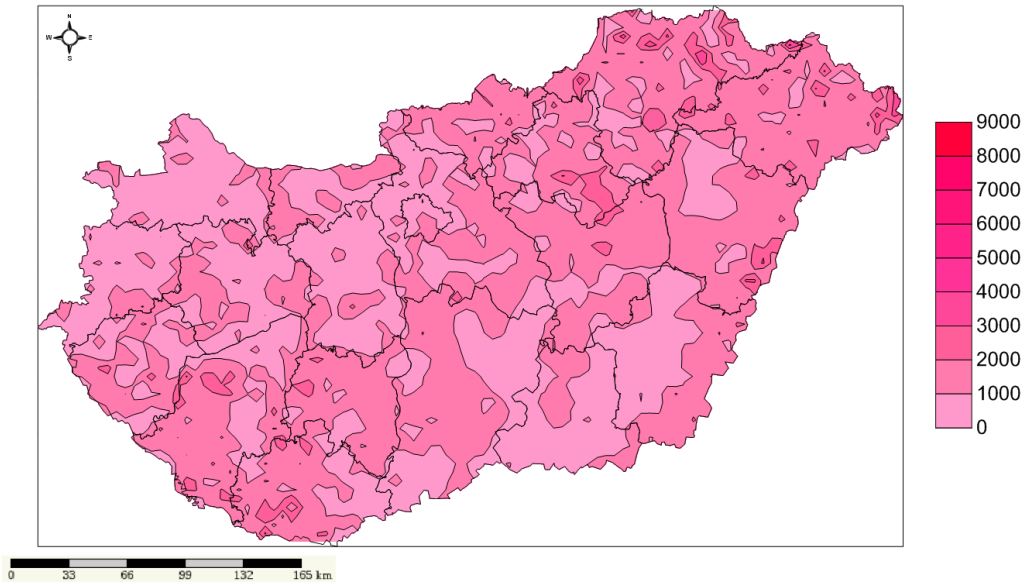
The mapping of crime has a history of more than one and a half centuries. "The crime map itself is a thematic map that depicts the geographical location of a feature of crime." During its analysis, we can also see relationships that would distract us.

The evolution of the past decades can be best perceived by the use of the so-called "pin-point maps" known by the police around the world (otherwise used in our country to this day). Pin-point maps serve the purpose of clearly seeing where the crimes were committed. "However, there were limitations to its application, since it is not possible to archive these maps, which is why the static is represented by a given duration and condition. It is also difficult to read these maps because they usually represent a variety of crimes that are marked with different colors, but they can be confused." (PŐDÖR A. 2005, 5 p.)

1. Figure: Territorial distribution of crime in the administrative area of Gyula city in the first half of 2016

Database: Based on Robotzsaru-NEO and data from the questionnaire survey (own editing)

The old pin-point maps were replaced by the first computer crime mapping. The first was made in the middle of the 1960s in St. Louis. The "breakthrough" was the widespread of Geographic Information Systems (GIS) in the late 1980s. "In the research, the method of geospatial representation and analysis of statistical data on crime was then increasingly involved." (PISKÓTI-KOVÁCS ZS. 2011, 1 p.; TÓTH A. 2007, 22 p.).



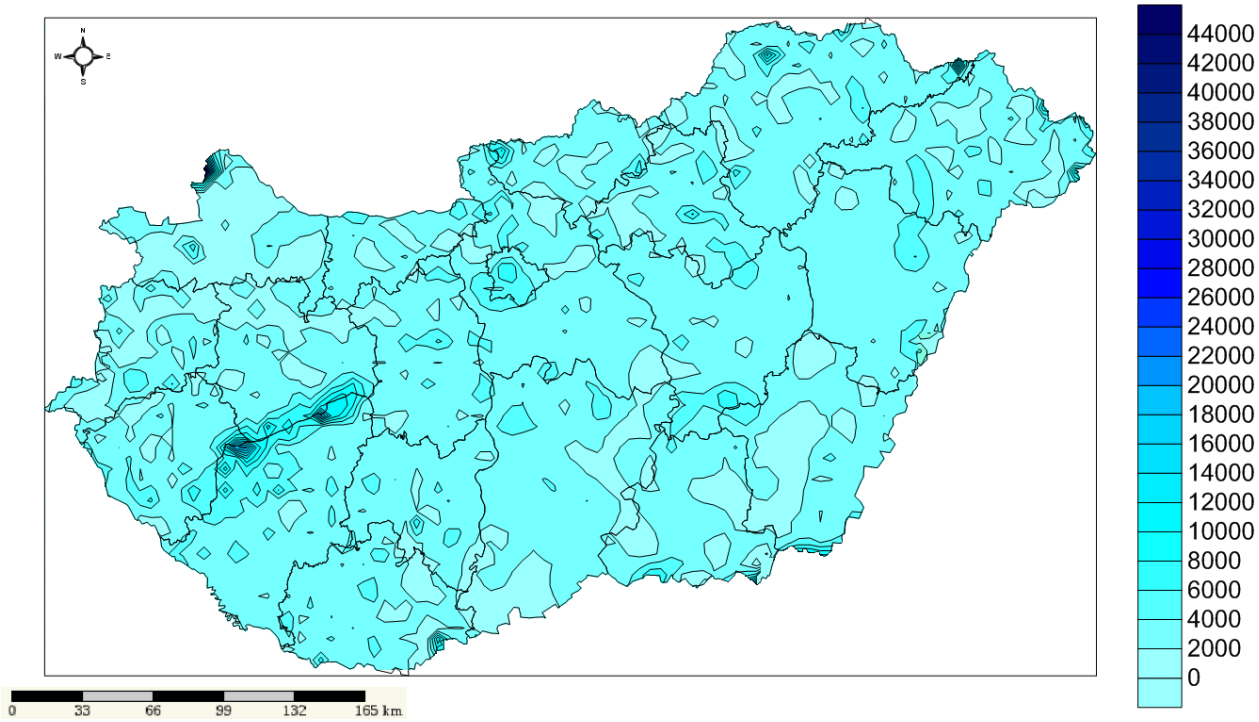
2. Figure: The arithmetic average and the number of registered crime offenders per 100,000 inhabitants in the settlements of Hungary (2001-2010)

Database: Based on data from the United Criminal Investigation and Prosecutor's Office and the Hungarian Central Statistical Office (own editing)

These maps can be used to represent the scene, time, type, and mode of committing the crime; depicting the place of residence of offenders and victims. Introducing patrols controlled by the police officers, illustrating the distance, and detecting serial crimes. It facilitates police work (efficient organization, investigation) and the work of police officers (strategic issues). (TÓTH A. 2007, pp. 24-25.).

3.2 Hot Spots Analysis

With the possibility of computer software, attention has been paid to the analysis of the so-called Hot Spots Analysis. There is no general accepted definition, but it is generally understood to mean areas that are infected with large-scale crime over a longer period of time, where crime is essentially concentrated. "These sites can be points (like a building) or patches (an area)." However, there is still no unanimous view on what criteria should be used to map the spatial distribution of hot spots. One of the characteristics of hot spots is that they change in space and time, and they are cyclical, so they may sometimes move away from smaller distances due to the protection against crime, and even may be retracted as a result of effective measures against crime. (TÓTH A. 2007, 28 p.; HARRIES, K. 1999, pp. 40-50.).

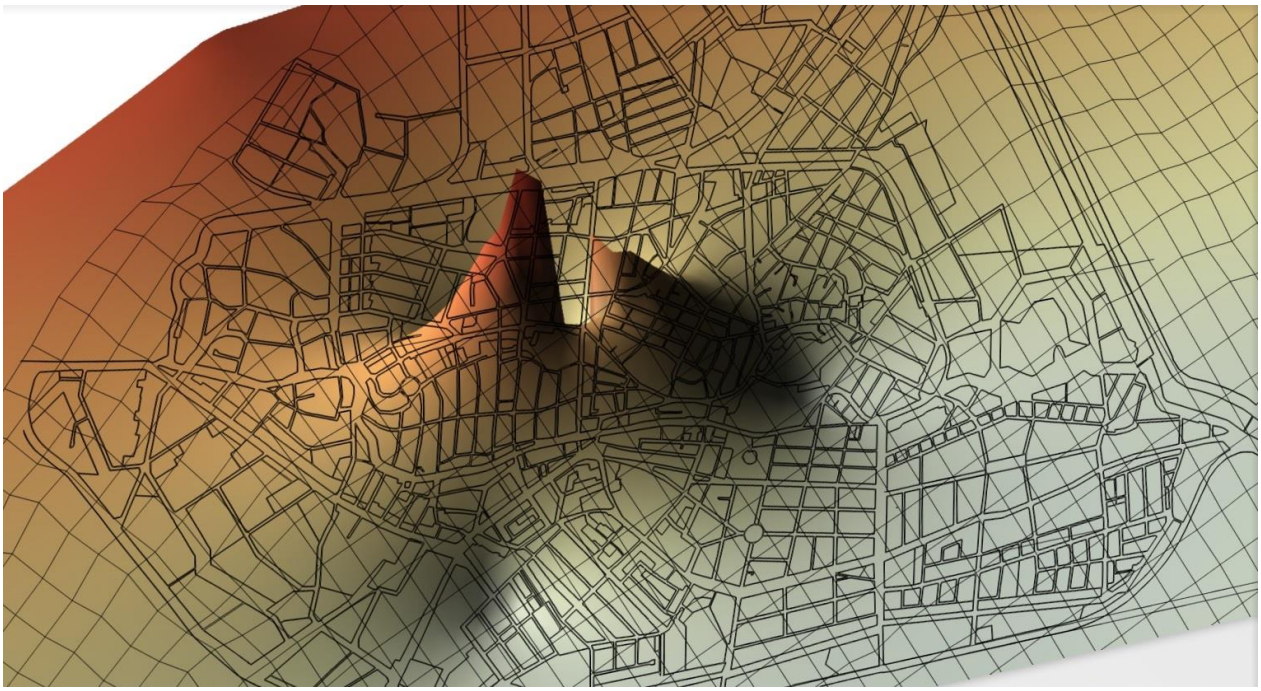


3. Figure: The arithmetic average and the number of registered crimes per 100,000 inhabitants in the settlements of Hungary (2001-2010)

Database: Based on data from the United Criminal Investigation and Prosecutor's Office and the Hungarian Central Statistical Office (own editing)

3.3 Crime Surface Model

The surface model produced from the crime data series is also suitable for the same spatial, surface examinations as crime maps. "Creating a surface model from a crime data series is basically based on the same procedure as for natural geographic factors: the coordinates "x; y" define the "horizontal" position in the same way, but the "z" values do not represent the height but the index of crime - in this case 3-dimensional aggregate map of latent crime in the downtown of Gyula city. The "accuracy" of the surface model could be achieved by densing the dots, but the availability of these data is limited." (PISKÓTI-KOVÁCS ZS. 2014, pp. 64-65.).



4. Figure: 3-dimensional aggregate map of latent crime in the downtown of Gyula city

Database: Based on data from questionnaire survey (own editing)

4. Summary

In conclusion, we can say that criminal geography studies are a novelty of today, as a relatively new trend in social geography which is also an area of interest for the wider public, and an important link of criminal sciences. At the same time, criminal geographic research not only deals with the territorial appearance of crime as a social mass phenomenon, but also with the analysis of its social, economic background, and the creation of a geographic profile that can assist in reconnaissance and develop a comprehensive crime prevention strategy.

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CRIMINAL GEOGRAPHICAL RESEARCH IN THE ADMINISTRATIVE AREA OF GYULA CITY WITH PARTICULAR ATTENTION TO LATENT CRIME

Keywords: crime, criminal geography, latency, police headquarters

1. Introduction

Social-economic changes in Hungary since the change of regime at the turn of the 1980-1990s in particular the growing crime and the deepening of the the subjective sense of security of people justifies the social geography of crime.

The spatial distribution of crime in different administrative units (regions, counties, cities and their catchment areas) is different. There has been a very unfavorable change in the quality, tools and methodology of domestic crime. Crime has become more dangerous, more violent, more rough than before. For this reason, the exceptional cases of crimes have been given more prominence in the media, which has also severely impaired people's sense of security.

The unfavorable change of domestic crime is indicated by the fact that previously unknown or exceptionally occurring crime phenomena have been introduced. In Central European countries, including Hungary, foreign criminal organizations have built their trade relations and base. Therefore, the examination of these negative phenomena became especially important in terms of getting to know the structure of the changed crime.

Because of my high interest in the topic, I have tried to select an area and city where geographic research of crime has not been carried out before. The chosen region was the jurisdiction of the Békés County Police Headquarters and the administrative area of Gyula. My decision was primarily based on the isolation and border position of the county, and the availability of extensive study opportunities that are prerequisites for effective research.

My research objectives included placing the jurisdiction of the Békés County Police Headquarters in Hungary's crime map and explore the structure of crime in Békés county. Then conduct comparative analyzes of space and temporal aspects belonging to the jurisdiction of

the Békés County Police Headquarters' eight police stations' criminality, examine the effectiveness of police work. Continuing the research at settlement level, analyzing the criminalization of Gyula city, conducting a questionnaire survey among people to uncover latent crime.

My research was partly based on police reports published on the Internet. I used the data of the United Criminal Investigation and Prosecutor's Office and the 2001 and 2011 population census data of the Hungarian Central Statistical Office.

2. The definition of criminal geography

Before defining criminal geography, I consider it necessary to briefly describe the definition and phenomenon of crime. „Crime is an expression of the relationship with the society at the time in a behavior that violates the political, economic, cultural order of the given society, the prevailing social values, and through the criminal norms." (Vigh J. 1998, p. 14.). So crime is a social mass phenomenon that „already shows a disorder of the society" in the event of a massive rise or fall (Vigh J. 1998, p. 48.).

„Criminal geography examines the tendency, dynamics, structure, as well as social, economic, and demographic background of crimes and criminals within a delimited geographic scope." (Forró A. 2012, p. 14.) Criminal geography is basically based on the science of criminology, sociology, and social geography. Criminal geography „doesn't satisfy the comparison of geographic space and crime statistics but ask the question: what are descriptive indicators that determine the growth of crime, and which explain the attractive impact of a given geographic location on crime." (Herold H. 1973, p. 82.)

3. The crime situtation in Hungary

The crime of our country, like many other social mass phenomena, has increased dramatically since the 1989-1990 political regime change, it has achieved several highlights in the past quarter century. This is mainly due to the introduction of previously unknown or exceptional occurrences of crime (international organized crime, drug trafficking, oil mafia, smuggling, etc.) and due to unfavorable economic processes.

The relationship between registered crime and the number of victims can be established, while there is greater latency in the stagnant tendency of the registered crime offenders. We call latent crime the difference between actual and known crime with bogus simplicity, „whose extent, structure, spatial and temporal changes are unknown." (Patkós Cs. – Tóth A. 2012, p. 251.)

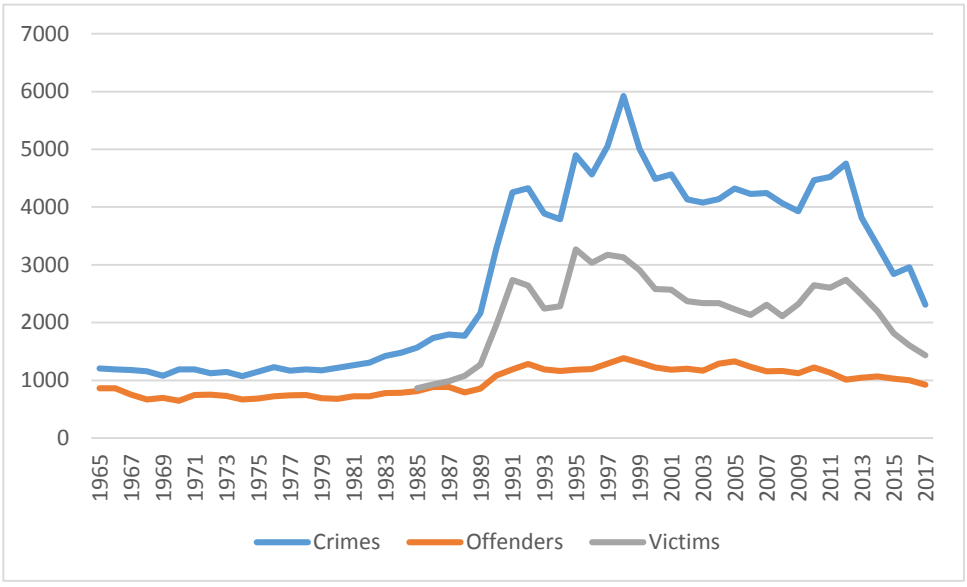

Figure 1: The number of registered crimes, offenders and victims per 100,000 inhabitants in Hungary (1965-2017)

Database: Based on data from the Hungarian Central Statistical Office (own editing)

The number of registered crimes has dropped significantly (-48.87%) over the last 27 years, especially in the eastern counties, but we don't know anything about latency. Only with the territorial distribution of registered offenders, and with the trends of known crime can be estimated.

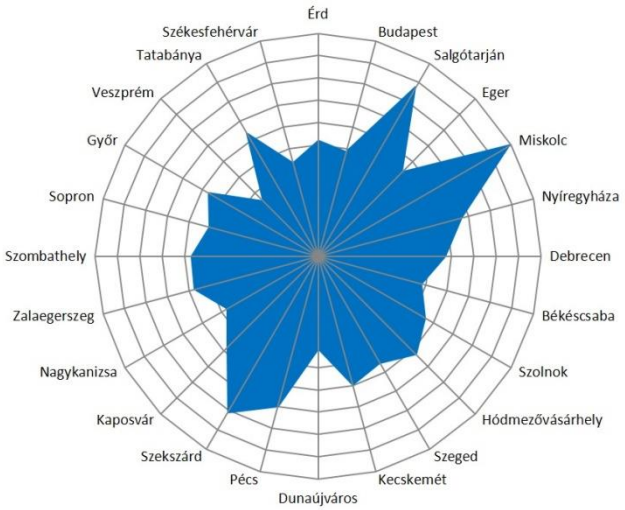

Figure 2: The arithmetic average of registered offenders per 100,000 inhabitants in the Cities with County Rights of Hungary (2001-2010)

Database: Based on data from the United Criminal Investigation and Prosecutor's Office and the Hungarian Central Statistical Office (own editing)

Interestingly, if we look at the number of criminals registered within the jurisdiction of Cities with County Rights over a 10 years period an east-west axis can be identified in the distribution of offenders. This is mainly due to unfavorable economic processes.

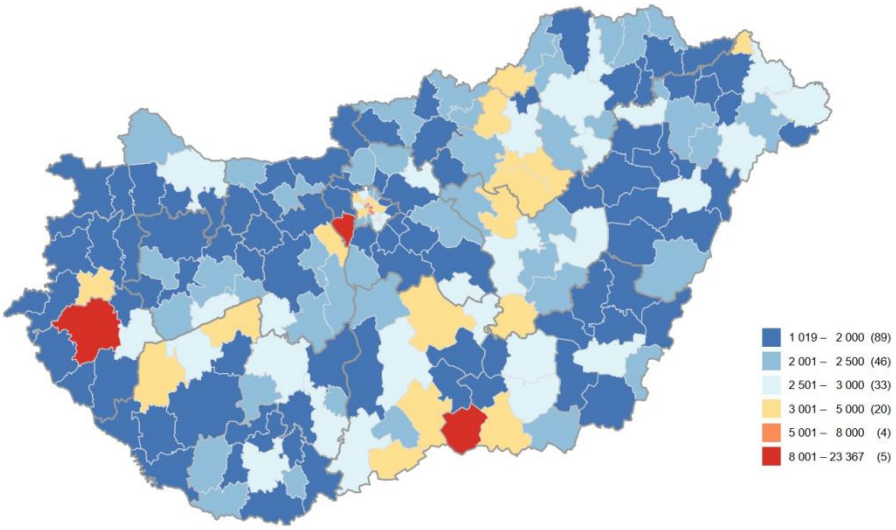

Figure 3: The number of registered crimes per 100,000 inhabitants within the jurisdiction of the districts in Hungary (2016)

Database: Based on data from the Hungarian Central Statistical Office

Although in recent years there are often mention of decreasing registered crime data, it should be mentioned that changing the limits of the infringement that in particular distorts the number of crimes against property, such as theft and burglary. The criminal group of crimes against property represents nearly two-thirds of the known acts.

This generated situation from the point of view of criminology, and the other unfavorable processes are coupled with an unexpected new negative phenomenon even with the decreasing investigative efficiency indicators, which have also been changed, while the definition of the unknown culprit reconnaissance indicator was removed from criminal statistics, and a new indicator was introduced. This makes it difficult to conduct long-term studies.

Table 1: Investigation results in Hungary and Békés county, and the position of the Békés County Police Headquarters in the county ranked with Budapest (%)

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Hungary	49,0	54,1	54,4	56,4	56,8	54,7	53,6	48,3	46,3	41,2	37,4	40,8	51,4	65,1
Békés	53,6	65,8	63,5	64,4	71,6	64,7	66,6	61,2	63,0	49,0	68,1	60,1	58,2	66,0
Ranked	14.	4.	6.	4.	1.	3.	2.	2.	1.	8.	1.	3.	9.	5.

Database: Based on the annual reports of the Hungarian Police Headquarters published on the Internet (own calculation)

Police Headquarters that have not yet been the country's hot spots of their crime, there is a relatively well-defined range of values except for one year, just like in Békés county. This does not exclude the phenomenon of latent crime, but it refers to a contradiction, as besides decreasing crime data we should expect a relatively increasing efficiency indicator.

In the case of Békés County Police Headquarters, it can be said that the investigative effectiveness indicator was above the national average between 2002 and 2015, indeed, in three years (2006, 2010, 2012) the most successful police-office was in the national ranking. In addition, it can be established by examining criminal infections that the Békés County Police Headquarters ranked 16th in the national ranking with Budapest, in terms of offender rate was the 12th among police headquarters in 2017. Interestingly, the county's unemployment rate was only 4.15% in the year under review, and 8th in the national rankings.

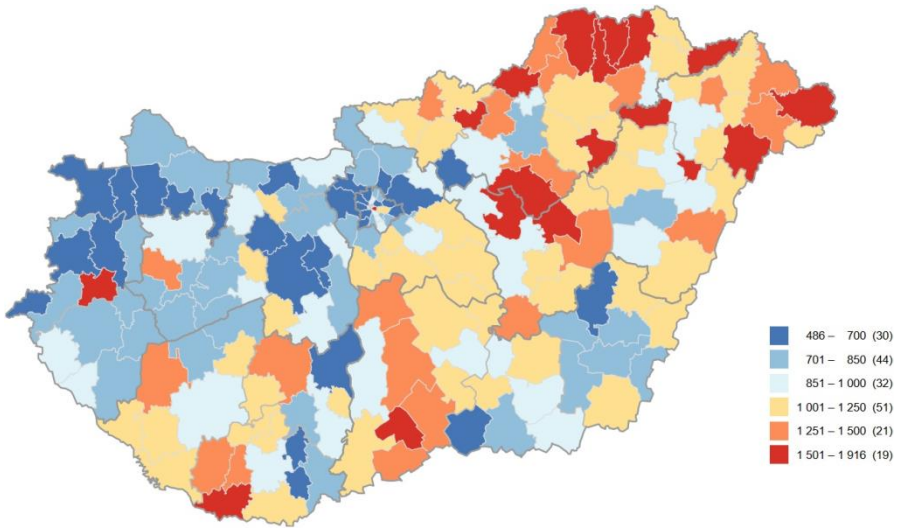

Figure 4: The number of registered crime offenders per 100,000 inhabitants within the jurisdiction of the districts in Hungary (2016)

Database: Based on data from the Hungarian Central Statistical Office

4. Crime and offender rate in Békés county

If we look at the Békés County Police Headquarters, it can be stated that in recent years most of the crimes per 100,000 inhabitants have been committed within the jurisdiction of Békéscsaba, Gyula and Szarvas Police Departments. In addition to the three police departments mentioned above the crime within the jurisdiction of the other two border areas, the Sarkad and Mezőkovácsháza Police Departments was outstanding in Békés County. Nearly one-third of the registered crimes were committed within the jurisdiction of the Békéscsaba Police Department, while in terms of the percentage of known crimes and the number per 100,000 inhabitants the Békés Police Headquarters was the lowest-infected police department in Békés

County. Examining the crime rate it can be stated the unfavorable situation of border police-office (Sarkad, Mezőkovácsháza and Gyula) as well as the medium infection of the Békéscsaba and Szeghalom Police Departments. The least infected police-office was also the Békés Police Department in Békés County in terms of the number of criminals per 100,000 inhabitants.

5. Crime situation in Gyula and the estimation of latency

„Unfortunately, in the research of crime, geographic factors are relatively small, although in many cases crime can be found among the basics of social geography." (Mátyás Sz. 2018, p. 105.). Continuing my research at the settlement level, I analyzed the criminalization of Gyula, and I conducted a questionnaire survey among people from 2010 to explore latent crime. I asked 1663 people. I was wondering if they knew about crimes that were not reported to the Police. Some of the respondents – because they were victims of such acts – they were able to present the locations of these events geographically, however, it is often just an offense had been committed with them. That is why I have dealt separately with the bagatellized crimes (such as theft of less value), and most of all, I focused on the events that most affect the subjective sense of security.

Figure 5: Territorial hot spots of latent crime in the administrative area of Gyula

Database: Based on data from questionnaire survey (own editing)

I have completed the evaluation of the results. On this basis, it can be concluded that the average latency rate was 13.31% in the examined period, which characterizes the city's police activity.

Interestingly, the average index was 4.18 on a scale of 1 to 5 of the subjective sense of security carried out by the Békés County Police Headquarters in 2013.

6. Summary

Summarizing the research, the crime and crime offender rate of the counties in Hungary has been quite varied in the decade after the Regime Change. The spatial distribution of crime in different counties showed a different occurrence. The change of the Law on Offenses in 2012 and the New Criminal Code make harder for long-term research. This will result a greater significance for the social geography of crime, especially at the level of the settlement, to give an accurate picture of the spatial spread of crime. Provide a basis for developing an effective crime prevention strategy, and help the Police's work even with the estimation of latency.

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TERRITORIAL REARRANGEMENT IN DRUG TRAFFICKING AFTER THE BORDER CLOSING

Keywords: drug smuggling, Hungarian southern border, illegal migration

Purpose

On the Southern borderline of Hungary illegal immigration has been growing from 2011 and it reached its peak in 2015. However, after the actions of the Hungarian government from 2016 there is a decline in the number of illegal border crossings. At the same time we have experienced significant transformations in the numbers of drug discoveries at the official crossings on the Serbian-Hungarian border.

Design/Methods/Approach

To examine the connections I use the detection data of the National Tax and Customs Administration (NTCA) and the data of border police measures. Let us assume that the changes in the trends of drug smuggling are in connection with the official measures to address illegal migration. Secondly, let us assume that not even the increased official presence and the full green border closure are not able to stumble upon international drug trafficking.

Findings

The connection between the change in the field of drug discovery and the mass migration and strict official action against it – the technical barrier – is very complex. It seem proved that law enforcement and criminal measures aimed at illegal migration and its resolution have indeed had an impact directly on the trends in drug smuggling. However, these seem to have influenced only the selection of smuggling methods, guidelines and tools.

Originality/Value

These official data and trends are published for the first time. Use of these data by foreign researches – with particular attention to bordering countries – could help investigate the changes in the trends of drug smuggling in Europe.

1. INTRODUCTION

Nowadays we have to accept the usage of forbidden psychoactive substances (illegal drugs) as a fact. Furthermore it is also a fact that in the worldwide spread of drug, smugglers and merchants have a dominant role. Smugglers and merchants are still holding a dominant role in the evolution of drug culture. Although, Edward Lorenz's "Butterfly Effect" theory (Lorenz, 1963) made it clear that a tiny change in the world's processes can lead to significant consequences. Our experience proves that this finding is also true in the context of drug trafficking and drug smuggling.

An outstanding domestic example of this is the interplay of the Southern Slav civil war that has exploded in the 1990s and the smuggling of heroin. Since 1986 almost all of the illicit European heroin trade has shifted on the so-called Balkan route. However, after the war situation in Yugoslavia emerged, the central branch of the Balkan route (Istanbul - Sofia - Belgrade - Zagreb - Ljubljana) soon moved to the north, making Hungary the most significant transit country in Europe (Erdős, 2017).

And just as history repeats itself, nowadays again we find that changes in international events that are fundamentally independent of drugs have a significant impact on the smuggling of illegal drugs.

In the southern border of Hungary, from the year 2015, the news were about the challenges of mass migration and in the last one/one and a half years news reports are about the discoveries of small amount of illegal drugs every week.

The question then is given whether there is any connection between mass migration, strict authority actions, the closure of the southern frontier, and drug smuggling. Directly and indirectly what impact the current migration has on drug consumption and spreading (Sivadó, 2016)?

The present study therefore seeks to find out whether there is, due to the illegal migration wave in 2015, the physical closure of the green border and the increased official presence, there is any reorganization in the drug smuggling routes and methods in Serbia and Hungary.

1.1 Hypothesis

H.1. It is assumed that the establishment of a technical barrier to prevent illegal migration has an impact on the trends in drug smuggling. The closure of the frontier makes the activity of drug smugglers more difficult, so more people are trying to bring drugs into the territory of Hungary via the official borders on the roads.

H.2. It is also assumed that not even strict controls and increased authority presence are enough to eliminate drug smuggling activity at the border crossing points and green borders as well.

1.2 Data and method

Although under the Hungarian operative law, investigating drug crimes is not a matter for the customs authorities, however, it is reasonable to examine the work and results of this organization when clarifying the issues mentioned above. One of the decisive part of the customs duties is the prevention of smuggling – since the establishment of the independent Hungarian Royal Finance Guard (Erdős, 2017, Szabó 2017). In Hungary, most of the illegal drug deliveries appearing at the borders are still detected by customs officials today. Therefore, I use the drug detection data of the National Tax and Customs Office to research the connection between the closure of the southern frontier and increased official presence, and the reorganization in the drug smuggling routes and methods.

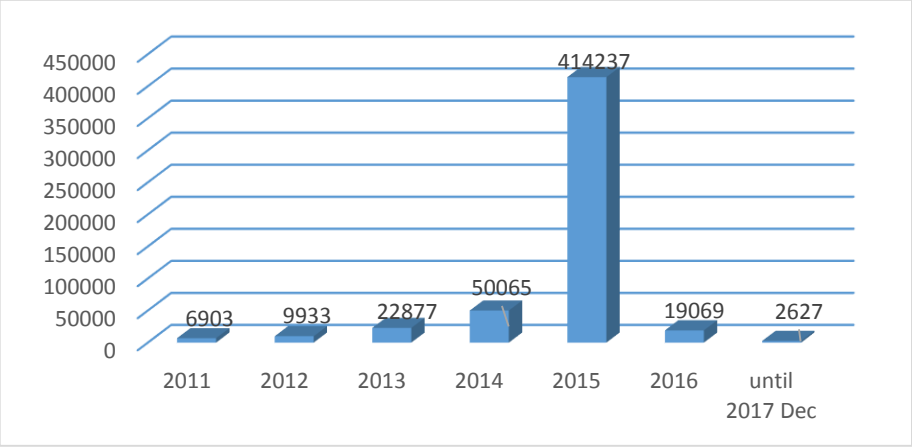
During the analysis the detection data of the Csongrád County Tax and Customs Administration and the Bács-Kiskun County Tax and Customs Administration are processed, since the official border crossing points at the southern border section are located in the jurisdiction of these two organizational units. We also used the database of Hungarian Police for study the number of investigated human smuggling crimes and other features of these offenses.

2. THE HANDLING OF MASS ILLEGAL MIGRATION AND THE EVOLUTION OF DRUG SMUGGLING

Illegal border crossing is not a new phenomenon. Since the founding of the state, one of the most important functions of the surveillance of the green borders was the capture of escaped slaves and smugglers who tried to get out of/ get in the country through the control points without paying customs (Négyesi, 2001). They also tried to get out of or get in the country elsewhere, avoided the control of authorities. More than a thousand years later, there has hardly been any change in this regard and illegal crossing of state borders are nowadays still not unprecedented.

According to Hungarian police data, between 2011 and 2014, the number of detainees captured on the Serbian-Hungarian border shows a steady increase (see Figure 1). However, from the beginning of 2015, irregular migration processes in this area began to increase, and from January to June, between 100 and 1750 per day were the number of people arrested for illegal border crossing (Balla & Kui, 2017). Due to migration pressure, the Hungarian Government decided to close that border section [resolution no. 1401/2015. (VI. 17.)]. As it was expected, migration shifted towards the Croatian border section, so the border closure was extended, and the entire southern border of the country was closed on 16 October 2015. From November 2016 to increase the efficiency of the barrier, the construction of the so-called smart fence – including the intelligent signaling system and cameras – began (Csobolyó, 2017). As regarding the barrier crossing, a significant reduction only occurred in March 2017, when the restrictions of the legislations related to the fence became a dead-end for people, who illegally crossed the border to reach the territory of Hungary in huge numbers (Kui, 2017).

Figure 5: Illegal Border Crossing on the Hungarian-Serbian border between 2011-2017.(number of cases)



Source: Data obtained directly from the data base of Hungarian Police

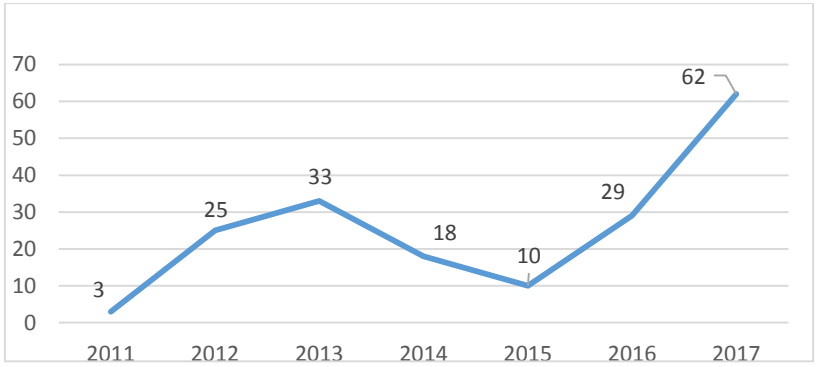
2.1 Changes in drug smuggling trends in the southern border region of Hungary (2011-2017)

Until the migration crisis unfolded at the crossing points of the southern border there had been a steady increase in the number of drug discoveries executed by the excise officers. In 2011 there were 3 cases of drug discoveries on the Serbian-Hungarian border, in 2012, 25 cases, and in 2013, 33 cases. At the same time as the ever increasing migration pressure on the green

border, the number of detection at border crossing points started to reduce: in 2014 18 cases, and in 2015 there very only 10 cases, when the excise officers found drugs.

The downturn in the number of detected drug smuggling has been followed by a steep growth since 2016, and by 2017 the number of smuggled drug traffickers arrested by officers has multiplied six times (see Figure 2).

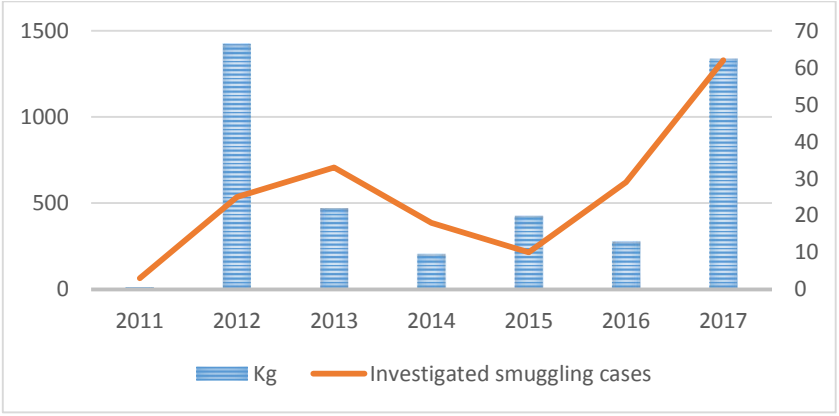
Figure 6: Detected drug smuggling cases on the Hungarian-Serbian border crossing points between 2011-2017 (number of cases).



Source: Data obtained directly from the data base of National Tax and Customs Administration

Between 2011 and 2017, the total of 4150 kg of drugs were found by the officers at the crossing points of the Serbian-Hungarian border. More than half of this amount was captured by NTCA officers in only two years: 1422 kg in 2012 and 1335 kg in 2017. In 2015, the amount of drug seized was 427 kg, most of which (417 kg) is connected to a single discovery. The remaining 10 kg of drugs are connected to nine more different discoveries (see Figure 3).

Figure 3: Detected drug smuggling cases (number of cases) and investigated quantity of drugs (kg) on the Hungarian-Serbian border between 2011-2017



Source: Data obtained directly from the data base of National Tax and Customs Administration

During the period under review, the most commonly used and largest drug seized was cannabis, of which more than three and a half tons were found by the officers. The quantities seized are followed by hashish, heroin, opium and other opiates, amphetamine and then cocaine (see Table 1)

Table 1: Investigated quantity of drugs on the Hungarian-Serbian border between 2011-2017 (gr)

Type of drugs	Cannabis	Hashish	Heroin	Opium	Other Opiates	Amphetamine	Cocaine
Quantity (gramm)	3361900,74	170353,68	78218	5145	7322	2934	472,9 (and 3 liters liquid cocaine)

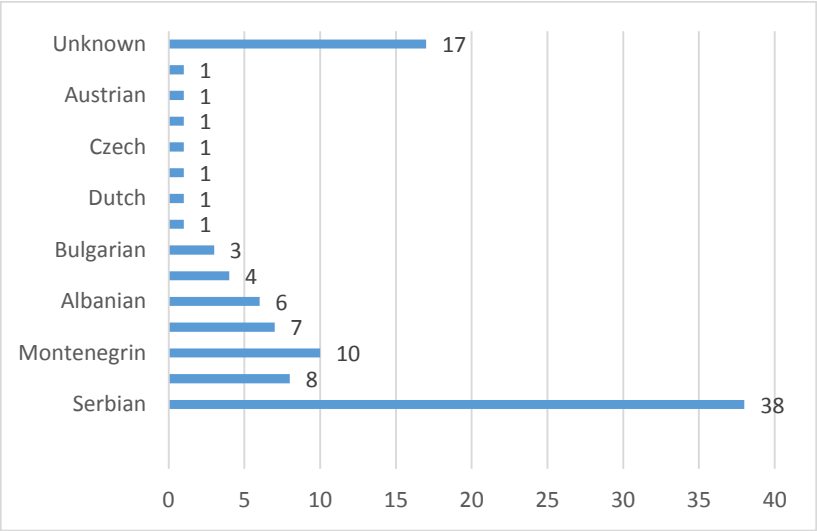
Source: Data obtained directly from the data base of National Tax and Customs Administration

The reason for the quantitative dominance of these drugs is that high-quality "skunk" cannabis for domestic and Western European markets arrives from Albania to the southern borders of EU, in larger batches (250-400 kg) they are trying to sneak into the country mostly by trucks. Heroin mainly destined for Western Europe is still transported from Afghanistan through the Romanian and Serbian border sections (Csesztregi et al., 2016).

NTCA data reveals that perpetrators try to smuggle large quantities of drugs by hiding it into factory and transformed cavities of different vehicles (cars, trucks, trains) on the border, while the smaller amounts, mostly intended for consumption, are found in the clothing and in the trunks by the customs officers.

Between 2015 and 2017, the known perpetrators were predominantly Serbians. The other perpetrators are typically Montenegrin, Hungarian and were from one of the Balkan countries - mainly Macedonia, Albania, or Kosovo (see Figure 4). Drug-smuggling among other nationalities is negligible on this border.

Figure 4: Investigated drug smugglers on the Hungarian-Serbian border broken down by nationalities between 2015-2017 (number of head).

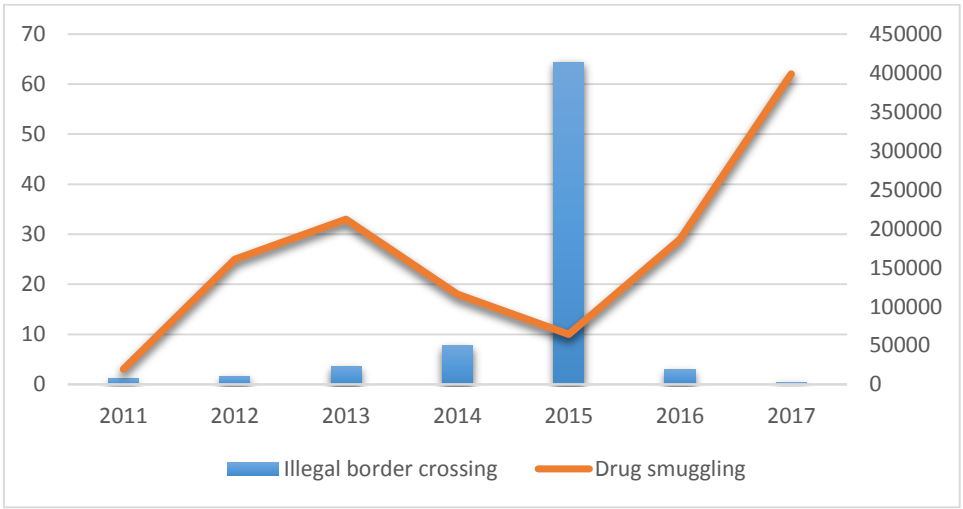


Source: Data obtained directly from the data base of National Tax and Customs Administration

Based on the police and NTCA data, it is well-established, while migration pressure increased, during the same period the number of crimes related to smuggling detected at border crossing points has decreased considerably (see Figure 5).

Between 2015 and 2016, at the same time with the strict border controls, and the closure of the entire southern border there was an increase in the number of drug discoveries.

Figure 5: Illegal border crossing and drug smuggling on the Hungarian-Serbian border between 2011-2017 (number of cases).



Source: Data obtained directly from the data base of National Tax and Customs Administration and Hungarian Police

3. RESULTS

Concluding from the data the connection between the change in the field of drug discovery and the mass migration and strict official action against it – the technical barrier – is very complex. The relationship between the two phenomena is important in the context of two questions, namely:

Why was there a decrease in the number of detected drug smuggling at border crossing points in 2015?

Why did this tendency begin to grow again by 2016?

Based on the conclusions drawn from the criminal and intelligence data, the following answers can be given to the above question.

First Point. It is almost certain that the migration pressure at the southern edge of the country and then the closure of the green border had a direct impact on drug smuggling.

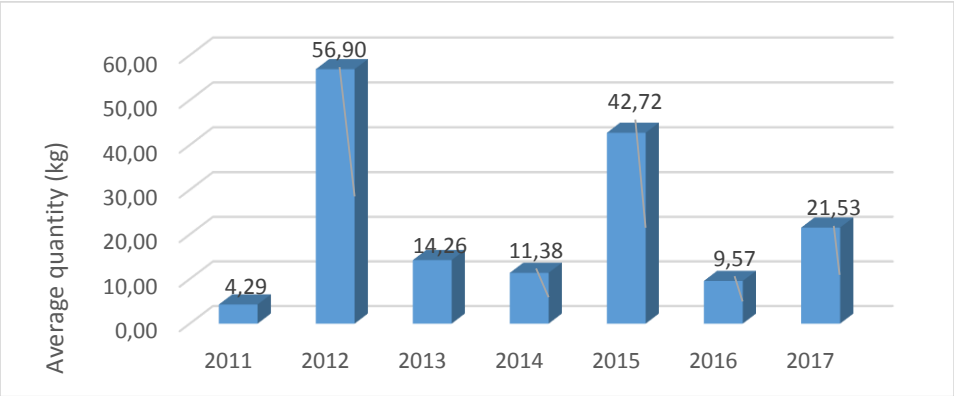
It is believed that in 2015 during the illegal border crossings in the Serbian-Hungarian border – taking advantage of the uncontrolled nature of its mass – a part of the drug smuggling routes were transferred to this area. It has long been known that smuggling at the border crossing is threatened by official controls and they often threaten to fail. For this reason, in many cases smugglers are trying to bring strictly controlled products such as drugs or cigarettes at the green border into the country (Nagy, 2012). Consequently, reducing the smuggling revealed at official border crossing points.

From 2016, however, at the border and near its depth enhancing controls has already increased the risk of drug smuggling. The physical closure of the green border made the smuggling difficult and costly in this area.

The criminal intelligence data collected by the Budapest Police Chief Department indicates that it has been far more difficult and costly to import drugs into the country to the smugglers since the border checkpoint was set up, so in many cases they are trying to use the border crossings (Lészkó & Sivadó, 2018). This is why the number of cases of drug discoveries are increasing significantly from 2016 at border crossing points. The physical closure of the green border crossed some of the smuggling activity at the border crossing points.

However, with regard to the total amount of seizures on border crossings and the average quantity of seizures, there was a recession in 2016 compared to 2015 (see Figure 6).

Figure 6.: The average amount of drugs per exploration on the Hungarian-Serbian border between 2011-2017 (kg)



Source: Data obtained directly from the data base of National Tax and Customs Administration

Between 2011 and 2017 there were three major cases of detection in which the amount of drug seized in a procedure exceeded 400 kg: 492 kg in 2012, 417 kg in 2015, and 500kg in 2017. Consequently, the smuggling of larger quantities of drugs, regardless of the migration situation, occurred both before and after 2015.

While we can see strong indications that the closing of green borders had an impact on drug trafficking, we have to be cautious using our data. In fact, there was the least amount of detected drug smuggling in 2015. On the other hand, during this period, the number of passengers has also decreased (see Figure 8). For better understanding of the connection between drug smuggling and the closing of the green border, we should also know the number of the authorities exactly each year. However these data are not public.

Second Point. The reversal of the number of cases of detected drug trafficking in 2015 can be partly explained by the fact that in a chaotic situation, some of the drug smugglers were temporarily moving toward human smuggling. In 2015 with the illegal migratory masses, as expected, smugglers tried to profit from the emerging situation. Domestic and international sources both prove that, helping the illegal border crossing of people is the second most profitable smuggling activity after drug smuggling (Aziz, Monzini & Pastore, 2015; Vas, 2000). Police data clearly shows that the number of human smuggling has also steadily increased at the same time as migration pressure, since smugglers helped people to illegaly cross the border in exchange for a lot of money (see Table 2).

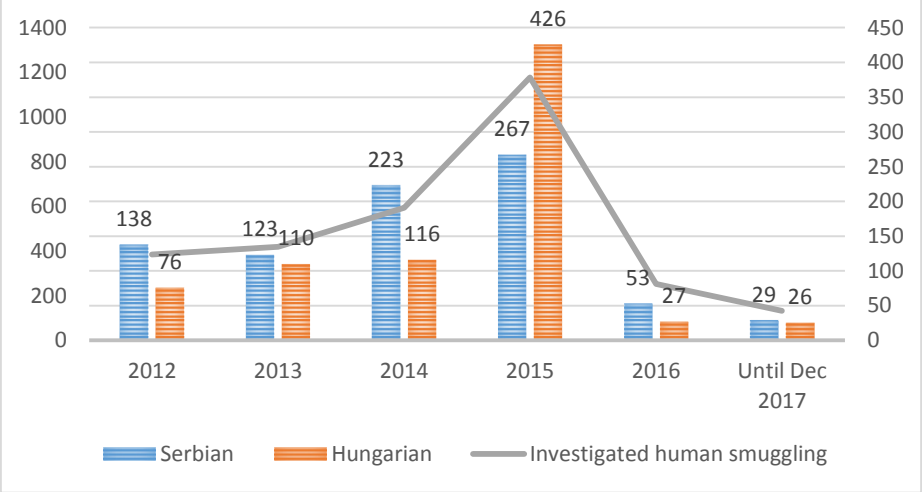
Table 2: Detected human smugglers on the Hungarian-Serbian border broken down by years between 2012-2017 (number of head).

Investigated Human Smugglers						
Year	2012	2013	2014	2015	2016	2017
Investigated cases	*384*	*418*	*593*	*1177*	*253*	*132*

Source: Data obtained directly from the data base of Hungarian Police

In the area of Csongrád County, for example, between 2008 and 2015, it increased by 1100% (6 <67) the number of criminal proceedings against human smuggling (Lukács, 2015). Most of the smugglers, like those mentioned in connection with the drugs, were Serbian and Hungarian citizens (see Figure 7).

Figure 7: Number of apperhended human smugglers broken down by main nationalities between 2012-2017 (number of head).



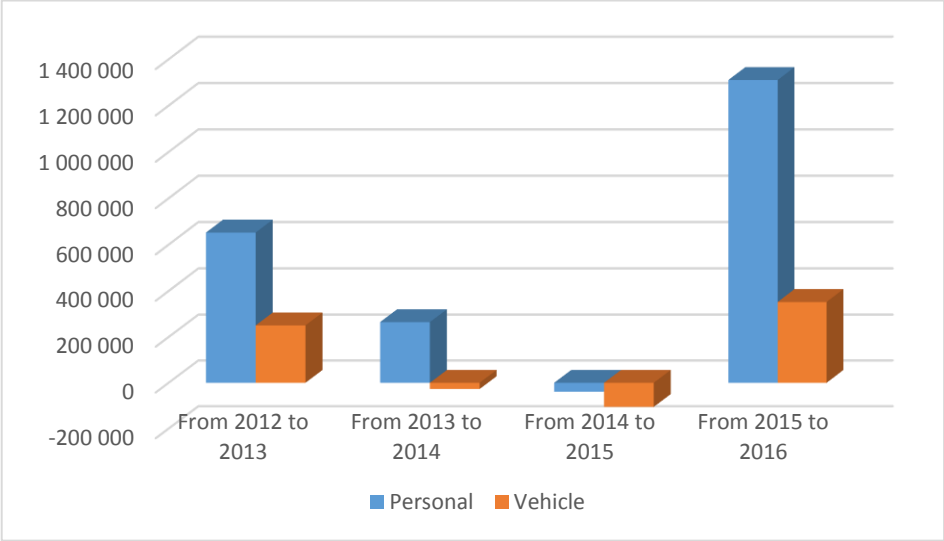
Source: Data obtained directly from the data base of Hungarian Police

Third Point. At the same time, we know that cross-border traffic is influenced by several factors that are independent of subjective human factors (Balla, 2017). Just as the various trends in cross-border crimes are also related to changes in border traffic. The changes in the trends of drug discovery from 2015 could of course be influenced by the fact that the total number of border crossing (persons and vehicles) has changed significantly on the Serbian-Hungarian border (see Figure 8).

Police figures show that, as illegal migration increases, passenger traffic declined by 39,212 in 2015 compared to 2014, and 105,382 fewer vehicles arrived in the country through the borders. In 2016, however, there is a re-growth in the traffic. Over the previous year, passenger traffic grew by 1,310,431 passengers and the vehicle traffic with 352,425 vehicles at this border section.

There is reason to believe that the radical decrease in border traffic in 2015 is also associated with a decline in the number of drug offenses.

Figure 8: Tendencies on personal and vehicle traffic on the Hungarian-Serbian border between 2012-2016.



Source: Data obtained directly from the data base of Hungarian Police

Fourth Point. The decreasing number of detected drug traffickers could also have been affected by the fact that in 2015 not only the perpetrators, but also the authorities themselves, focused primarily on the detection of trafficking in human smuggling. In addition, the radical increase in the number of crimes related to human smuggling has placed significant additional work on the authorities.

Just as we can not rule out that during this period, the temporary rearrangement of drug smuggling routes (eg. Croatia, Romania) or the methods (eg. the use of rail and aircraft) caused the change in the detection numbers.

4. Discussion

With regard to the hypotheses raised, law enforcement and criminal measures aimed at illegal migration and its resolution have indeed had an impact on the trends in drug smuggling. However, these seem to have influenced only the selection of smuggling methods, guidelines and tools.

Drug reports from 2015 (Csesztregi et al., 2016) and 2016 (Czér et al., 2017) do not report any perceptible changes in smuggling activities. Just as we do not have information from the narcotic drug market, which would suggest that it had been difficult at any time to get drugs.

The data analyzed show that the building of the technical barrier has indeed had an increasing impact on drug smuggling at border crossing points. This therefore places the highest responsibility on national border control authorities. However – as I mentioned above – we can not state clearly that the reason for the changes is only the building of the technical barrier and the closing of the green border. Other circumstances (eg. number of customs officers in this period) would be considered as well. Nevertheless, the presented data based calculation – taking into account the number of passengers and the number of detected smuggling crimes – confirms that the probability of detection of drug smuggling at official border points increased after the closing of the green border. In 2014 probability of detection of drug smuggling was $1,97^{-4}$ %. After closing the green border this probability number increased to $2,79^{-4}$ % in 2016 and $5,34^{-4}$ % in 2017.

It would be also useful to study detection data of the Slovenian, Croatian and Romanian customs authorities during the same period. It can provide further explanations.All in all, however, we can doubtless state, analysis of the events of 2015-2017, provides further evidence that the international spread of drugs cannot be prevented by law enforcement only (Erdős, 2015), and the implementation of a "drug-free society" is still mere fiction (Bayer, 2005).

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Official crime statistics versus fear of crime of the citizens in a Hungarian small town[1]

Keywords: fear of crime, crime mappimg, GIS, criminal geography

Abstract

A wide range of GIS/map based crime statistics available on line all over the world. However the public opinion of these statistics is that they do not show the real extent of crime (Nyíri, 2005). This study attempts to test the reliability of crime statistics with mapping the fear of crime. The result supports the idea that public perception of crime may be different from official data. Therefore it may be useful and necessary to test the citizens' opinion as an essential requirement in planning, policy and law enforcement strategies to increase their effectiveness.

1. Introduction

Modern law enforcement has a strong technical background (Levine, N., 2004). In contemporary law enforcement offices take care of maintaining websites for the citizens to show crime statistics. In Europe, crime statistics are usually available at country, or regional level on map, only a few countries provide crime data at municipality level. In Hungary the police opened up a new application for the public recently. (http://bbterkep.police.hu/mapdisplay/bu.html, last visited 05.01.2013).

According to sociologists there is a gap between the official level of reported crime and the amount of crime in the community (Coleman & Moynihan, 1996). Researchers admit that the official crime statistics has some limitations: (1) some crimes are not reported due to unawareness, fear of victimisation, lack of confidence in police, incapable to understand etc.,

[1] Originally was published in the GI_FORUM conference Salzburg, 2014

(2) attitude of police can influence the statistics due to employing different categories, campaigning against certain crimes, shifting between operational techniques like community policing to zero tolerance (3) changes in the number of policemen and legislation (4) social and economical changes.

Therefore many people think that crime statistics are not relevant to the real situation. It is also supported by a European survey (Nyíri, 2005) according to which only half of the crimes get reported to the police. Crimes such as car (89%) and motorcycle theft (82%), burglary and housebreakings (81%), theft from a car (63%), robbery (59%), and theft of personal property (54%) are usually reported to the police. Those crimes which emotionally sensitive, like sexual incidents are less frequently reported (Nyíri, 2005).

Therefore it is necessary to study the opinion of the citizens about crime in their municipalities and habitat (Lederer & Leitner, 2012, Fuhrmann et al., 2013). The author analysed whether the official crime statistic data correlates to the citizens' perception. In this study the official crime statistics provided on map by the police and the opinion of the citizens was compared for the same period.

2. Method

2.1 Study area

For the study Kalocsa, a small size settlement with a population of approximately 17000 was selected.. Kalocsa is a town which represents the majority of the settlements in Hungary. Compred to the crime statistics of the whole country it has an average rate of crime. The town - according to the integrated urban development strategy - has 11 separable parts: (1) Városközpont - the inner city, (2) Kórház - surroundings of the hospital – the metropolitan area (3) Homokgyőr- mixed-used industrial and commercial area with hobby gardens along the "Vajas" channel (4) Eperföld – residential area with blocks of houses (5) Szőlőkköze – residential area (6) Iparterület –industrial area with problems of annoying smell and noise pollution: (7) Szénáskert – residential area with rows of semi-detached houses (8) Bürgerkert – newly developed residential area with family houses (9) Negyvenszállás – country-like residential area with approximately 1-2 hundred inhabitants (10) Meszesi Duna-part - water-management area with water sport facilities and a few hobby-gardens (11) Külterület – mainly agricultural area (see figure 1.).

In this study the comparison between official crime statistics and the opinion of the citizens was based on the above listed districts.

2.2 Data extraction from official crime statistics

Statistical data for the period between 05.01.2012 and 05.01.2013 was used. The data was extracted from the official crime map of Hungary. On this map data is available with 30 days delay on different levels: country, county and settlement. At the settlement level the map shows the location of crimes with a point symbol. The following crime types were shown on the map: violent crimes against persons, theft, car and motor theft, car breaking, burglary, vandalism, robbery, violence and disruption, offence against property.

For crime data extractions the map of Kalocsa showing one type of crime was copied as a scanned image. Each image with different crime type was georeferenced and digitized. The extracted crime data were aggregated with the level of the eleven zones of the city defined according to the urban development strategy.

2.3 Survey on the fear of crime of the citizens

92 persons participated in the survey of the pedestrians selected randomly and stopped on 11/2012. All of them were interviewed personally with the help of a pre-prepared questionnaire. The questionnaire consisted of 13 questions. 5 of the questions were personal information: age, sex, marital status, number of children, type of the place of residence.

The next 8 questions referred to the status of the public safety, the habitat of the offenders, whether the respondent had ever been a victim of any crime, the opinion about law enforcement strategies and crime map. The last two questions included the map of Kalocsa with the 11 zones on it. In this part of the questionnaire the participants had to evaluate the status of the public safety of the previous year in Kalocsa in the 11 zones. This part of the questionnaire helped to analyse the difference between the official statistics and the fear from crime among citizens. In the questionnaire the respondents had to categorize each zones to their relative safety. They could choose from 4 possibilities: (1) safe, (2) less safe, (3) dangerous, (4) avoid during night. There was a possibility to combine categories: safe but to be avoided during night. The last question required sufficiently more time from the participants. Using the map for each crime type (see 2.1) they had to create a ranking of the 11 zones of Kalocsa. The first zone in the rank meant that the respondent thought that a given type of crime is most typical in that zone, the last meant that the least typical.

3. Results

More than half of the participants were female (54%), most of participant belonged to age group 18-30 (32%) and 45-60 (33%), of the participants were married but the majority of them had not got any children (45 persons). 64% of the participants were living in their own detached or semi-detached house, 23% of them in their own flat or apartment, 13% of them in tenancies. 35 % of the respondent evaluated public safety as acceptable, 30% were satisfied with it, 20% of them evaluated as bad, 15% of them evaluated as good and none of them thought that it was very bad. 56% of the answer showed that the majority of people thought that the offenders were local citizens. Only 17% were victims of any types of crime. Concerning the effectiveness of the various law enforcement strategies the answers of the respondent were quite diverse. 82% of them had no knowledge about official crime map, but they find it a very good initiative.

The analyses of the last two questions show that the respondent conceived the inner part zone 1, the surroundings of the hospital zone 2 and the Bürgerkert (zone 8) as safe, although most of them found the outskirt of the city (zone11) and the Szőlőkköze (zone 5) residential area dangerous and avoidable at night (see figure 1.). The reason behind is that the outskirt of the city is lacking public lighting; the other dangerous part is widely regarded as an area full of people with a deprived lifestyle.

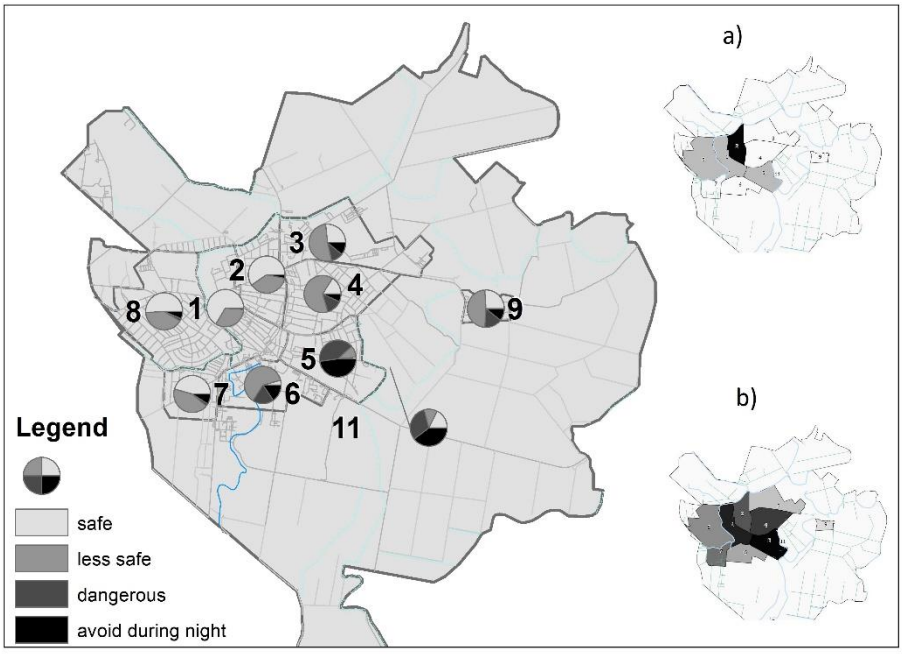

Fig. 1: The perception of safety according to the citizens of Kalocsa. a) official crime statistics and b) citizen's precipitation of robberies in Kalocsa

The vision of the citizens outlined above was compared to the official crime statistics and analysed by each crime types. The number of reported robberies (Figure 1.a) in zone 5 is much lower than the expectations of the citizens (Figure 1 b). Similarly people expected much more crime in the zone 3 but no crime was reported in the examined period. In some cases the prejudice may have some important impact on the judgment of the respondent like in the case of zone 5. The official crime statistics indicates that the inner part of the city is more affected by robbery; although citizens have similar perception of status of robberies in other zones.

4. Conclusion and Outlook

This study supports the idea that crime statistic has to be carefully analysed not just because of unreported crimes, but other factors which can influence the fear from crime. In the future the opinion of the citizens could be taken into consideration in the planning of law enforcement activities. The result of the study reveals that there can be significant discrepancies between official data and the perception of citizens.

The outlined paper based survey can be substituted with web or mobile application as the usage of smartphones among the citizens is widespread, so they can be involved into crowdsourcing activities, such as valuating their surroundings in respect of fear of crime. These crowdsourced data can reveal the discrepancy between official data and the perception of citizens. Therefore the communities can plan more effective law enforcement activities in the future concentrating on certain areas.

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CRIMINAL GEOGRAPHY AS A NEW SUBJECT IN THE HUNGARIAN HIGHER EDUCATION

Keywords: geography, criminology, criminalstics, GIS, crime mapping

1. Introduction

In our study we introduce criminial geography, a discipline which has been around for almost three decades as a research topic among the Hungarian criminologists and geographers though it is still not widely known. Criminal geography will appear as a new subject in the national law enforcement higher education. The aim of its introduction is that future police officers would get to know a discipline which can be considered new in Hungary which can help the successful investigation and crime prevention. The representatives of criminal geography represent several disciplines thus the present study tries summarise the national and international scientific results so far.

2. Criminal geographical researches in Hungary

Thanks to *Béla Földes* the conditions of criminal geography were established already by the end of the 19th century. Földes was followed by many other researchers (*Albert Irk, Ervin Hacker* etc.), but these researches were ceased after World War II.

After World War II criminology was considered as „bourgeois science", the statistic data was secretive, even researchers were unable to get access to it. 1960 can be considered as a milestone in domestic criminal geography, as the *National Institute of Criminology (OKRI)* – within the frame of Prosecution Service of Hungry – was established that year. In 1963 criminology became an obligatory subject on faculties of law. *Hungarian Society of Criminology* was established in 1983 with hundreds of theoretical and practical specialists.

Hungarian geographers had a chance to execute criminal geographical researches only later, starting from the 1980's. The territorial scene of such researches was mainly the Budapest. They have not analysed the whole capital from criminal geographical aspect, but they did examine some regions of Budapest as well as the main indicators of the settlement. *Zoltán Kovács* (1989) was the first geographer to deal with criminal geography. He executed inter-settlement criminal geographical researches − among others − in the 8th district of Budapest. *Gábor Michalkó* (1996) studied the criminal geography of international tourism in the Hungarian capital, and within the frames of his study he analysed the victimisation of tourists.

The research executed in 1999-2000 mainly by criminologists can be considered as a very important milestone. In this research the 5th, 9th and 22th districts of Budapest were studied and victims were in the focus. Researchers located the areas with the highest chance of victimisation by means of methods of spatial informatics, and they prepared concrete crime preventing proposals (Kerezsi-Ritter 2000). In the 9th district they prepared crime preventing proposals in connection with education and child protection at school (Kerezsi-Kó 2001), while in the 22th district crime preventing proposals relying on the local child protecting institutions (Kerezsi et al. 2001).

Andrea Balázs (2003) analysed the criminal geography of the 15th district of Budapest in relation to Rákospalota, Újpalota and Pestújhely. During her studies she concluded Rákospalota is the least, while Újpalota is the most infected parts of Budapest considering the numbers of criminal acts per 100.000 inhabitants (Balázs 2003).

Ferenc Irk (2005) compared the problems of inhabitants of Budapest and four European cities (Amsterdam, Hamburg, Cracow and Wien) and based on the results he determined the applicable crime preventing methods.

One of the most comprehensive analyses of the capital was made by *István Kobolka* and *János Sallai* (2008), who studied Budapest as a whole in the period of 1960-1985. During their analysis the researcher observed problems that had existed for decades and are still exist (football hooliganism, organised crime, juvenile crime, etc.). *György Ritecz* and *János Sallai* analysed the criminal geography of the frontier in many studies. They examined eg. the Hungarian-Ukrainian border line (2002), the effects of European Union as well as the possible effects of Hungary's joining to Schengen area on the Hungarian frontier (Sallai-Ritecz 1999).

After the capital Debrecen is the second most studied settlement from criminal geographic point of view. It is *Gábor Kozma* (1997) who first such researches in Debrecen.

So far four doctoral theses have been made in the topic of criminal geography (2015). First, *Antal Tóth* defended his thesis at the University of Debrecen Földtudományi doctoral school (2007). The title of his thesis was *Sociogeographical examination of the spatial aspects of crime in Hajdú-Bihar county.* Mr. Tóth's doctoral thesis had a pioneering significance because such great research had not been done in the Hungarian criminal geography. The strengths of the thesis were the most important definitions of criminal geography and the introduction of research methods and trends. Antal Tóth's research area is extremely far-reaching, his publications are mainly related to Hajdú-Bihar county, Hajdúböszörmény, Debrecen, the border areas and Hungary.

Szabolcs Mátyás also defended his thesis in this discipline, its title was *Criminal geographic analysis of the Debrecen Police Headquarters* (2011). Mátyás focuses on the criminal geography of Hajdú-Bihar county, Debrecen and Hajdú-Bihar-Bihor Euroregion and the criminals catchment area research as well as on the historiography of criminal geography. *Zsuzsa Piskóti-Kovács* was a student at the University of Miskolc whose title of dissertation was *The adaptation possibilities of the modern trends of criminal geography in different regional levels.* Zsuzsa Piskóti-Kovács examines crime by applying GIS tools and regional statistics methods (Piskóti-Kovács 2014).

Finally, we need to mention *Gábor Erdei* – a student of the National University of Public Service Military Science Doctoral School – who received an academic degree with his treatise *The theoretical and practical correlations of criminal geography (2014).*

It is welcome news that many university and college students – mainly the students of University of Debrecen, Eötvös Lóránt University, National University of Public Service and Eszterházy Károly College – has chosen criminal geography as the subject of their thesis in the past years. Within the frames of their thesis they typically did criminal geographical analysis of the settlement they live in.

4. Higher education and criminal geography

One of the main objectives of every discipline is to have a textbook from which the students can get to know the given subject and the other is to be taught as a separate subject in the institutes of higher education. It has taken almost three decades after its appearance in Hungary to be ripe enough to become an optional subject at university and to publish its own textbook. The historical moment of the discipline happened in the second term of the 2013-14 academic

year at the Institute of Earth Sciences the University of Debrecen when about two dozen students signed up for the *Criminal geography* subject. The subject was very favourably received by both the students and the teachers of the institute so in the first semester of the 2014-15 academic year *Applied criminal geography* was also introduced as a subject for which several students signed up, as well. The subject is being taught continuously at the University of Debrecen. Until the publishing of the current study no textbook has been written in the topic of criminal geography though we must mention a milestone when the discipline was given a chance to introduce itself on a wider basis among the cultivators of law enforcement disciplines in the publication entitled *Tendecies and principles from the scope of criminal disciplines* published by NKE (National University of Public Service)[2]. Criminal geography is among the optional subject on the MSc at the University of National Public Service, Faculty of Law Enforcement) from the 2018-09 academic year. The university is expected to publish an individual criminal geography textbook in spring 2020.

5. The most important sources of criminal geography research

Considering that the national criminal geographical research has only a short history the number of Hungarian specialized literature, practical guidelines and other sources is very low. Thus getting acquainted and following the foreign specialized literature (especially in English and German) is very important. Below we list which sources can be considered as the most important databasis of the criminal geographical research.

− *Police conferences, annual evaluation meetings and work meetings*

There are several police conferences, annual evaluation meetings and work meetings where not only police officers but the public (researchers, people who are interested) can attend. The annual evaluation meetings, which are held after the given year is closed, contain a lot of useful and valuable information

− *Libraries and professional journals*

Naturally any library can contain technical books and journals which can be used during the criminal geography research though the biggest volume of literature is available at the libraray of the Law Enforcement Science Faculty of National University of Public Service. A huge

[2] Péter, RUZSONYI: *Tendenciák és alapvetések a bűnügyi tudományok köréből*, Nemzeti Közszolgálati és Tankönyv Kiadó Zrt., Budapest, 2014, 391 p.

number of literature and journals are available at the law faculties of universities of sciences and the library of National Criminology Institute and national libraries.

− *Robotzsaru NEO Integrated Rules of procedure and Case processing system*

Robotzsaru Neo is a national computer system which helps the daily case processing work of police officers. The system can only be accessed by Police staff and it is protected by a password. People working at different fields have authorised access to different levels. Having the right command permission valuable criminalstatistical data can be extracted from the RZSNeo system.

− *Annual evaluation reports*

The number of the extremely poor national settlement – and county – level sources are increased by the so-called annual evaluation reports which despite not being written for a criminal geographic purpose contain several chapters which can be interpreted and successfully used from a criminal geographic aspect, as well. These reports are annual evaluations compiled by the kpaitányságvezetők and county chiefs of police which evaluate a specific year on the basis of key indicators.

− *Professional consultations with police chiefs*

On several occasions we can notice such distortions in the criminal statistics data which cannot be explained without those knowledge which can be obtained only through a personal, professional consultation. These background information obtained through the consultations can help to evaluate certain processes objectively. The personal contact with the police chiefs are not only necessary to discuss specific questions but can also pave the way for a well-operating future cooperation.

− *Getting acquainted with existing settlement-level analyses*

Four doctoral theses have been made in this topic which approached criminal geography from different aspects. Besides the dissertations several graduate these have been made in this topic which can be viewed at the libraries of higher education.

−*Data made available through primary research*

During the course of research several data can be used which are produced by the researcher himself. One of the methods of such data collection is the *personal observation.* Within the wide spectrum of research and data collection methods we have to mention *the population questionnaire and the case study* as an illustrative method.

− *Internet sources*

On the world wide web we can access several databases which serve as the right basis to make analyses (e.g. *https://prestat.lechnerkozpont.hu/bunmegelozes, www.ksh.hu, www.police.hu, www.teir.hu*). We should strive to choose such database though the data of which are precis, up-to-date and their sizes fit the research. Another important expectation concerning the database that it should bear an obvious content (should be user frienldy) otherwise the user can draw the wrong conclusions.

6. How to use criminal geographical researches?

Just like in case of any relatively new disciplines, the question of the practical use of criminal geography often raises, too. What is feasible from the theory and applicable in everyday police work? These questions can be answered based on partially Western European and partially Hungarian examples. Criminal geographical researches can provide a lot of results that can also be used in practical police work. Adaptation of these results can help to increase police's ability to react and improve criminal efficiency.

Within the European Union we can find examples for the practical application of criminal geographical researches mainly in Germany. Amongst the German researchers special attention should be paid to the work of *Herold, H.* (1973), as the police offices of Nürnberg were changed radically thanks to the results of his researches. A few decades later (1990's) the analysis scheme elaborated by Bundeskriminalamt meant a major progress in the German criminal geographical researches. Later Bundeskriminalamt's analysis scheme was also applied in several big cities (Mühlhausen, Essen, Hamburg, Osnabrück, Rostock, and Lubeck) (Tóth, 2007). The practical criminal geographic work in Sweden (Stockholm) a Great Britain also worth mentioning (Pődör, 2006).

Comprehensive criminal geographic researches the results of which can be used widespreadly in police work have been executed in two Hungarian cities yet. Hajdúböszörmény was studied

criminal geographic point of view by *Antal Tóth* (2007), while Debrecen was examined from similar aspect by *Mátyás Szabolcs* (2011).

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HORST HEROLD, THE FATHER OF MODERN CRIMINAL GEOGRAPHY

(Source: Internet [3])

Horst Herold (1 October 1923 – 14 December 2018, Nuremberg)

There are a handful of researchers in the world who have for years – and some of them for decades – been engaged in a field of study, which is cultivated by considerably few people. That field is criminal geography, which is only cultivated by a few police scientists and geographers. For the majority, it is fairly difficult to find any common ground among them; however, they all share one thing, which is a reference to the common source, Horst Herold. Horst Herold died at the age of 95 in Nuremberg. His scientific and professional career prompted the authors to make his career known to the public. With the present paper, the authors

[3] https://www.t-online.de/nachrichten/deutschland/gesellschaft/id_84948304/ex-bka-chef-horst-herold-ist-tot-er-revolutionierte-die-polizeiarbeit.html (Accessed: 08 01 2019.)

wish to commemorate Horst Herold and make the broader professional audience familiar with his lifetime achievement.

1. The most important stages of Horst Herold's life (1923-1952)

Horst Herold was born on 21 October 1923 in Sonneberg, Thuringia. He worked in his father's and father-in-law's toy factory, but at the time of the Great Depression (1929) the family were compelled to sell the factory. In 1941, the wind of the war reached Horst Herold as well, and he spent several adventurous years during the war and the post-war period. In 1941, Herold volunteered for military service, therefore he passed his school-leaving examination ahead of time. However, in June 1942 he got severely injured on the Eastern front of the war.

Later, in 1944, his unit was transferred to France and he was promoted to first lieutenant. In 1945, he was again deployed to the Eastern front, where he was captured. While being transported to the Soviet Union, he escaped and returned to Nuremberg, where he could meet his parents and also met his future wife for the first time. After the Second World War, between 1945 and 1951, he studied law in the university town of Erlangen, where he acquired a degree in international law. During his university studies, in 1951 his only daughter was born.[4]

2. Horst Herold's career and work (1953-1981)

While working as a public prosecutor, he enrolled in the economics and humanities course of the College of Nuremberg in 1953. In 1954 he left the prosecutor's office and became a judge at the Court of Nuremberg. In 1966 he wrote his pioneering article entitled *Fahnden und Forschen* (Search and Research), in which, in the interest of prevention, he calls for the systematic and scientific evaluation of police data and the examination of the offenders from sociological, biological and psychopathological aspects. [5] He was only 43 in 1967 when he was appointed president of the Nuremberg Police. He introduced several changes, making him much liked by his colleagues. His motto was *Mut zum Widerspruch* (Have the courage to contradict), thanks to which he was very popular among his subordinates, especially those who also supported changes and progress. [6]

As president of the Nuremberg Police he developed the 'Nuremberg model' together with his colleagues, based on criminal geography and the theory of prevention and deployment.

[4] http://www.rijo.homepage.t-online.de/pdf/DE_DE_45_herold.pdf (Accessed: 01 03 2019)
[5] http://www.rijo.homepage.t-online.de/pdf/DE_DE_45_herold.pdf (Accessed: 01 03 2019)
[6] Ibid.

We could say that he reached the peak of his career in 1971, when he was appointed president of the Federal Criminal Police Office of Germany (BKA), where one of the major scopes of his activities was combatting terrorism. [7] He headed the BKA between 1971 and 1981, before his retirement. In 1984 the City of Nuremberg awarded the former police leader with the Citizens' Medal in recognition of his career.

3. Horst Herold the criminal geographer

Horst Harold is regarded by several disciplines (police science, criminology and criminal geography) as one of their luminaries. He beat new paths for criminal geographers and was able to substantiate his achievements in practice, too. Horst Harold was the one whose theoretical research proved that the location of the police stations around Nuremberg was not optimal, therefore he suggested that some of them should be moved to another place. The relocation of the police stations, indeed, resulted in lower crime rates.

His work is a milestone for criminal geographers, as his comprehensive research has shown the direction for others for several decades. In all probability, many people are going to follow in his footsteps for a many years to come. The dissemination of his achievements laid the foundations of research in criminal geography in several countries. It was Horst Harold who defined the most important concepts in this field of science and the concept of criminal geography itself, as well as the task of criminal geography and the questions to which criminal geography seeks answers.

Horst Herold was held in high esteem in professional circles, which is very well illustrated by the fact that Horst Seehofer, Prime Minister of Bavaria and Minister of the Interior of Germany remembered the learned police officer upon his death. He said that the BKA still followed in the path trodden by him. Sebastian Fiedler, the president of the Association of German Detectives (BDK) commented on the news of his death saying "the German criminal police bow down to one of the most innovative and influential criminologists of the post-war era." [8]

His scientific conclusions and timeless ideas will live forever.

May he rest in peace.

[7] Der Chef. Horst Herold und das BKA Gebundenes Buch – 1998.
[8] Ibid.

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