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Spatial features of a penitentiary unit in the context of stress experienced by Prison Service staff⁴

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Abstract

Prison as the place of work of the Prison Service staff is a specific workplace due to both the nature of the prison community as well as the infrastructural and architectural solutions deployed to protect prison officers. Considering the spatial features of a penitentiary unit and their role in the due performance of Prison Service tasks, it seems quite relevant to seek an answer to the question: How does the physical space of a prison contribute to the stress experienced by prison officers? The issue in question is rooted in M. Mendel's concept of pedagogy of place, symbolic interactionism and S. Hobfoll's conservation of resources theory. Inquiry into a research problem of this kind seems reasonable taking into account the infrastructural and spatial aspects of the surroundings that can be potential stress drivers. In April 2021, a group of 58 prison officers were surveyed based on the Stress Perception Questionnaire and the author's questionnaire. Relationships between the variables have been established through the use of correlation, significant difference test and variance analysis. The results revealed that the essential spatial characteristics of a penitentiary unit associated with the perception of stress by Prison Service staff are those features that relate to the penitentiary unit's functional aspects covering the specific technical and protective safeguards. These results form a premise for designating higher-risk staff groups, with regard to which preventive programmes aimed at counteracting the negative effects of stress experience should be considered.

Keywords: space of a penitentiary unit, prison, architecturally friendly prison, experiencing stress

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Przestrzeń penitencjarna w kontekście doświadczanego stresu przez funkcjonariuszy Służby Więziennej

Streszczenie

Więzienie jako miejsce pełnienia służby przez funkcjonariuszy Służby Więziennej jest specyficznym miejscem zatrudnienia, zarówno z uwagi na cechy społeczności więziennej, jak i infrastrukturalno--architektoniczne rozwiązania w zakresie sposobów ochrony jednostek penitencjarnych. Biorąc pod uwagę cechy przestrzeni penitencjarnej i ich znaczenie dla prawidłowego wykonywania zadań służbowych przez funkcjonariuszy, istotne wydaje się poszukiwanie odpowiedzi na pytanie: W jaki sposób przestrzeń fizyczna więzienia przyczynia się do przeżywania stresu przez funkcjonariuszy Służby Więziennej? Poruszone zagadnienie osadzono w koncepcji pedagogiki miejsca Marii Mendel, interakcjonizmu symbolicznego i koncepcji zachowania zasobów Stevana Hobfolla. Postawienie tego rodzaju problemu badawczego wydaje się uzasadnione, gdy weźmie się pod uwagę aspekty infrastrukturalno-przestrzenne otoczenia mogące być czynnikami o potencjale stresogennym. W kwietniu 2021 r. przebadano grupę 58 funkcjonariuszy Służby Więziennej za pomocą Kwestionariusza Poczucia Stresu oraz autorskiego kwestionariusza ankiety. Zależności między badanymi zmiennymi ustalono poprzez wykorzystanie korelacji, testu istotności różnic oraz analizy wariancji. Wyniki wskazują, że istotnymi właściwościami przestrzeni penitencjarnej związanymi z odczuwaniem stresu przez funkcjonariuszy Służby Więziennej są te, które odnoszą się do aspektów funkcjonalnych obejmujących specyfikę zabezpieczeń techniczno-ochronnych. Rezultaty te stanowią przesłankę w zakresie wyznaczania grup kadrowych podwyższonego ryzyka, w przypadku których należy rozważyć wdrożenie programów profilaktycznych mających na celu przeciwdziałanie negatywnym skutkom doświadczania stresu.

Słowa kluczowe: przestrzeń penitencjarna, zakład karny, więzienie przyjazne architektonicznie, poczucie stresu

1. Prison as the area of service

Prison is a specific place of work and service, in which the obligations of the employees and the Prison Service staff are regulated by a number of orders aimed at ensuring the effective fulfilment of its protective and rehabilitation function as well as its function connected with ensuring social security. It is a closed institution, characterised by the organisational culture based on the authority as well as strict and hierarchical structure. These features of a prison as the service environment build the area experienced by the prison administration⁵.

In consideration concerning the space of a prison, it has been assumed that it is not impersonal, it also does not constitute a natural set of events, objects and dimensions as assigning it meaning by people changes it into a place filled with the dimension of human existence⁶. The space understood in such a way constitutes space used and shaped by a given group, with which it connects the system of knowledge, perceptions, values and rules of behaviour, due to which the concept of the space is released from its only physical and material understanding. In this approach, people do not experience a common, objective and impersonal area, but changing and qualitatively diverse areas assessed positively or negatively⁷. In conclusion, the area is not objective or static, as it consists of all dynamic relationships between powers acting in an individual and outside them, in the environment into which they are included in an active way. Therefore, it seems so important in the context of the discussed issue to look for the answer to the following question: How does the physical space of a prison contribute to the stress experienced by prison officers?

The prison space is identified with an oppressive area, in which it is possible to distinguish its classic types⁸:

- a) permanent space connected with the space of fixed features,
- b) semi-permanent space connected with the space of variable features,
- c) informal space connected with a physical distance.

Edward Hall determines the permanent space as one of the basic manners of organising individual and group activities, and considers buildings as one of the manifestations of models of the permanent space. The prison space with fixed features, similarly as any other permanent space, includes noticeable and hidden features and mental patterns directing people's behaviour in contact with it. Although buildings of prisons and detention centres may differ, there are certain fixed elements conditioned culturally. Prison in the arrangement of the space functioning currently is not a product of contemporary times, but a solution known for many centuries. Despite many changes in the prison system in recent decades, the permanent space of penitentiary institutions has gone only through insignificant transformations in spite of the activities of the movement for architecturally friendly

⁵ See: T. Przesławski, *Prison Service in Poland. Administration and Framework of the Operation*, Warsaw 2012.

⁶ See: Yi-Fu Tuan, *Space and Place*, Warsaw 1987.

⁷ F. Znaniecki, *Sociological Basis of Human Ecology*, [in:] M. Malinowski, S. Solecki (ed.), *Society and Urban Space*, Rzeszów 1999, p. 122-146.

⁸ E. Hall, *Hidden Dimension*, Warsaw 1978, p. 141-155.

prison⁹.

The description of the space of a penitentiary unit as a set of infrastructural and architectural elements requires taking into account the nature and type of a prison at whose premises the limitations in the scope of security of the penitentiary institution are introduced differently due to the scope and type of protection undertakings, technical and protective safeguards, as well as type and number of positions of the service performance¹⁰.

In a closed prison, the applied elements of technical and protective safeguards include, for example, the unit's external limitation in the form of a fence consisting of an external line made of solid material and an internal line, as well as a protective zone between these lines. Moreover, it is possible to designate optionally armed positions along the line of the external fence, while obligatorily in windows of the buildings and structures in which prisoners stay permanently or temporarily bars or technical and protective safeguards fulfilling the functions of bars must be installed. Moreover, in the architecture of the so-called lock¹¹ physical barriers concerning movement between buildings, extensions, individual areas and places of the facility are introduced. In these barriers 'doors and doors with bars at entrances to the buildings and residential wards as well as entrances to the structures or passages at the premises of the organisational unit are opened only for necessary time'¹².

In the case of open prisons (with the minimum degree of safeguards), the function of elements limiting the area is performed by at least one line of the protective fence. Moreover, windows of the buildings can be optionally equipped with technical and protective safeguards, and obligatorily the buildings and residential wards must be left opened during the day.

The indicated protective conditions have an impact on the issues of the structural and spatial organisation of basic units of the Prison Service. Despite these standards, each of them can be specific due to the condition of development, location towards the city or town centre or external divisions separated within the structure of a given unit, which frequently are territorially separated from the parent unit. Furthermore, closed facilities may differ depending on the designation within them of divisions for convicts referred to in Article 88 a of the Polish Criminal Executive Code¹³, i.e. particularly dangerous offenders. At this type of divisions additional technical and protective safeguards, apart from those required in general divisions of a closed prison, are applied.

The research conducted by Augustyn Bańka¹⁴ proved that the incorrect structure of buildings disrupted social functioning of people by forcing their undesired interactions with others, going beyond their needs. Essential premises

⁹ See: <https://sztuka-architektury.pl/article/IIOSO/wiezienie-storstrom-architektura-resocjalizacji> [access: 04/05/2021].

¹⁰ Article 4 of the Regulation of the Ministry of Justice of 17 October 2016 on means of protection of organisational units of the Prison Service (Journal of Laws of 2016, item 1804).

¹¹ Term used to indicate a closed prison.

¹² Articles 4-5 of the Regulation of the Ministry of Justice of 17 October 2016 on means of protection of organisational units of the Prison Service (Journal of Laws of 2016, item 1804).

¹³ Polish Act of 6 June 1997 – Criminal Executive Code (Journal of Laws of 2021, item 53).

¹⁴ A. Bańka, *Architecture of the Psychological Space of Life. Behavioural Foundations of Design*, Poznań 1997.

indicating the significant role of space in regulating people's psychosocial functioning are also provided by studies on individuals functioning in metropolitan areas. As it has been proven, staying in this type of environment entails a number of negative consequences resulting, for example, from high cognitive complexity of incentives characteristic for such spaces.

Another type of space, distinguished by E. Hall¹⁵, is determined as a semi-permanent space, in which buildings are equipped with objects that can be moved or changed. Such a spatial arrangement in prison confinement conditions is strictly subject to legal regulations in the scope relating to prisoners (e.g. determination of the cell design, arrangement of accommodation equipment or number of prison and personal objects possessed), as well as to the Prison Service staff (e.g. in the scope of safety of service rooms, arrangement of mobile technical and protective equipment). The arrangement of rooms and furniture may support mutual interactions between people or hinder them and affect the increase or stoppage of communication between them¹⁶.

The last type of space, distinguished by the researcher, is the informal space, individually arranged by its user, whose design as well as personal elements placed in it reflect their personal characteristics. This aspect of space due to the type of service performed by prison officers is limited because of the shift system, staff rotation or lack of possibility to bring objects to the penitentiary facility and take them out of it. Therefore, the possibility to make out its user's features from such space is limited.

The spatial and infrastructural specificity of penitentiary facilities generates psychosocial consequences resulting from the employment in such places. Spatial limitations and infrastructural obstructions inside the facility constituting arduous elements of the service may pose the risk of jeopardising the well-being, e.g. through the experience of emotional tension, external stress and intrapsychological stress. The dimensions of experiencing the space by people working in such places, in a narrow aspect, refer to actions undertaken towards prisoners, in which the place becomes the space for dialogue¹⁷, shaping professional identity, organisational culture and its local position.

The presented studies and theoretical analyses reveal the essential role of space in the scope of meeting people's physiological and social needs. They indicate the need to capture a human being as an element of a comprehensive system, in which they are subject to the impact of structural aspects of the surroundings, on the basis of their individual possibilities and needs¹⁸.

2. Research perspective and methodological assumptions

As the discussed issues focus on experiencing the place by the Prison Service staff, for the purposes of further consideration the scientific point of view of M.

¹⁵ E. Hall, *Hidden Dimension*, *op.cit.*, p. 150-154.

¹⁶ S.P. Morreale, B.H. Spitzberg, J.K. Barge, *Communication between People*, Warsaw 2007.

¹⁷ See: M. Mendel, *Pedagogical Aspects of Common Place. City and School*, Warsaw 2018; I. Copik, *Pedagogical Aspects of Place – Local Culture and Developing the Identity of Contemporary People*, Scientific Papers of Jan Długosz Academy in Częstochowa, volume XXII/2013, p. 179-189.

¹⁸ A. Elias, *Ecological Psychology*, [in:] J. Strelau (ed.), *Psychology. Academic Textbook*, Gdańsk, 2001. p. 405-440.

Mendel has been assumed. It reveals in its concept of pedagogical aspects of place the existence of mutual relationships between a person and a place, where the space is the area of continuous exchange of experiences and information, important for the person's learning and development processes as well as for shaping the identity and social relationships between individuals, groups or institutions¹⁹. In relation to this concept, it was essential to carry out the analysis of the space of a penitentiary unit, i.e. the institution of complete isolation, and processes experienced by prison officers, i.e. adaptation techniques applied, ways to give meaning to situations, making places understandable, creating social bonds, perceiving the place as an area for professional development. Such a theoretical approach constitutes the context for consideration and sets its horizon, embedded also in the theory of symbolic

interactionism²⁰, in which it is crucial to understand motives, actions, relationships and definition of the situation in which prison officers function. Drawing attention to the meaning assigned by the originators to the reality and space as well as the manner in which they reconstruct it²¹ is essential from the point of view of architectural design of these places and legal regulations humanising a prison.

An auxiliary concept for this consideration is the concept of conservation of resources of S. Hobfoll²², which allows understanding the physical environment and professional space as a dimension with potential to trigger stress. It also emphasises its inseparability from the problem how to cope with it. Moreover, this concept shows that a stressful situation leads to triggering activity directed at the improvement of relationships between an individual and their environment²³. Referring to the theory of S. Hobfoll, it should be stated that the issues of stress and coping with it have obtained a special status in the area of scientific studies, and they have become the topic of different publications concerning psychosocial functioning of the Prison Service staff. There is lack of articles regarding the impact of the space on the experience of stress by prison officers, although numerous studies on the stress of the Prison Service staff have been carried out²⁴.

The justification of such theoretical frameworks is related to the determination of interpretation dimensions identified in the research material collected and the manner of giving meanings by respondents to different aspects of the space of a penitentiary unit, whose subjective assessment may affect the quality and way of official duty performance. At the same time, the image of a prison described by the Prison Service staff with meanings given to it allows perceiving in this narration an

¹⁹ See: M. Mendel, *Pedagogical Aspects of Place*, Wrocław 2006.

²⁰ See: A. Siemaszko, *Limits of Tolerance. On Theories concerning Deviant Behaviours*, Warsaw 1993, p. 265-272; M. Bernasiewicz, *Symbolic Interactionism in Rehabilitation Theory and Practice*, Kraków 2011; E. Hałas, *Symbolic Interactionism*, Warszawa 2006.

²¹ See: H. Blumer, *Symbolic Interactionism. Perspective and Method*, Kraków 2009.

²² S.E. Hobfoll, *Stress, Culture and Society. Psychology and Philosophy of Stress*. Gdańsk, 2006.

²³ I. Heszen-Niejodek, *Stress and Coping with It – Main Controversies*, [in:] I. Heszen-Niejodek, Z. Ratajczak (ed.), *Human Being in a Stressful Situation*, Katowice 2000, p. 14-28; I. Heszen-Niejodek, *Theory of Psychological Stress and Coping with It*, [in:] J. Strelau (ed.), *Psychology. Academic Textbook*, Gdańsk, 2001, p. 465-491.

²⁴ See: J. Pomiankiewicz, *Stress and Professional Burnout of the Prison Service Staff*. 'Prison Systems Review' (Przegląd Więziennictwa Polskiego) 2010, no. 67/68, p. 47-60; A. Piotrowski, *Stress Questionnaire of the Prison Service*, Warsaw. 2011; R. Poklek, *Stress of the Prison Service Staff Working in Direct Contact with Detained Persons*, [in:] P. Jakubczak, P. Podomy (ed.), *Crisis and Management, Theory and Practice*, Scientific Journals (Zeszyty Naukowe), 2012 no. 48, p. 211-219.

informal impact of the institution on its members.

The main purpose of studies was to determine the significance of diverse aspects of the space of a penitentiary unit for experiencing the sense of stress by the Prison Service staff.

The diagnostic survey method was used in these studies and, within its framework, the technique of questionnaire was applied. Such tools as the Stress Sense Questionnaire of Plopa and Makarowski were used²⁵, while for the description of spatial features of penitentiary units in which the respondents performed their service, own survey questionnaire was prepared. It allowed distinguishing categories of resources of the space of penitentiary units generating diverse experience of stress by the Prison Service staff.

The Stress Sense Questionnaire is a survey aimed at studying stress experiences. The tool consists of 27 statements assessed by the respondent in a five-grade scale. The study with the use of this questionnaire allowed obtaining a general result indicating a generalised level of stress, and results expressed by three dimensions: *emotional tension, intrapsychological stress and external stress*. The reliability of the study in the group of adults for the lie scale was 0.57. The factors of internal compliance for three sub-scales fell within the limits 0.70-0.81. Own survey questionnaire consists of questions concerning basic information about the respondent and 19 questions referring to spatial and infrastructural aspects in which the respondents perform their service, half-open and open cafeterias. Within the analysis of empirical material, the descriptive characteristics of variables taken into account were prepared. The analysis of variables of a nominal, multiple-category and qualitative nature was based on the analysis of the percentage of individual answers. In the scope of the description of variables taking order values, the analysis of averages and standard deviations was carried out.

The studies were of a diagnostic nature, therefore it was adopted in accordance with the theory of Krzysztof Konarzewski that in this type of studies there are no grounds for forming hypotheses, which as a rule are formed in studies of a verification nature²⁶.

The research procedure covered 58 prison officers in April 2021. The study group included 19 women and 39 men. They were persons performing their service at different positions and in different divisions – both in direct contact with prisoners, and performing administrative tasks.

Results of the studies

The study group included officers who performed their service²⁷:

- in detention centres – 30%,
- in closed prisons – 42%,

²⁵ M. Plop, R. Makarowski, *Stress Sense Questionnaire*. Warsaw 2010.

²⁶ See: K. Konarzewski, *How to Conduct Educational Research*, Warsaw 2000; D. Urbaniak-Zajac, *On the Application of Hypotheses in Pedagogical Studies*, 'Present-Human Being-Education: Social and Pedagogical Thought Quarterly' (Teraźniejszość-Człowiek-Edukacja: kwartalnik myśli społeczno-pedagogicznej) 2009, no. 1(45), p. 7-27.

²⁷ See: Article 70 of the Polish Act of 6 June 1997 – Criminal Executive Code (Journal of Laws of 2021, item 53).

- in semi-open prisons – 22%,
- in open prisons – 4.5%,
- in one of the regional inspectorates of the Prison Service – 1,5%.

All respondents had a university degree. The average time of service was 10 years and 6 months ($SD = 3.8$). In the case of 52% of respondents, they were officers performing their service in teams of employees, while officers at independent positions constituted 22% of respondents, and officers managing teams of employees constituted 16%. The characteristics of variables referring to infrastructural and spatial aspects expressed on a nominal scale are presented in table 1.

Table 1. Characteristics of indicators regarding infrastructural and spatial aspects of the service expressed on nominal scales

No.	Nominal scale – dichotomous scale	Yes		No			
1.	Possession of a separate room for the service performance	78%		22%			
2.	Service performance in a unit under the protection of a conservator of monuments	69%		31%			
3.	Possibility to move around a unit on the basis of an electronic system of access	40%		60%			
4.	Designation in a unit of a separate space for consumption	34%		66%			
5.	Service in a unit with an external division	41%		59%			
6.	Service in an external division	12.5%		87.5%			
No.	Nominal scale – four-category scale*	C		NC	OC/T	O	
1.	Service in a unit located in the centre (C), or near the centre (NC), or on the outskirts of the city/town (OC/T), or other (O)	43%		34%	15%	8%	
No.	Nominal scale – six-category scale**	1	2	3	4	5	6
1.	Distance from the unit entrance to parking places available for prison officers.	54%	34%	9%	2%	0%	1%

Key: *C - centre; NC - near the centre; OC/T - outskirts of the city/town; O - other *1 - up to 50 m; 2 - more than 50 to 100 m; 3 - more than 100 to 200 m; 4 - more than 200 to 300 m; 5 - more than 300 m to 400 m; 6 - more than 400 m

The characteristics of variables referring to infrastructural and spatial aspects expressed on ordinal scales are presented in table 2.

Table 2. Characteristics of indicators regarding infrastructural and spatial aspects of the service expressed on ordinal scales

No.	Ordinal scales	M	SD
1.	Number of gates closed with bars (or locks) located along the route from the unit entrance to the place of the service	5	2.58
2.	Capacity of the unit	615	353.7
3.	Age of the unit building	125	117.9
4.	Number of years from the last comprehensive renovation of the building of the penitentiary unit	4	8.47
5.	Number of square metres per one prison officer (employee) in the room of the service performance	6	4.5
6.	Number of years from the last painting of walls of the room of the service performance	4	5.6
7.	Number of floors in the building of the service performance	3	1.34
8.	Number of residential buildings for prisoners in the unit	3	2.84
9.	Distance from the place of the service performance to the nearest sanitary rooms	10	25.24
10.	Distance between the parent unit and the division	25	18.66
11.	Number of buildings in the unit separated for the administration	1	0.92

Key: M - median; SD - standard deviation

Table 3. Medians and standard deviations for indicators from the area of the sense of stress

No.	Quantitative scales	M	SD
Indicator of the sense of stress			
1.	Emotional tension	65.5	11.6
2.	Intrapsychological stress	64.0	12.2
3.	External stress	65.0	11.8

Key: M - median; SD - standard deviation

For detailed identification of the specific nature of analysed variables expressed on ordinal and quantitative scales, normality tests were additionally carried out.

The obtained breakdowns of variables from the area of the sense of stress allowed looking for differences in this scope between groups of prison officers performing their service in qualitatively different infrastructural conditions, with the use of the Student's t-test. Moreover, the obtained characteristics of indicators from the area of the sense of stress and indicators showing the intensity of specific infrastructural and spatial features allowed the use of the Spearman's rank correlation test to determine the strength of interdependencies.

Table 4. Comparison of the results of officers performing their service in detention centres with officers from semi-open and open prisons in the scope of individual aspects of the sense of stress – the Student's t-test

	Avr. - O/SO P	Avg. - DC	t	df	P<	SD(n)	SD(n)
Emotional tension	61.5	71.21	-2.33	34	0.02	10.68 (16)	13.59(20)
Intrapsychological stress	59.93	71.4	-2.64	34	0.01	10.49 (16)	14.53(20)
External stress	60.56	70.80	-2.41	34	0.02	10.58 (16)	14.05(20)

Key: Avr. - O/SO P - arithmetical average in the group of officers from open and semi-open prisons; Avg. - DC - arithmetical average in the group of officers from detention centres

The presented results of studies indicate that officers performing their service in detention centres have larger sense of stress (in all three dimensions – table 3) than officers from semi-open and open prisons (included in one group in order to maintain similar size of the compared groups. However, it should be taken into account that the independent variable is an aggregate. This type of variable includes many specific aspects of the space of a penitentiary unit, but also functional elements not directly connected with the infrastructural and spatial aspect, but with the function of this space.

The next stage of the analysis included comparisons in the dimension of the sense of stress of prison officers, taking into account as independent variables specific (qualitative aspects of the space of a penitentiary unit, such as: possession of a separate room for the service performance, service performance in a unit under the protection of a conservator of monuments, application in a unit of an electronic system of access, service in a unit with an external division, service in an external division. The results obtained indicate that only the variable concerning the presence in a unit of an electronic system of access differentiates prison officers in the scope of the level of stress. In the compared groups due

to quality criteria regarding other variables, no statistically significant differences were obtained, which shows that these infrastructural and spatial aspects do not differentiate prison officers in the scope of the level of stress (table 5).

Table 5. Comparison of the results of emotional tension, intrapsychological stress and external stress experienced by prison officers from units that have an electronic system of access and by prison officers from units where such a safeguard has not been applied – the Student's t-test

	Avr. - ESA	Avr. - Lack of ESA	t	df	P<	SD(n)	SD(n)
Emotional tension	71.33	63.99	2.69	66	0.009	12.64 (27)	9.99(41)
Intrapsychological stress	70.88	63.00	2.72	66	0.009	13.27 (27)	10.51(41)
External stress	70.48	63.29	2.55	66	0.015	12.83 (27)	10.24(41)

Key: Avg. - ESA - arithmetical average in the group of officers from units using an electronic system of access; Avr. - Lack of ESA - arithmetical average in the group of officers from units not using an electronic system of access

The above-presented data lead to the conclusion that prison officers in units with an electronic system of access experience stress at a higher level. Of course it should not be assumed that the presence of this system is a factor intensifying the stress. It rather seems that these systems have been installed in units due to the general architectural specificity and functional aspects connected with the necessity to increase individual and institutional safety. Probably these factors constitute the basis of recorded differences in the level of the sense of stress in individual groups, not the presence of the safeguard system.

The next stage of the analysis directed at looking for differences in the scope of the sense of stress experienced by prison officers consisted in taking into account in the role of independent variable the location towards the city or town centre. The results obtained confirmed the occurrence of significant differences between the level of stress experienced by prison officers performing their service in units located differently towards the city or town centre. The detailed results of this analysis are presented in table 6.

Table 6. Comparison of emotional tension, intrapsychological stress and external stress experienced by prison officers from units located in the city or town centre, near the centre and on the outskirts – one-factor variance analysis

	Avr. - C/TC	Avr. - NC	Avr. - OC/T	SS	SD	MS	F	P<
Emotional tension	70.82	64.09	62.86	845.8	2	422.9	3.247	0.05
Intrapsychological stress	70.46	63.32	61.73	989.3	2	494.6	3.459	0.04
External stress	70.48	63.29	2.55	859.0	2	429.5	3.2	0.05

Key: Avr. - C/TC - arithmetical average in the group of officers from units in the city of town centre; Avr. - NC - arithmetical average in the group of officers from units located near the centre; Avr. - OC/T - arithmetical average in the group of officers from units located on the outskirts of the city of town

On the basis of in-depth analysis of differences between the three distinguished groups of prison officers, it was established that significant statistical differences concern the comparison of officers from units located in the centre with the two remaining groups. No differences between officers from units located near the centre and those who perform their service in units located on the outskirts were determined. This conclusion is confirmed by studies carried out by Andrzej Elias²⁸ on the issue of *the urban stress*. However, it should not be excluded that the location in the very centre translates into a number of factors connected with the intensity of stimulation obtained by prison officers or nuisance related to getting to the place of the service performance.

The penultimate stage of the analysis was connected with the identification of differences in the scope of the sense of stress experienced by prison officers due to the occurrence of qualitative infrastructural features and consisted in taking into account in the role of independent variable the location of available parking places towards the entrance to the unit. The results obtained did not confirm the occurrence of significant differences between the group of officers that have larger distance from the parking place to the entrance to the unit and the group of officers in the case of whom this distance is smaller. The results obtained suggest that officers have relatively convenient conditions in the scope of parking vehicles near the penitentiary unit.

The last part of the analysis concerned the determination of relationships between the intensity of diverse features of the penitentiary surroundings and the level of the sense of stress. However, none of these analyses obtained the level of statistical significance. The analyses carried out in this scope indicate that the degree of the occurrence of specific infrastructural and spatial aspects, such as: number of gates closed with bars or locks (located along the route from the unit entrance to the place of the service), capacity of the unit, age of the unit building, number of years from the last comprehensive renovation of the unit building, number of square metres per one prison officer in the room of the service performance, number of years from the last painting of walls of the room of the service performance, number of floors in the building of the service performance, has no impact on the level of stress experienced by prison officers.

Referring to the analyses presented, it can be concluded that single isolated elements of the space of a penitentiary unit do not play a significant role in shaping

²⁸ A. Elias, *Ecological Psychology*, [in:] J. Strelau (ed.), *Psychology. Academic Textbook*, op. cit., p. 405-440.

the sense of stress of prison officers. Taking into account the above-discussed research results showing the significance of such aspects as the location or type of a penitentiary unit (due to protective characteristics and degree of safeguards), it should be noticed that they have global character relating to the entire prison. They aggregate diverse spatial and functional elements, which increases their scope of impact on shaping the sense of stress. It is worth interpreting these results in relation to the concept of the sense of place based on the idea of the overall climate of the space – the institution's organisational culture, postulated by Howard Frumkin²⁹. It seems that the dimension of the overall climate shaping the sense of place is the main factor responsible for the stress resulting from contact with the space of a penitentiary unit, not its individual isolated infrastructural and spatial features.

Conclusions and discussion

The purpose of the studies was to determine interdependencies between the level of stress experienced by the Prison Service staff and the features of the space of a penitentiary unit in which they perform their service. The previous results of studies indicated that the Prison Service staff is exposed to the experience of an increase level of work-related stress³⁰. In this respect, studies allowed distinguishing several factors constituting main dimensions of experiencing stress, related to the management, workload and lack of work satisfaction, which may be conditioned by elements of space in which prison officers perform their everyday tasks.

The results received reveal that officers performing their service in detention centres face higher level of stress than officers from semi-open and open prisons. Furthermore, research results indicate that officers in units equipped with an electronic system of access control experience more stress than staff working in units without such a system of safeguards. It was also confirmed that prison officers performing their service in units located close to city or town centres experience larger intensity of stress than officers performing their service in units located on the outskirts. The results obtained allow noticing that single isolated features of units or the conditions of service in penitentiary units are not essential in the scope of relations with the sense of stress. The general conclusion regarding the studies conducted may be formulated in the following way: essential features of the space of a penitentiary unit determining the sense of stress experienced by the Prison Service staff include global characteristics of a penitentiary unit concerning its functional aspects, such as technical and protective safeguards applied in it. In the light of data obtained, it may be stated that officers performing their service in penitentiary units with the highest degree of technical and protective safeguards, increased level of isolation from the environment and employed in units located in the centre of urban agglomerations are most exposed to experiencing stress.

²⁹ H. Frumkin, *Healthy Places: Exploring the Evidence*. American Journal of Public Health, 9(93)/2003, p. 1451-1456.

³⁰ B. Basińska, *Emotions at the Workplace in Jobs Exposed to Increased Psychosocial Risks*, 'Polish Psychological Forum' (Polskie Forum Psychologiczne) 18(1)/2013, s. 81-92, (DOI. org/10.13075/mp.5893.00750); A. Piotrowski, *Stress and Professional Burnout of the Prison Service Staff*. Warsaw 2010; R. Poklek, *Stress of the Prison Service Staff Working in Direct Contact with Detained Persons* [in:] P. Jakubczak, P. Podomy (ed.), *Crisis and Management, Theory and Practice*, Scientific Journals (Zeszyty Naukowe), 48/2012, p. 211-219.

These results form a premise for designating staff groups characterised by increased risk of experiencing stress, with regard to which the implementation of preventive programmes aimed at counteracting the negative effects of excessive stress should be considered. That is why ensuring the flexibility of solutions at the architectural and spatial level is one of criteria decisive for the quality of the service performed by the Prison Service staff.

The analysis of selected elements of the prison space in relation to stress experienced by the Prison Service staff is an interesting research perspective due to the fact that designing a prison, similarly as any other public utility building, requires taking into account the specific nature of the place and the community functioning in it. The impact of the SARS-CoV-2 pandemic may also have impact on the experience of the space of a penitentiary unit by the Prison Service staff, which would also require further exploration in the context of creating safe sanitary and epidemiological zones within the premises of penitentiary units.

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