

A MICROSCALE STUDY ON PERCEPTION OF DANGEROUS PLACES. THE CASE OF GNIEZNO, POLAND

Emilia Bogacka¹✉, Anna Sinińska²

¹ORCID: 0000-0001-8735-0430

²ORCID: 0000-0002-6776-9274

^{1,2} Faculty of Human Geography and Planning, Adam Mickiewicz University, Poznań
Krygowskiego street 10, 61-780 Poznań, **Poland**

ABSTRACT

Research on the sense of security in Polish crime geography has been developed since the end of the 20th century. The studies conducted focus primarily on the overall assessment of a city or town, or its selected parts, using survey questionnaires. This study is an attempt to address the issue of the sense of security and, in particular, perception of dangerous places, at a microscale level. The focus of the paper is, first, to identify dangerous places in Gniezno using a survey and second, to analyse them using complementary methods: desk research, interviews with police officers, field inventory and photographic documentation. The research was carried out in the years 2017–2019. The sense of security, both regarding the city as a whole and selected urban spaces, was higher during the day. The places most frequently indicated by the respondents as dangerous, regardless of the time of day, were: Tajwan, Cierpięgi street, the Old Town and parks. Difficult past and the image of the place play a crucial role in the safety perception.

Key words: geography of crime, subjective research on crime, sense of security, threat of crime, medium-sized city

INTRODUCTION

Research on spatial diversity of crime involves two directions related to the scale of the studies undertaken. The beginnings of research on geographical aspects of the phenomenon can be seen in the works of the nineteenth-century cartographic school, in which the issue of spatial diversity of crime was addressed by Guerry (1833) and Quetelet (1842). Guerry's work (1833) presented e.g. spatial differentiation of personal and property crime in individual departments of France. In turn, Quetelet in his 1842

publication provided a statistical analysis of the relationship between crime and age, crime and gender, as well as climate, education, and alcohol consumption in Belgium. The dominance of large-scale research, i.e. concerning countries, regions and cities, lasted for many years. The increase in researchers' interest in the phenomenon of crime on a smaller scale is associated with the increased availability of statistical data and with the development of geographical information systems which allow for advanced analyses of the phenomenon in the crime locations accessible. The interest in small-scale crime studies is also related

✉ ebogacka@amu.edu.pl

to the development of research on the sense of security that dates back to the end of the 20th century.

There is one point to be emphasised in the context of studying the intensity of crime and the sense of security. Individual spatial units, for example a city or town, usually have a very diverse internal character. The same city comprises spaces with different housing types and functions, or inhabited by people with various demographic and social features. Due to these mosaics in the urban space, it seems that studies on crime and the sense of security should take these conditions into account and that an individual character of particular urban spaces should be considered in the analyses performed.

However, large-scale studies, e.g. those concerning an entire city, higher-order territorial division units, or the entire state, as well as public opinion surveys on crime and the sense of security among inhabitants of a single country, are still conducted.

Nevertheless, the world literature demonstrates a strong trend of departing from general research conducted on a large scale. Nowadays, more and more microscale-based studies appear within scientific disciplines dealing with the issue of the sense of human security in the urban space, e.g. city park (Iqbal and Ceccato 2016), school (Vagi et al. 2018), university campus (Cozens and Sun 2018), transportation systems (Abenoza et al. 2018), revitalized areas (Carter et al. 2003), or housing estates (Cozens et al. 2001). The same applies to studies using statistical data obtained by the police (e.g. Sypion-Dutkowska and Leitner 2017, Glasner et al. 2018).

This paper is an attempt to address the issue of the sense of security at a microscale level. Its purpose is to discuss the existence of dangerous places in Gniezno. The starting point for the discussion is the presentation of the results of a survey on the threat of crime in Gniezno, carried out among residents of the city. The focus was placed on assessing safety in Gniezno and its selected spaces during the day and at night. The next stage involved presentation of the most dangerous places in Gniezno, also in the day/night arrangement. The results of the study were expanded through desk research, interviews with

police officers, an inventory of the areas indicated, and photographic documentation made during the evaluation. This allowed for confrontation of the survey results regarding the identification of dangerous places in Gniezno with the spatial development of these places (including the quality of space) and the opinions of police officers.

SELECTED STUDIES ON THE SENSE OF SECURITY CONDUCTED TO DATE IN POLAND

A vast majority of Polish studies on the sense of security among city inhabitants analyse cities as a whole and distinguish basic urban spaces within those cities. Most of the works are focused on big cities. There are not many studies on the sense of security based on medium-sized cities. Rydz and Szymańska (2007) published a research on valorization of urban space, regarding also sense of security, in three cities of Pomerania: Łęborg, Szczecinek and Wałcz. Researches on small sized-cities are also rare. One of the exceptions is an article by Szczepańska and Pietrzyk (2016) on the city of Morąg.

This paper presents examples of studies pertaining to two cities: Łódź and Poznań, where the subject in question was most often addressed in the Polish setting.

A substantial number of publications on the sense of security concern Łódź. Marcińczak and Siejkowska (2003) identified dangerous areas in Łódź and evaluated the safety of public places during the day and at night. Mordwa (2011), in turn, assessed the sense of security and the risk of victimization in Łódź in selected housing estates (Dąbrowa, Jagiełło-Czarnieckiego, Karolew, Kurak and Widzew-Wschód). Also, Mordwa (2012) was interested in the general threat of crime and offenses in Poland, in Łódź and in one's place of residence, with a special focus on the assessment of the sense of security in shopping centres (two selected ones: Manufaktura and Galeria Łódzka). His work from 2012 is one of the few Polish microscale studies. Mordwa's next study (2013) concerned crime risk assessment at various spatial

levels, ranging from the area of entire Poland to the participants' place of residence. In-depth analyses were conducted in Łódź in the following city districts: Dąbrowa, Julianów-Marysin, Nowe Miasto and Wiskitno. They also involved identification of the most dangerous areas in the city and assessment of the risk of victimization. Mordwa (2014) also tackled the issue of spatial disproportions of selected social pathologies, including crime, in different areas of Łódź with various types of housing, functions and demographic characteristics of residents. In another study, Mordwa (2015) presented the perception of socio-spatial threats, subjective victimization risk and defensive behaviours in people aged 60+ in Łódź. Mordwa's subsequent study (2016) concerned a subjective sense of threat and defensive behaviours in the inhabitants of Łódź. The latest three studies by Mordwa (2014, 2015, 2016) were carried out based on questionnaire interviews conducted in the following areas: city centre (divided into northern and southern parts), Karolew, Radiostacja and Doły.

A study by Dolata and Kotus (2004, 2006) conducted in Poznań concerned the assessment of the sense of security in Poznań in several categories: staying at home, spending time in parks, walking around the neighbourhood during the day and after dark, staying in public places during the day and after dark. An attempt was also made to determine particularly dangerous places, distinguishing those located in the neighbourhood and in other parts of the city. Jabkowski (2005), in turn, assessed the sense of security during the day and at night in Poznań, at home, in the neighbourhood, at train and bus stations, tram and bus stops, in the city centre and city parks. A study by Jabkowski and Kilarska (2013) regarding the sense of security and crime level in Poznań is thematically extensive as it addresses numerous issues such as: the sense of security (in Poznań and its various spaces), victimization indicators, the perception of social problems, and the way actions taken by institutions responsible for ensuring order and security (police, local government, municipal police, prosecutor's office, courts) are perceived. However, research conducted on a group of city residents and high school students was not narrowed

to the microscale level. In their publications, Bogacka (2009) and Bogacka and Sinięcka (2016) assessed safety in Poznań districts (but only five of them: Grunwald, Jeżyce, Nowe Miasto, Stare Miasto, and Wilda, which renders the study very general).

STUDY AREA AND METHODS

The subject of the case study presented is the city of Gniezno (Fig. 1). It is located in Wielkopolska Region (województwo wielkopolskie), in Gniezno District (powiat Gniezno). Gniezno is one of medium-sized cities in Poland, inhabited by 68,943 people, including 35,874 women (52.0% of the total population). The area of the city is 40.6 km². The population density is 1,698 people/km² (data for 2017 by Statistics Poland). As for economically active inhabitants, 20.7% of them work in agriculture, 30.5% in industry and construction, and 48.8% in services. The unemployment rate is 7.0%. Gniezno is of great historical importance as it was the first capital of Poland.

In 2017, there were 995 criminal offences committed in Gniezno, i.e. the crime intensity was 14.43/1,000 inhabitants. These values are definitely lower than the values for Wielkopolska Region (16.50) and entire Poland (19.62). In turn, the crime detection rate in the city was 74.0%, which was comparable with the indicator for Greater Poland Province (74.60%) and higher than the value for entire Poland (71.70%)

The main source of information used in the study are the results of a survey on the threat of crime in Gniezno in the opinion of its residents. The survey was conducted by 25 students of Adam Mickiewicz University, Poznań in 2017 and 2018 during field classes in spatial development of cities and municipalities in Gniezno. As a result, 365 questionnaires were collected. Selection of respondents was random. The response rate was 40%. No major problems with people's reactions to surveyors were reported by students. The information provided in the questionnaires made it possible to establish the sense of security of the inhabitants of Gniezno, in particular spaces of the city during the day and at night, and to identify the most dangerous places in Gniezno during the day and at night. The findings were verified during the field inventory in June 2019 and supplemented with photographic documentation. An additional source of information used in the work were semi-structured interviews conducted with the officers of the District Police Headquarters in Gniezno, senior constable Krzysztof Socha and junior constable Arkadiusz Wieczorek, in 2017–2018.

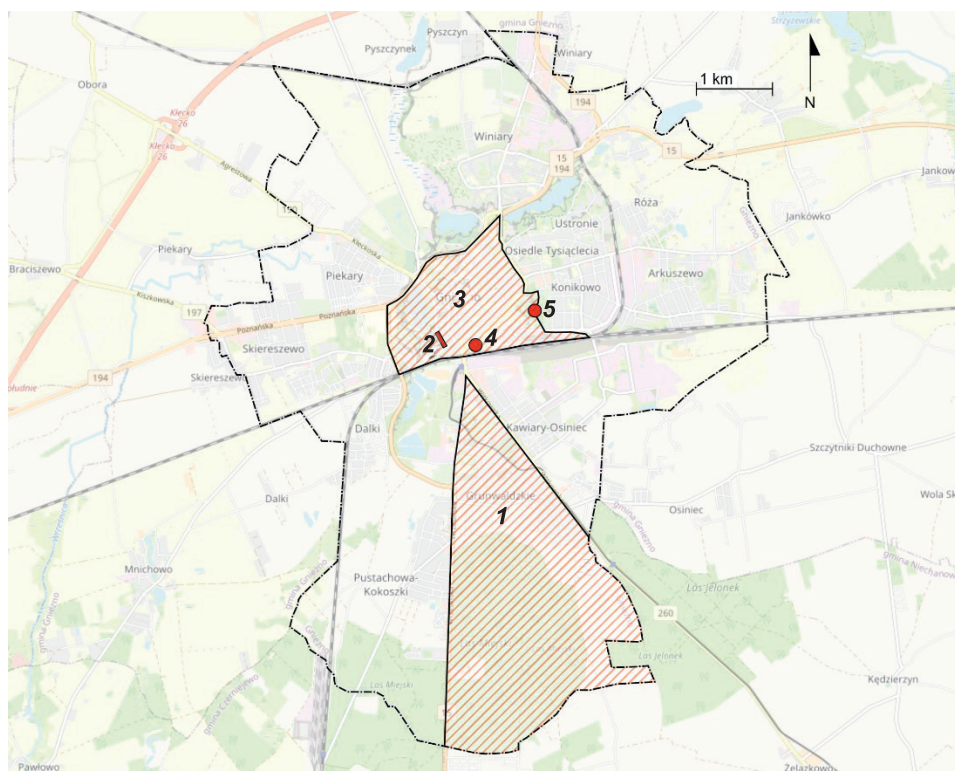


Fig. 1. Map of Gniezno with marked dangerous places: 1 – Tajwan; 2 – Cierpięgi street; 3 – Old Town; 4 – Tadeusz Kościuszko Park; 5 – General Anders City Park
Source: author's own compilation on the basis of openstreetmap.org.

STUDY RESULTS

The respondents were asked to assess safety in Gniezno and the following urban spaces: their closest neighbourhood, their own flat/home, city centre, tenement houses, large-panel blocks of flats, single-family housing, city parks, shopping centres, streets, public transportation stops, and train and bus stations. The assessment was made separately for the day (Fig. 2) and night (Fig. 3). In the night safety assessment, shopping centres were excluded from the above list as being closed at this time.

The respondents assessed the spaces as safer during the day. Positive scores were assigned to a vast majority of the spaces analysed (answers 4 and 5 combined). The following spaces were assessed as the safest: own flat/home (96.43% positive answers), shopping centres (90.08%), closest neighbourhood (86.81%) and single-family housing areas (85.92%). The exception was the area of tenement houses, which was the only one to have received less than half of positive responses (40.72%).

The sense of security was definitely lower at night. There were only three spaces with positive answers given by over half of the respondents: own flat/home (91.55%), closest neighbourhood (69.01%) and single-family housing areas (67.05%). City parks were the only space with a predominance of negative answers (61.54% of answers 1 and 2 combined). Most of the spaces analysed were rated as 3 in the assessment of safety at the night.

Table 1 presents central tendency measures, median and mode, assigned to the spaces analysed during the day and at night. The measures of each of the spaces were higher during the day. Only own flat/home got the highest scores. The lowest measures concerned tenement houses.

Each of the respondents was asked to indicate three most dangerous places in Gniezno during the day and at night. The respondents' answers are presented in Table 2. It is worth noting that 28.22% of the respondents did not indicate any dangerous places during the day and 13.70% of them did not indicate any dangerous places at night. The places most frequently indicated by the respondents, regardless of the time of day, were: Tajwan, Cierpięgi

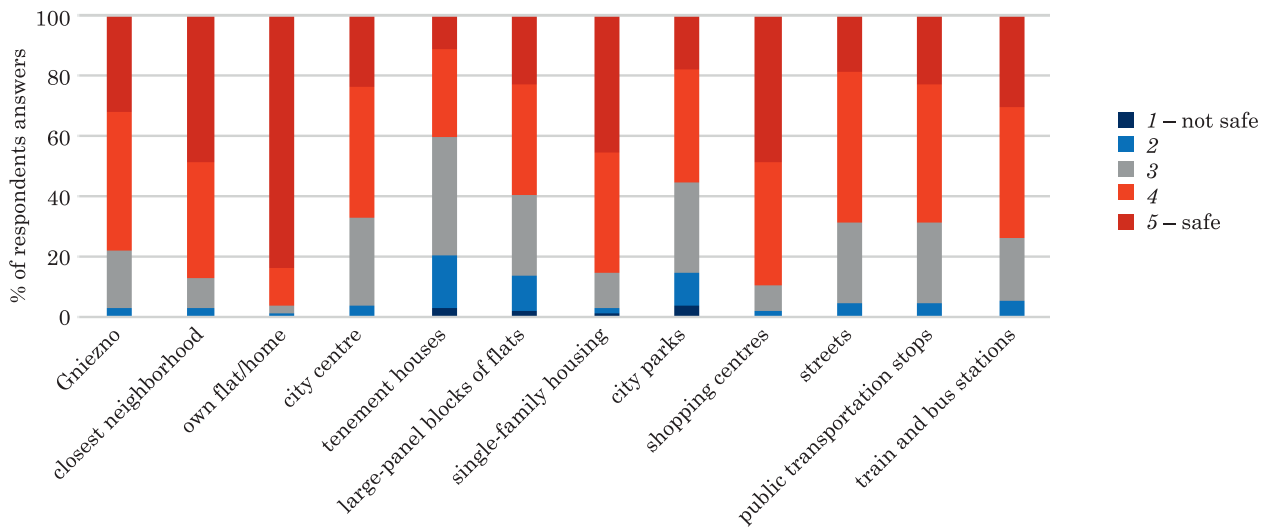


Fig. 2. Safety assessment of selected spaces in Gniezno during the day – structure of the respondents’ answers
 Source: author’s own study based on the survey results

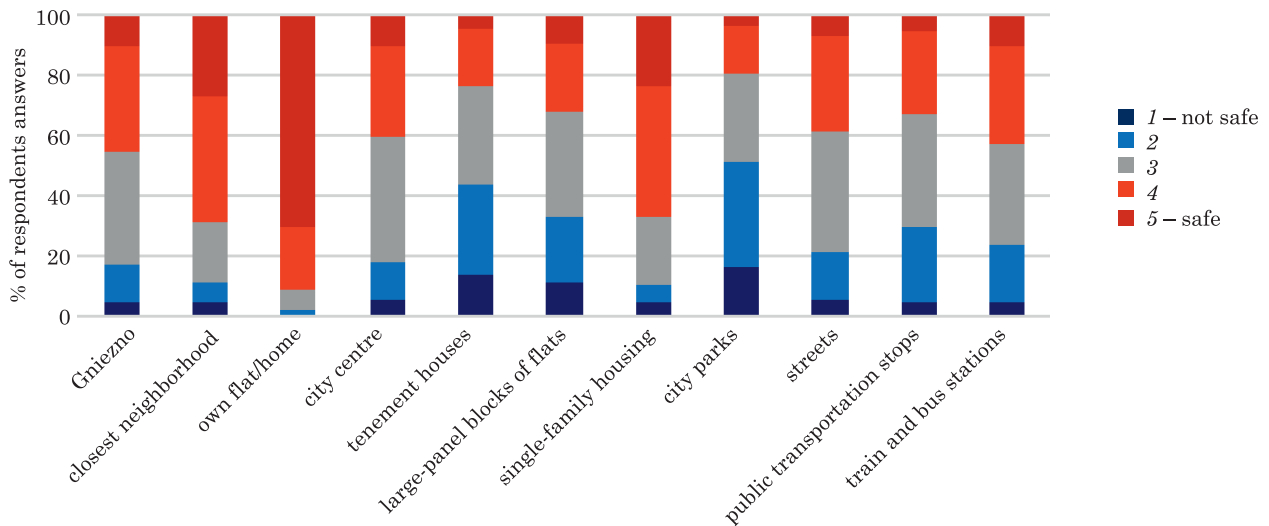


Fig. 3. Safety assessment of selected spaces in Gniezno at night – structure of the respondents’ answers
 Source: author’s own study based on the survey results

street, the Old Town and parks (Fig. 1). These four places accounted for 57.4% of the respondents’ answers as regards the day and 74.3% as regards the night. Cierpięgi street and some parks (in example parks commented in this article: Tadeusz Kościuszko Park and General Anders City Park) are located within the Old Town district.

Tajwan (en Taiwan) is one of the 12 auxiliary units of Gniezno (its official name is Osiedle Grunwaldzkie – pl osiedle/en housing estate) located in the south of the city. It is inhabited by approximately 4,000 people. Tajwan is

a housing estate built for the German army during World War II. After the war, it was occupied by the Polish People’s Army and handed over to the city authorities, which created a workers’ housing estate there. Initially, it operated under the name Osiedle Baraki, which was officially changed into Osiedle Grunwaldzkie in 1948. Over time, families in poor financial situation were placed there. The common name Tajwan is probably associated with the distance from the housing estate to the city centre (peripheral location) and the cultural mix of people with low social

Table 1. Safety assessment of selected spaces in Gniezno during the day and at night – median and mode as central tendency measures (1 – dangerous; 5 – safe)

Space	Median measure		Mode measure	
	day	night	day	night
Gniezno	4	3	4	3
Closest neighborhood	4	4	5	4
Own flat/home	5	5	5	5
City centre	4	3	4	3
Tenement houses	3	3	3	3
Large-panel blocks of flats	4	3	4	3
Single-family housing	4	4	5	4
City parks	4	2	4	2
Shopping centres	4	–	5	–
Streets	4	3	4	3
Public transportation stops	4	3	4	3
Train and bus stations	4	3	4	3

Source: author's own study based on the survey results

Table 2. Dangerous places in Gniezno during the day and at night – respondents' answers [as %]

Place	Day [%]	Night [%]
Tajwan	17.85	25.45
Cierpięgi street	14.63	18.76
Old Town	12.86	15.33
Parks	12.06	14.85
Other	10.61	6.04
Lakes	10.45	10.11
I don't know	8.04	0.00
Other districts	5.14	5.22
Winiary	4.82	4.24
Market	3.54	0.00

Source: author's own study based on the survey results

status living there. The housing estate itself is currently an area with very diverse housing¹. It features: multi-family buildings (including former German tenement houses and one-storey barracks from the 1940s – Fig. 4a), industrial and warehouse buildings (Fig. 4b) and single-family houses (villas from the 60s and 80s of the 20th century – Fig. 4c). The entire estate gives the impression of a chaotically developed area and has diverse functions.

¹ Information retrieved from Gnieźniński Fyrteł.



Fig. 4. Gniezno's Tajwan: a – typical barracks; b – industrial and warehouse areas; c – single-family houses

Source: author's own photos

Tajwan is notorious and considered dangerous by a large part of Gniezno inhabitants, and such image of this area is reinforced by press reports. However, the Tajwan population and the police (that is, in fact, people who know the area best) deny this information.

Cierpięgi street (pl ulica Cierpięgi) has an interesting history dating back to the 15th century. The town of Cier-

pięgi (also called Jędrzejów) was a place of everyday trade and regularly held fairs (especially horse fairs). According to old sources, executions were carried out there, and the hill situated in the town was called the Gallows Hill (pl Wzgórze Szubiennicze). The very name Cierpięgi is derived from the ancient Polish term for gallows – “cierpiączka”. At that time, a softened version of the word was also used – “cierpięga” that has survived in this form until today².

Today, the street has a chaotic character. Modern multi-family housing is mixed with old tenement houses. There are spaces with greenery, but they are untidy and neglected (Fig. 5a), as well as fenced and undeveloped areas (Fig. 5b). The disorganized nature of the area is intensified by illegal car parks (Fig. 5c). Groups of young and elderly people who consume alcohol gather in the gates of tenement houses and in deserted green areas, especially in the evenings and at night, which discourages people from using this street.

Crimes that occur there are publicized in the press. For example, a body of a 28-year-old designer drug dealer was found in this street in 2018. Initially, assault and battery was indicated as the cause of death, but later it was excluded. There are more such examples, and they reinforce the notoriety of the street.

The Old Town (Stare Miasto) is an administrative district of Gniezno located in its central part. It is an area where tenement houses dominate and although some of them have been renovated, the others remain in a poor condition. Gniezno’s most important historical buildings are located there (including the Gothic cathedral and other numerous churches, the City Hall etc.), there are numerous service points, and green areas (e.g. the Valley of Reconciliation – pl Dolina Pojednania). The Old Town hosts numerous events and is the centre of city life. It is basically a friendly space. However, there are some neglected places there, too. These include: parts of the town market located at the 21st January Square (Plac 21 stycznia) after business hours (Fig. 6a), run-down storage sheds for tenants of nearby buildings (Fig. 6b), or sporadic littering after binge drinking on the stairs of some tenement houses (Fig. 6c).

There are numerous parks in Gniezno. It is worth mentioning at least a few of them: General Władysław Anders City Park, Kościuszko Park, President Ryszard Kaczorowski Park, Piastowski Park (near Jelonek Lake), 25th Anniversary Park (Park XXV-lecia) (near Winiary Lake). Parks in Gniezno have undergone a major make-over in the last few years. Thanks to considerable invest-

ments, these once unkempt, disorderly, rarely frequented areas have become friendly, clean spaces attracting people to spend time there. A case in point is Kościuszko Park (Fig. 7 a–c), located near the railway station and the City Hall. It has appropriate infrastructure, i.e. benches, litter bins, bicycle parking racks (Fig. 7a), and features a playground. The greenery is well kept (Fig. 7b), and on hot days the fountain cools down the air (Fig. 7c).



Fig. 5. Cierpięgi street: a – thickets along the street; b – undeveloped area; c – illegal car park

Source: author’s own photos

² Based on the information plate at Cierpięgi street.



Fig. 6. Old Town: *a* – town market after business hours; *b* – run-down storage sheds for tenants of the nearby buildings; *c* – litter after binge drinking
Source: author's own photos

The low scores assigned to parks by the study respondents could be related to the tragic gale that hit Gniezno in August 2017 (the survey was conducted in the years 2017 and 2018). At that time parks were rarely visited places. The effects of this storm in General Anders City Park are presented in Fig. 8 (*a-c*).



Fig. 7. Tadeusz Kościuszko Park: *a* – infrastructure in the park (benches, litter bins, bicycle parking racks); *b* – benches next to well-kept greenery; *c* – fountain
Source: author's own photos

Police officers, during semi-structured interviews, admitted that many years ago the aforementioned places were in fact dangerous, especially Tajwan and Cierpięgi street. There were places of concentration of people with low socio-economic status. Thank to increased police efforts (especially prevention) and



Fig. 8. General Anders City Park: *a* – destruction after a gale; *b* – typical paths in the park; *c* – litter

Source: author's own photos

inhabitants awareness, the situation was managed. Generally, the crime rates in the city of Gniezno are systematically decreasing. Nowadays police officers denied existence of places with much higher crime records than the others. The aforementioned places are considered dangerous by city inhabitants. Such image of these areas might be reinforced by media. Crimes and negative incidents are commented in the press and on the Internet.

DISCUSSION

The sense of security of the inhabitants of Gniezno, both regarding the city as a whole and selected urban spaces, was higher during the day. As demonstrated by previous studies, the time of day is quite important in terms of the sense of security. Such results were also obtained by Dolata and Kotus (2004), and Bogacka (2009). Kotus (2005) believes that people feel safer during the day, especially when moving around their neighbourhood. City inhabitants feel the greatest threat of crime after dusk (Dolata and Kotus 2004, Kotus, 2005, Bogacka 2009). Researchers also note that the threat is greater in public places than in the immediate vicinity of their homes. This was confirmed by the present study carried out in Gniezno: the sense of security in one's own flat/home or in the close neighbourhood of one's place of residence was definitely greater than in the public spaces analysed, such as the city centre, city parks or streets.

The sense of security of the inhabitants of Gniezno in the centre can be described as quite high. Research to date has confirmed that the city centre is an area where people feel fairly secure. According to Guzik (2000), this is influenced by the familiarity with the place and the frequency of visiting it. He also notes that the presence of police in this area is also of some importance. Research by Rydz and Szymańska (2007) in Szczecinek corroborated such findings.

As for the sense of security and the type of housing, the residents assigned the highest scores to single-family housing areas, followed by large blocks of flats and tenement houses. The general tendency is as follows: areas located relatively further away from the city centre are considered more secure, which is largely determined by the type of buildings and community living in a given area (Marcinięczak and Siejkowska 2003). A low threat of crime in areas with predominantly single-family housing has been confirmed by Guzik (2000), Bogacka (2009) and Rydz and Szymańska (2007). Housing estates comprising large-panel block of flats, on the other hand, have been negatively assessed in studies by Marcinięczak and Siejkowska (2003) and Mordwa (2013). Finally, the Polish literature on the subject has demonstrated that

residential areas with tenement houses are considered to be most dangerous (Marcinięczak and Siejkowska 2003, Mordwa 2013).

Places considered dangerous by the respondents, namely: Tajwan, Cierpięgi street, the Old Town and parks, constituted a significant part of the answers, which suggests a fairly high level of agreement among Gniezno residents. The respondents indicated very different types of places: a single street, two housing estates in Gniezno and public spaces, such as parks. All these places are connected mainly by the chaos and building diversity (except for parks).

Places such as Tajwan or Cierpięgi street are characterized by a rather difficult past, which seems to affect the current perception of these areas. The existing spatial stereotypes may stem from stigmatization, which means that the opinion about some places is exaggerated as compared to the reality (Dolata and Kotus 2004). This situation can occur when “as a result of a certain event, a place (a housing estate, neighbourhood) gains notoriety and each subsequent incident occurring there is publicized. (...) In addition, in an area like this the police activity is more intensified, because it is a “difficult” area, and as a result more crimes are detected there than in other city districts” (Guzik 2000).

The image of the place seems to be very important issue. Tracing back to broken windows theory (Wilson and Kelling 1982), the visible signs of criminal activity, anti-social behaviour and general disorder create environment that encourages even more crimes and disorder. Maintenance, litter, vandalism, run-down places in the places recognized as dangerous by respondents affect their images. General Anders City Park after tragic gale was in total disorder – destroyed benches, bins, paths, not well-maintained greenery, and therefore avoided by passers-by. Well-maintained greenery and proper park infrastructure, like in Tadeusz Kościuszko Park, encourage inhabitants to use it. Tajwan, Old Town (with Cierpięgi street) has also many spots that can contribute to the low perceived safety by inhabitants.

However, it should be noted that a large percentage of the respondents did not indicate any dangerous

places in Gniezno at all. With respect to safety during the day, this was over a quarter of the answers. A significant percentage of Gniezno residents feel completely safe. As for safety at night, the lower percentage may result from the fact that decidedly fewer people leave the house after dark and may simply not have an opinion on this subject.

CONCLUSIONS

The present study, whose aim was to address the issue of the impact of space on the sense of security at a microscale level, provided some information that may be useful in further research in this field.

First, general information regarding the sense of security of Gniezno inhabitants, such as the assessment of the entire city or various types of spaces within this city, is a valuable basis for and an introduction to more detailed considerations.

Secondly, the use of various research methods allows for a multi-faceted approach to the issue of the sense of security and a more complete implementation of the research goal assumed. It should be emphasized that triangulation of research methods requires more time and effort than using a single research method. Yet, it yields valuable results. The research methods used in this study, i.e. a survey, field inventory (along with photographic documentation), semi-structured interviews, and desk research, complemented each other and made it possible to collect interesting information.

Thirdly, research conducted at a microscale level, in this case in places considered dangerous by the respondents, allows for capturing the specificity of a given place and a better understanding of the concerns expressed by the respondents. It should also be noted that it is much easier to conduct supplementary research in the context of dangerous places with regard to a single street (Cierpięgi street) than across the entire administrative district (Tajwan, i.e. Osiedle Grunwaldzkie and the Old Town). Obtaining information through a survey, with respondents completing the questionnaire themselves, has some limitations. “A place” can mean different things to different people:

a street, housing estate, part of a housing estate, town market, or simply all parks in the city.

Fourthly, the results of this microscale study can be useful in improving the situation in the areas indicated. They can be used not only by the services responsible for crime prevention, but also by individuals who influence spatial development. Even if a given place is not dangerous at all and there is no crime there, as confirmed by police statistics, and yet people associate it with a low sense of security, actions should be taken to eliminate this threat. It seems that paying particular attention to spatial order is of key importance in this aspect.

REFERENCES

- Abenzoza, R.F., Ceccato, V., Susilo, Y.O., Cats, O. (2018). Individual, travel and bus stop characteristics influencing travelers' safety perceptions. *Transportation Research Record*, doi: 10.1177/0361198118758677.
- Bogacka, E. (2009). *Przestępczość w Poznaniu* (Crime in Poznań). *Biuletyn Instytutu Geografii Społeczno-Ekonomicznej i Gospodarki Przestrzennej UAM, Seria Rozwój Regionalny i Polityka Regionalna* 6, 87–100.
- Bogacka, E., Sinięcka, A. (2016). Poczucie bezpieczeństwa mieszkańców miasta. Przykład Poznania (The sense of security of the city residents. The example of Poznań). *Rozwój Regionalny i Polityka Regionalna* 33, 57–71.
- Carter, S.P., Carter, S.L., Dannenberg, A.L. (2003). Zoning out crime and improving community health in Sarasota, Florida: "Crime Prevention through Environmental Design". *American Journal of Public Health* 93(9), 1442–1445.
- Cozens, P., Hillier, D., Prescott, G. (2001). Crime and the design of residential property-exploring the perceptions of planning professionals, burglars and other users, Part 2. *Property Management* 19, 222–248.
- Cozens, P., Sun, M.Y. (2018). Exploring crime prevention through environmental design (CPTED) and students' fear of crime at an Australian university campus using prospect and refuge theory. *Property Management*, doi: 10.1108/PM-04-2018-0023.
- Dolata, M., Kotus, J. (2004). Społeczne naznaczanie obszarów miasta, w: *Zróźnicowanie warunków życia ludności w mieście*. XVII Konwersatorium wiedzy o mieście (Social marking of city areas, in: *Diversification of the living conditions of the city's population*. XVII. Seminar of knowledge about the city). Ed. I., Jażdżewska, Łódź, pp. 245–256.
- Dolata, M., Kotus, J. (2006). Social production of urban space. A case study of 'bad' areas in Poznań. *Geographia Polonica*, 29(2), 5–22.
- Glasner, P., Johnson, S.D., Leitner, M. (2018). A comparative analysis to forecast apartment burglaries in Vienna, Austria, based on repeat and near repeat victimization. *Crime Science* 7(9), doi: 10.1186/s40163-018-0083-7.
- Guerry, A.M. (1833). *Essai sur la statistique morale de la France* (Essay on the moral statistics of France). Paris Crochard.
- Guzik, R. (2000). *Przestrzenny obraz przestępczości w prasie krakowskiej* (The spatial image of crime in the Cracow Press). *Prace Geograficzne* 106, 197–216.
- Iqbal, A., Ceccato, V. (2016). Is CPTED useful to guide the inventory of safety in parks? A study case in Stockholm, Sweden. *International Criminal Justice Review* 26, 150–168.
- Jabkowski, P. (2005). Bezpieczeństwo publiczne i zagrożenie przestępczością, w: *Wskaźniki jakości życia mieszkańców Poznania* (Public safety and the threat of crime, in: *Indicators of the quality of life of the inhabitants of Poznań*), t. 1 (Studia nad jakością życia). Ed. R., Cichocki. Wydawnictwo Naukowe UAM, Poznań, pp. 135–162.
- Jabkowski, P., Kilarska, A. (2013). Poczucie bezpieczeństwa i poziom przestępczości w Poznaniu. *Mieszkańcy. Samorząd lokalny. Instytucja państwa* (A sense of security and crime rates in Poznań. The residents, the local government, and state institutions). Wydawnictwo Naukowe UAM, Poznań.
- Kotus, J. (2005). Społeczne dylematy w przestrzeni miejskiej (Social dilemmas in the urban space). *Bogucki Wydawnictwo Naukowe, Poznań*.
- Marciniak, S., Siejkowska, A. (2003). Percepcja miejsc niebezpiecznych w Łodzi, w: *Funkcje metropolitalne i ich rola w organizacji przestrzeni*. Konwersatorium Wiedzy o Mieście (Perception of dangerous places in Łódź, in: *Metropolitan functions and their role in the organization of space*. Conversatorium on Knowledge about the city). Ed. I., Jażdżewska. Wydawnictwo UŁ, Łódź, pp. 203–208.
- Mordwa, S. (2011). Poczucie bezpieczeństwa w Łodzi. Przykład badań mieszkańców osiedli mieszkaniowych (The sense of security in Łódź. The case

- of housing estate residents) *Space. Society. Economy* 10, 181–196.
- Mordwa, S. (2012). Poczucie bezpieczeństwa w centrach handlowych. Przykład badań opinii klientów Galerii Łódzkiej i Manufaktury w Łodzi (The sense of security in the shopping centres. The analysis of customers feedback in Galeria Łódzka and Manufaktura in Łódź). *Acta Universitatis Lodzianensis, Folia Geographica Socio-Oeconomica* 12, 163–187.
- Mordwa, S. (2013). Przestępczość i poczucie bezpieczeństwa w przestrzeni miasta. Przykład Łodzi (Crime and the sense of security within city space. The Łódź case.) Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- Mordwa, S. (2014). Dysproporcje przestrzenne wybranych zjawisk patologii społecznych w Łodzi, w: *Dysproporcje społeczne i gospodarcze w przestrzeni Łodzi. Czynniki, mechanizmy, skutki* (Spatial disparities of selected phenomena of social pathologies in Łódź, in: *Social and economic disproportions in the space of Łódź. Factors, mechanisms, effects*). Eds. A., Suliborski, M., Wójcik M. Wydawnictwo Uniwersytetu Łódzkiego, Łódź, pp. 277–303.
- Mordwa, S. (2015). Percepcja zagrożeń społeczno-przestrzennych w mieście a subiektywne ryzyko wiktymizacyjne i zachowania obronne osób w wieku powyżej 60 lat (The perceptions of the socio-spatial threats in the city and a subjective risk of victimization and defensive behavior of people aged over 60 years). *Space. Society. Economy* 14, 101–120.
- Mordwa, S. (2016). Subiektywne poczucie zagrożenia a zachowania obronne mieszkańców Łodzi (The subjective sense of threat and defensive behaviours of the residents of Łódź). *Acta Universitatis Lodzianensis, Folia Geographica Socio-Oeconomica* 23: 151–170.
- Rydz, E., Szymańska, W. (2007). Waloryzacja przestrzeni miejskiej pod względem atrakcyjności mieszkaniowej i poczucia bezpieczeństwa średnich miast Pomorza, w: *Percepcja współczesnej przestrzeni miejskiej* (The valorization of the urban space with regard to the housing attractiveness and the sense of security in the middle-size cities of Pomerania, in: *Perception of contemporary urban space*. Ed. M. Madurowicz. Instytut Geografii Społeczno-Ekonomicznej i Gospodarki Przestrzennej Wydziału Geografii i Studiów Regionalnych Uniwersytetu Warszawskiego, Warszawa, pp. 331–341.
- Sypion-Dutkowska, N., Leitner, M. (2017). Land use influencing the spatial distribution of urban crime: a case study of Szczecin, Poland, *International Journal of Geo-Information* 6(3), doi: 10.3390/ijgi6030074.
- Szczepańska, A., Pietrzyk A. (2016). Bezpieczeństwo publiczne na osiedlach mieszkaniowych – case study (Public safety in housing estates – a case study). *Studia Miejskie* 23, 81–98.
- Quetelet, A. (1842). *A treatise on man and the development of his faculties*. W. and R. Chambers, Edinburgh.
- Vagi, K.J., Stevens, M.R., Simon, T.R., Basile, K.C., Carter, S.P., Carter, S.L. (2018). Crime prevention through environmental design (CPTED) characteristics associated with violence and safety in middle schools. *Journal of School Health* 88(4), 296–305.
- Wilson, J.Q., Kelling, G.L. (1982). Broken windows. The police and neighbourhood safety. Retrieved from https://media4.manhattan-institute.org/pdf/_atlantic_monthly-broken_windows.pdf, access: 3.02.2020.