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Factors motivating penitentiary recidivists to stop smoking cigarettes in the light of the research

Czynniki motywujące do zaprzestania palenia papierosów przez recydywistów penitencjarnych w świetle badań

Smoking cigarettes is an unhealthy behavior and plays a special role in the prison community. The phenomenon of motivation for smoking cessation in a group of penitentiary recidivists was examined. The results showed that, on average, family support was higher in the inmate group. There was also a positive relationship between family support and psychological resilience and motivation for smoking cessation. In a group of incarcerated people, the motivation for smoking cessation was not related to employment. Possibilities of future research were also indicated in terms of specific prison stressors.

Key words: smoking, inmates, penitentiary repeat offenders, family support, mental health, professional work

Palenie papierosów jest zachowaniem antyzdrowotnym, a w społeczności więziennej pełni szczególną rolę. Zbadano zjawisko motywacji do zaprzestania palenia tytoniu w grupie recydywistów penitencjarnych. Wyniki wskazały, że wsparcie rodziny w grupie osadzonych jest średnio wyższe niż w grupie porównawczej, występuje też pozytywna zależność między wsparciem a prężnością psychiczną i motywacją do zaprzestania palenia. U osób osadzonych szanse na wystąpienie motywacji do leczenia nie były związane z zatrudnieniem. Wskazano na możliwości kontynuacji badań z uwzględnieniem specyficznych stresorów więziennych.

Słowa kluczowe: nikotynizm, osadzeni, recydywiści penitencjarni, wsparcie rodziny, zdrowie psychiczne, praca zawodowa

Introduction

Smoking is an integral part of prison culture. Nevertheless, nicotine addiction is understudied in the empirical literature relative to alcohol addiction. This likely stems from the fact that smoking cigarettes constitutes a legal form of toxic substance use, even in the context of a penitentiary sentence. When beginning their sentence or temporary arrest, inmates declare whether they use tobacco products or not. This is an important consideration when placing inmates in residential cells¹. Inmates who cease using tobacco products in residential cells submit a written declaration of smoking cessation (binding for 12 months) to the director of the custodial or penitentiary facility. After a positive decision on the declaration, the inmates are transferred to cells for use by non-consumers of tobacco products². In custody suites and closed penitentiary facilities, tobacco products are used in residential cells located such as to prevent tobacco smoke from reaching the cells occupied by non-consumers of tobacco products and affecting them. Use of tobacco products outside of the residential cells is also allowed. In semi-open and open penitentiary facilities, using tobacco products is allowed only outside of residential cells, in places and times indicated by the director³. Information about prevention programs in penitentiary settings is lacking.

Smoking cigarettes is both an anti-health (i.e., having a negative impact on health) and a risky behavior⁴. Nicotine is a highly addictive psychoactive substance which alters the functioning of the central nervous system⁵. Its consumption can lead to severe diseases, even death. Smoking cigarettes increases the risk for around 30 diseases related

¹ <https://www.sw.gov.pl/aktualnosc/zaklad-karny-cieszyn-rzucamy-palenie-za-kratami> (dostęp: 20.06.2023).

² Act of November 9, 1995 on health protection against the consequences of tobacco and tobacco products (Dz.U. z 1996 r., Nr 10, poz. 55.).

³ Regulation of The Minister of Justice of June 20, 2011 on the detailed conditions of tobacco product use within the premises of objects within the jurisdiction of the Minister of Justice and within personal transport vehicles (Dz.U. 2011 nr 135 poz. 795.).

⁴ B. Woynarowska, *Edukacja zdrowotna*, Wydawnictwo Naukowe PWN, Warszawa 2007, s. 45–74; R. Makarowski, M. Lipowski, M. Marszał, W. Czarnowski, *Zachowanie antyzdrowotne jako forma poszukiwania ryzyka-próba konstrukcji modelu*, „Medycyna Sportowa” 2008, tom 24, s.398–400.

⁵ A. Bilikiewicz. *Psychiatria*. PZWL, Warszawa 1992, s. 177–178.

to nicotine addiction. The risk of negative health outcomes in the context of lung cancer is, on average, 15 times higher among smokers.

Nicotine serves many functions in prison, including the facilitation of social relationships. It fits into the rhythm of prison life and allows inmates for coping with boredom, stress, and need deprivation. It lowers anxiety and tension, and can be a source of pleasure. It is perceived to have a particularly high value⁶. It is generally recognized that difficulties in smoking cessation may stem from insufficient motivation, fear of failure, lack of support from the environment, and withdrawal symptoms⁷.

Some research shows that the prevalence of smoking among inmates ranges from 64% to 91.8% and may be three times higher than in the general population of Europe and Australia⁸. One explanation of this fact is lower mental health among inmates, including histories of addiction. The penitentiary systems in various countries have attempted to ban smoking, seeing it as a risk for inmates' public and mental health. Such changes were systemic responses to findings showing that the majority of deaths in prison result from heart disease and lung cancer, related to tobacco use. Moreover, many older inmates with long histories of tobacco use are hospitalized more frequently than non-inmates of similar age.

In Poland, based on the legal regulations currently in effect, inmates suffering from addiction are provided treatment. This is organized within the therapeutic system during imprisonment, in therapeutic wards for inmates addicted to alcohol and to psychoactive substances other than alcohol. The program of treatment is designed for several (3 to 6) months. It is prepared by therapeutic teams in their respective wards and approved by the Managing Director of the Prison Service. However, there are no solutions for inmates who use nicotine.

In light of the data on the harm caused by nicotine addiction, the availability of nicotine in penitentiary settings, and the lack of widespread prevention in penitentiary facilities, it is pertinent to study the motivation for smoking cessation and to analyze selected factors that may impact it. The following were taken into account when designing the current study:

⁶ https://www.euro.who.int/__data/assets/pdf_file/0004/249205/Prisons-and-Health,-16-Tobacco-use-in-prison-settings-a-need-for-policy.pdf (dostęp: 30.05.2023).

⁷ P. Gajewski, D. Górecka, B. Habrat, E. Niżankowska- Mogilnicka, A. Torbicki, W. Zatoński, *Podręczny przewodnik leczenia uzależnienia od tytoniu dla lekarzy i pielęgniarek*. Suplement do: „Medycyna Praktyczna”, 2002, 4, 134, 1–3.

⁸ C. Ritter, H. Stoever, M. Levy, J.F. Etter, B. Elger, *Smoking in prisons: The need for effective and acceptable interventions*, „Journal of Public Health Policy” 2011, 32, 32–45. DOI:10.1057/jphp.2010.47.

the specificity of social isolation and its role in maintaining relationships with family, the literature on inmate mental health, and the role of employment in psychological functioning. The Introduction pointed to the role that cigarettes play in the prison community and, simultaneously, their role as risk factors for diseases and early death. In turn, this stems from the factors related to the penitentiary context – stress, boredom, cigarettes as a form of currency – as well to individual determinants – education and mental health⁹. Due to the specificity of the inmate population in Poland, the current study involved penitentiary recidivists. They are becoming an increasingly large group in Polish penitentiary facilities. In 2020, they numbered over 32,400 men and almost 900 women¹⁰. Statistical data show that recidivists are beginning to outnumber other inmates in penitentiary facilities. Due to their recidivism, this group also poses an additional therapeutic challenge.

Study Aims

The aim of the current study was to analyze the motivation for smoking cessation in a sample of penitentiary recidivist inmates and to compare it to a control group of non-inmate smokers. Penitentiary recidivists are sentenced for imprisonment or alternative arrest for intentional offenses or sentenced for arrest for petty offences¹¹.

Readiness for smoking cessation was analyzed, taking into account the following factors:

- The participants' mental health (including: anxiety, depression, aggression, and mental resilience levels),
- Perceived social support from the family,
- Employment,
- Age, marital status, and education,
- Inmate status (inmates vs. non-inmates).

The following research questions were put forward:

⁹ <https://doi.org/10.1177/2055102918819930> (dostęp: 1.06.2023).

¹⁰ <https://stat.gov.pl/obszary-tematyczne/wymiar-sprawiedliwosci/wymiar-sprawiedliwosci/osadzeni-w-zakladach-karnych-i-aresztach-sledczych,2,1.html> (dostęp: 30.05.2023).

¹¹ Executive Penal Code of 6 June 1997 (Dz. U. 90, poz. 557.).

1. What are the variable (mental health, family support, motivation for smoking cessation) levels in the examined groups?
2. What are the differences in the variables (mental health, family support, motivation for smoking cessation) between the two groups (inmates and non-inmates)?
3. Does the status as an inmate moderate the relationship between family support and psychological resilience?
4. Does the status as an inmate moderate the relationship between support and the motivation for smoking cessation?
5. Does the status as an inmate moderate the relationship between mental health and the motivation for smoking cessation?
6. Does the status as an inmate moderate the relationship between employment and the motivation for smoking cessation?

Sample

The sample consisted of male inmates residing in a penitentiary facility in the Kujawsko-pomorskie voivodeship as well as non-inmate males (the control group). In both groups, participation was anonymous and voluntary. The participants did not receive any rewards. The study materials were designed in such a way as to only allow for voluntary participation, and simultaneously to make it impossible to identify the participants personally. The envelope with the study materials also contained information about the study aims and voluntary participation. The instructions included a request to return the completed questionnaires in the envelope to a specially prepared “urn” that would prevent the participants’ personal identification. The participants had the option of withdrawing their participation at any point of the study. The control group was recruited via purposive sampling targeting both employed and unemployed men who smoked.

The study design did not include any stress-inducing factors such as time pressure, a specific place of participation, or the presence of an examiner. No masking instructions were used. Both the selection of the study materials as well as the design of the study information took into account the fact that the inmate group, and thus the study sample, could contain individuals with a low level of education.

The study received ethical approval from the management of the penitentiary facility where it took place, as well as from the Kazimierz Wielki University in Bydgoszcz ethical committee. In accordance with legal regulations, approval for the study was also sought from the Rector of the University of Jurisprudence in Warsaw (*Szkoła Wyższa Wymiaru Sprawiedliwości w Warszawie*).

The sample comprised 197 participants, including 103 inmates. Sixty-eight participants in the inmate group and 48 participants from the control group were employed. The participants' age ranged from 20 to 65 years. Fifty-seven participants had primary education, 68 had vocational education, 61 had secondary education, and 11 were university graduates. In the inmate group, 42 participants were single, 14 were married, 4 were widowers, 28 were single divorcees, and 15 were in informal relationships. In the control group, 31 participants were single, 42 were married, 9 were widowers, 6 were divorced, and 6 were in informal relationships.

The following measures were used in the study:

- a) HADS – The Hospital Anxiety and Depression Scale (A. Zigmond and R. Snaith). The Polish version was created by K. de Walden-Gałuszko, M. Majkowicz, and G. Chojnacka-Szawlowska. The HADS is used to measure anxiety and depression in hospitalized patients, though it has also been successfully used in penitentiary conditions. The scale consists of two independent subscales measuring anxiety and depression, with each subscale containing seven items. The version of the HADS used in the current study additionally contained two items pertaining to aggression. Answers are given on a four-point Likert scale (0-3). Scores for each subscale can range from 0 to 21 points. Scores for the two aggression items can range from 0 to 6 points. Scores of 0-7 indicate the norm, scores of 8-10 indicate risk, while scores of 11-21 indicate abnormalities¹².
- b) The Brief Resilience Coping Scale (BRCS) was created by Smith et al., and the Polish validation was made by Konaszewski et al. (2020)¹³.

¹² M. Majkowicz, *Praktyczna ocena efektywności opieki paliatywnej – wybrane techniki badawcze*, [w:] K. De Walden-Gałuszko, M. Majkowicz (red.), *Ocena jakości opieki paliatywnej w teorii i praktyce*, Akademia Medyczna Gdańsk, Zakład Medycyny Paliatywnej, Gdańsk 2000, s. 21–22; A.S. Zigmond, R.P. Snaith, *The Hospital Anxiety and Depression Scale*, “Acta Psychiatrica Scandinavica” 1983, 67, s. 366–370.

¹³ B.W. Smith, J. Dalen, K. Wiggins, E. Tooley, P. Christopher, J. Bernard, *The brief resilience scale: assessing the ability to bounce back*, “International Journal of Behavioral Medicine” 2008, 15, 194–200. DOI: 10.1080/10705500802222972; K. Konaszewski, M. Niesiołbódzka, J. Surzykiewicz, *Validation of the Polish version of the Brief Resilience Scale (BRS)*, “PLoS ONE” 2020, 15(8): e0237038. DOI: [10.1371/journal.pone.0237038](https://doi.org/10.1371/journal.pone.0237038).

The Polish BRCS is a reliable and precise method of measuring resilience, defined as the ability to withstand life difficulties and overcome various challenges and stressors. The scale consists of six items (e.g., “I tend to bounce back quickly after hard times”). Answers are given on a five-point Likert scale, from 1 (*definitely disagree*) to 5 (*definitely agree*). The mean item score is the index of resilience. Scores from 1 to 2.99 indicate low, 3 to 4.30 – medium, and above 4.31 – high resilience. The BRCS is comprised of six items with a five-point Likert answer scale, from 1 (*definitely disagree*) to 5 (*definitely agree*). Three items are formulated positively, and three are formulated negatively. The BRCS is scored by reverse-coding Items 2, 4, and 6, and calculating the mean score of the six items.

- c) The Multidimensional Scale of Perceived Social Support (MSPSS) was created by Zimet et al. (1988) as a self-description measure commonly used in many countries. The current study used the four-item family support subscale of the Polish adaptation of the MSPSS by Krystyna Buszman, Hanna Przybyła-Basista¹⁴. Answers (the degree of agreement or disagreement with a given item) are given on a seven-point Likert scale. The participants indicate whether their families attempt to help them, whether they can talk with their families about their problems, whether their families are eager to help them with decision making, and whether they receive support from their families.
- d) Test of motivation for smoking cessation by Nina Schneider¹⁵. The test measures the patient’s readiness to cease smoking tobacco. It consists of 12 questions answered “yes” or “no.” A majority of “yes” answers is taken to indicate motivation for smoking cessation, while a majority of “no” answers indicates a lack of such motivation. A maximum of five “yes” answers indicates low motivation, while 6-12 “yes” answers indicate high motivation. The scale is only used as a supplement and it does not meet the psychometric criteria of a questionnaire. However, the literature indicates that the test is very useful in practice when working with nicotine addiction. For the purposes of presenting the results, this variable was labeled “motivation.” Also, in the current study, this variable was treated as nominal (no motivation vs. motivation).

¹⁴ K. Buszman, H. Przybyła-Basista, *Polska Adaptacja Wielowymiarowej Skali Spostrzeganego Wsparcia Społecznego*, „Polskie Forum Psychologiczne” 2017, tom 22, numer 4, 590–599. DOI: 10.14656/PFP20170404.

¹⁵ <http://www.profilaktyka-pluca.pl/wp-content/uploads/2020/10/Testy.pdf>.

The study materials also included a series of demographic questions about:

- employment,
- age, marital status, and education.

Data Analysis

Data analysis was carried out with IBM SPSS Statistics 28.0. Descriptive statistics together with the Shapiro-Wilk test were calculated. In the next step of the analysis, independent-samples *t* test was used to compare the inmate and control groups with respect to their scores on the measured variables. Next, A. Hayes' PROCESS macro (Model 1) and logistic regression were used to analyze the moderating role of group (inmate vs. control) in the relationship between perceived social support and resilience as well as between perceived social support and depression and motivation. Statistical significance was set at $\alpha = 0,05$.

Descriptive Statistics

Table 1 shows the basic descriptive statistics together with the Shapiro-Wilk test. The analysis showed that resilience in the inmate group as well as perceived social support in the control group assumed a normal distribution. The remaining variables were non-normally distributed. However, the skewness values were between -1 and 1, meaning that the difference was not substantial.

Table 1. Descriptive statistics and the distribution normality test

	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>Sk.</i>	<i>Kurt.</i>	<i>Min.</i>	<i>Max.</i>	<i>W</i>	<i>P</i>
Inmates (N = 103)									
Anxiety	19.57	20.00	2.63	-0.36	-0.28	12.00	25.00	0.97	0.031
Depression	17.67	17.00	2.40	0.63	0.70	13.00	26.00	0.96	0.003
Aggression	5.90	6.00	1.80	-0.78	-0.25	2.00	8.00	0.88	< 0.001
Perceived social support	20.44	22.00	7.13	-0.67	-0.78	4.00	28.00	0.89	< 0.001

	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>Sk.</i>	<i>Kurt.</i>	<i>Min.</i>	<i>Max.</i>	<i>W</i>	<i>P</i>
Psychological resilience	20.20	19.00	4.36	0.45	0.60	11.00	35.00	0.98	0.051
Motivation	7.83	8.00	2.49	-0.89	0.98	0.00	12.00	0.93	< 0.001
Non-inmates (N = 94)									
Anxiety	18.96	20.00	2.94	-0.84	0.20	11.00	24.00	0.93	< 0.001
Depression	17.47	17.00	2.28	0.21	0.34	11.00	24.00	0.97	0.028
Aggression	5.11	5.00	1.16	0.42	0.31	3.00	8.00	0.92	< 0.001
Perceived social support	17.78	18.00	4.71	-0.09	-0.71	8.00	28.00	0.98	0.091
Psychological resilience	21.20	22.00	4.70	-1.19	0.88	7.00	29.00	0.88	< 0.001
Motivation	4.20	4.50	3.42	0.19	-1.23	0.00	12.00	0.93	< 0.001

Comparing inmates and non-inmates on the analyzed variables

Table 2 shows the comparison of the inmate and control groups with respect to the analyzed variables. The analysis showed statistically significant differences in terms of aggression, perceived social support, and motivation for smoking cessation. Inmates reported lower aggression, perceived social support, and motivation for smoking cessation than did non-inmates.

To establish whether motivation for smoking cessation differed depending on the sociodemographic variables, additional analyses were carried out in the inmate and control groups. The analysis did not show any statistically significant differences in motivation depending on age, marital status, and education in either group.

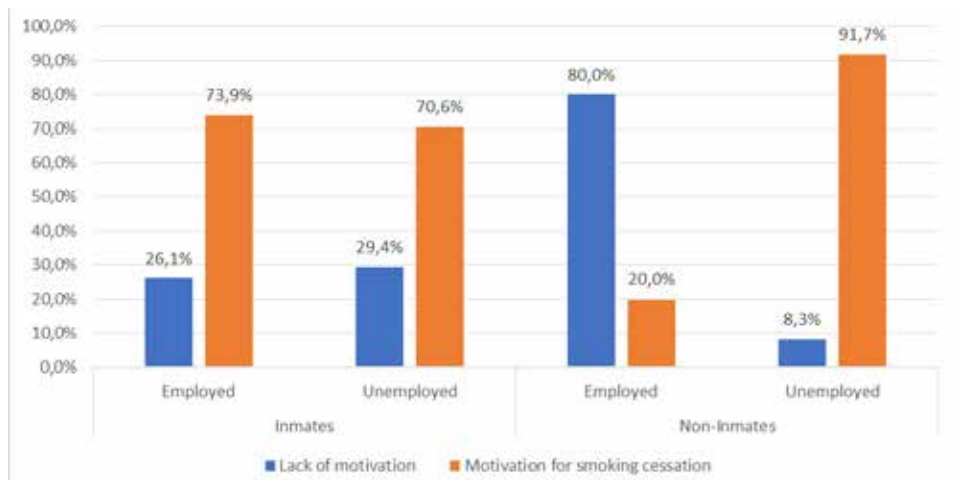
A statistically significant difference was observed for employment status in the control group. Pearson's χ^2 test showed that employed participants exhibited motivation for smoking cessation less frequently than did unemployed participants (20% vs. 91.7%, $\chi^2(1) = 48.67$; $p < 0.001$; $\varphi = 0.72$). In the inmate group, this effect was not statistically significant, $\chi^2(1) = 0.13$; $p = 0.721$; $\varphi = 0,03$. The results are shown in Figure 1.

Table 2. Comparison of inmates and non-inmates on the analyzed variables.

Dependent variable	Inmates (N = 103)		Non-inmates (N = 94)		T	df	p	95% CI		
	M	SD	M	SD				LL	UL	d
Anxiety	19.57	2.63	18.96	2.94	1.55	195	0.123	-0.17	1.40	0.22
Depression	17.67	2.40	17.47	2.28	0.60	195	0.546	-0.46	0.86	0.09
Aggression	5.90	1.80	5.11	1.16	3,73 ^a	176.11	< 0.001	0.38	1.22	0.52
Perceived social support	20.44	7.13	17.78	4.71	3,11 ^a	178.13	0.002	0.97	4.35	0.44
Psychological resilience	20.20	4.36	21.20	4.70	-1.55	195	0.124	-2.27	0.28	0.22
Motivation	7.83	2.49	4.90	3.42	6,82 ^a	168.958	< 0.001	2.08	3.78	0.99

^a Welch’s correction was applied.

Figure 1. Percentage distribution of motivation for smoking cessation depending on employment in the inmate and control groups.



The moderating role of group in the relationship between perceived social support and resilience

The first analyzed model included resilience as the explained variable and perceived social support and group (inmates vs. non-inmates) as predictors.

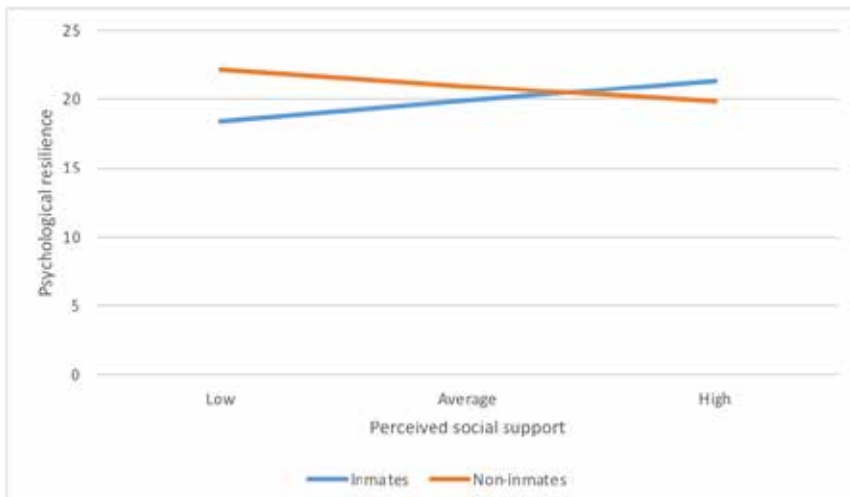
The model had a good fit to data, $F(3,193) = 5.84$; $p = 0.001$, and explained 8,3% of the variance ($R^2 = 0.08$). Including the interaction in the model significantly increased the variance by 5.2% ($\Delta R^2 = 0,05$; $F(1,193) = 10.97$; $p = 0.001$). The results are shown in Table 3.

Table 3. Regression coefficients for the explanatory model for resilience – Model 1

	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P</i>	<i>95% CI</i>	
					<i>LL</i>	<i>UL</i>
Perceived social support	0.59	0.15	3.79	< .001	0.28	0.89
Group	8.28	2.21	3.74	< .001	3.92	12.64
Support*Group	-0.38	0.11	-3.31	0.001	-0.60	-0.15

In the inmate group, the relationship between perceived social support and resilience was positive ($b = 0.21$; $SE = 0.06$; 95% CI: 0.09; 0.33; $p < 0.001$), while in the control group, this effect was not statistically significant ($b = -0.17$; $SE = 0.10$; 95% CI: -0.36; 0.02; $p = 0.084$). This relationship is shown in Figure 2.

Figure 2. Relationship between perceived social support and resilience depending on group.



The moderating role of group in the relationship between perceived social support and motivation for smoking cessation

The next model included motivation for smoking cessation (nominal) as the explained variable, and group and received social support as predictors. The model had good fit to data, $\chi^2(1) = 6,49; p = 0.011$, and explained 7.3% of variance ($R^2 = 0.08$). Including the interaction in the model significantly increased the variance by 3.2% ($\Delta R^2 = 0.03$). The results are presented in Table 4.

Table 4. Regression coefficients for the model explaining motivation for smoking cessation – Model 2

	<i>b</i>	<i>SE</i>	χ^2	<i>p</i>	<i>OR</i>	95% <i>CI</i> for <i>OR</i>	
						<i>LL</i>	<i>UL</i>
Perceived social support	0.23	0.08	8.49	0.004	1.25	1.08	1.46
Group	1.92	1.05	3.34	0.068	6.84	0.87	53.83
Support*Group	-0.14	0.05	6.33	0.012	0.87	0.78	0.97

In the inmate group, as perceived social support from the family increased by one point, the odds for motivation for smoking cessation to be present increased by 9% (OR = 1.09). 95% CI: 1.03; 1,16; $p = 0.006$), while in the control group, this effect was not statistically significant (OR = 0.95; 95% CI: 0.87; 1.04; $p = 0.260$).

The moderating role of group in the relationship between depression and motivation for smoking cessation

The next model included the moderating role of group in the relationship between depression and motivation for smoking cessation. The model had a good fit to data, $\chi^2(1) = 6,87$; $p = 0.009$, and it explained 6,1% of the variance ($R^2 = 0.08$). Including the interaction in the model significantly increased the variance by 3.3% ($\Delta R^2 = 0.03$). The results are shown in Table 5.

Table 5. Regression coefficients for the model explaining the motivation for smoking cessation – Model 3

	<i>b</i>	<i>SE</i>	χ^2	<i>p</i>	<i>OR</i>	95% CI for OR	
						<i>LL</i>	<i>UL</i>
Depression	-0.50	0.21	5.61	0.018	0.60	0.40	0.92
Group	-7.01	2.49	7.95	0.005	0.01	0.00	0.12
Depression*Group	0.36	0.14	6.56	0.010	1.43	1.09	1.88

In the inmate group, depression levels were not related to motivation (OR = 0,86; 95% CI: 0.72; 1,04; $p = 0.116$), while in the control group, this effect was statistically significant (OR = 1,24; 95% CI: 1.01; 1.52; $p = 0.043$). As depression levels increased by one point, the odds for motivation for smoking cessation being present increased by 43%

For the remaining HADS subscales, the analysis did not reveal a statistically significant moderation of group in the relationship between anxiety and aggression and the motivation for smoking cessation (anxiety: OR = 0.87; 95%CI = 0.69; 1,08; $p = 0.213$; aggression: OR = 0.84; 95%CI = 0.55; 1.28; $p = 0.419$).

The moderating role of group in the relationship between employment and motivation for smoking cessation

Due to the fact that employment differentiated the participants with respect to motivation for smoking cessation, an additional logistic regression analysis was carried out, with group, employment, and the interaction entered as predictors.

The model had good fit to data $\chi^2(3) = 60,07; p < 0.001$, and explained 26.4% of the variance ($R^2 = 0,26$). Including the interaction in the model significantly increased the variance by 10.7% ($\Delta R^2 = 0.107$). The results are shown in Table 6.

Table 6. Regression coefficients for the model explaining motivation for smoking cessation – Model 4

	<i>b</i>	<i>SE</i>	χ^2	<i>p</i>	<i>OR</i>	95% CI for OR	
						<i>LL</i>	<i>UL</i>
Employment	-6.38	1.13	32.01	< .001	0.002	0.000	0.015
Group	-4.12	1.13	13.25	< .001	0.016	0.002	0.150
Employment*Group	3.95	0.79	24.83	< .001	51.94	10.98	245.65

In the inmate group, the odds of motivation for smoking cessation being present were not related to employment ($OR = 0.85; 95\% CI: 0.34; 2.11; p = 0.721$), while in the control group, this effect was statistically significant ($OR = 44,00; 95\% CI: 12.51; 154.72; p < 0.001$). The odds of motivation for treatment being present were 44 times higher among unemployed than employed participants.

Discussion

The current study focused on the topic of selected factors in shaping the motivation for smoking cessation among penitentiary recidivists. The results showed that family support is significant for inmates and is higher on average in this group. A positive relationship was observed between this variable and psychological resilience and motivation for smoking cessation. Simultaneously, marital status was revealed to not

be a significant factor. The relationships that inmates have with their families can be understood in two ways: families can mobilize towards potential behavior change, but they are also unstable and thus do not always facilitate resocialization¹⁶. It is also known that imprisonment is a source of stigmatization for the inmates' families and that it may negatively impact the functioning of the family as a system. Penitentiary recidivists experience a clear lack of family stability, as most of them do not have their own families that they have started¹⁷. This was also evident in the current sample, as out of the 103 inmates, only 14 were married and 15 were in informal relationships. Family support for inmates is significantly inhibited (especially due to the amendment of the Executive Penal Code) and can only be realized through telephone calls (or calls using other telecommunication methods), conjugal visits, permissions to leave the facility, temporary releases, correspondence, and inmates receiving packages. The Executive Penal Code allows for using a pre-paid telephone in means and terms defined in the penitentiary facility regulations at least once per week (before the aforementioned amendment, the frequency of allowed contact with families was much higher). It is also worth noting that telephone calls made by inmates in closed penitentiary facilities are subjected to administrative control, while in open and semi-open facilities, they may be controlled occasionally. This may impact the quality of the inmates' calls. As a result, the real loss of contact with the family (82.1%) and limited contact with the outside world (42%) are significant sources of stress, deprivation, and frustration for inmates.

It is also worth remembering the fact, indicated in the literature, that inmates change their overall attitude towards life and create idealized versions of the future¹⁸. They can also involve health-related concerns. Inmates admitting to their mistakes gain their families' approval regarding their future plans. Pointing to the role of social support, women's role in reducing recidivists' criminal activity is highlighted. Two groups of women can be distinguished: those who constructively support and those who validate the criminal lifestyle¹⁹. Appropriately engaging the family

¹⁶ H. Machel, *Rodzina skazanego jako współuczestnik jego resocjalizacji penitencjarnej, readaptacji i reintegracji społecznej*, „Resocjalizacja Polska” 2014, nr 7, s. 51–57.

¹⁷ A. Szymanowska, *Więzienie i co dalej*, Wydawnictwo Akademickie Żak, Warszawa 2003, s.43–48.

¹⁸ M.M. Kamiński, *Gry więzienne. Tragikomiczny świat polskiego więzienia*, Oficyna Naukowa, Warszawa 2006, s. 50–61.

¹⁹ R. Szczepanik, *Partnerki życiowe recydywistów i ich rola w powstrzymaniu aktywności przestępczej*, „Profilaktyka Społeczna i Resocjalizacja”, 2015, tom 26, s. 55–57.

environment in resocialization may also include health-related habits such as ceasing psychoactive substance use²⁰.

In the current study, a surprising result was observed with regards to the role of professional activity occurring as a result of employment. Statistically significant differences were observed only in the control group – the analysis showed that employed participants reported motivation for smoking cessation less frequently than did unemployed participants. This effect was not statistically significant in the inmate group. This stands in contrast with the reports that employment in the male general population has a positive effect on the likelihood of smoking cessation compared to occupational passivity and that it is related to the variable of social isolation^{21 22}. From the point of view of the inmate group, employment has two direct consequences. First – financial benefits resulting from work, which are frequently much more valuable than the actual remuneration that the inmates receive, and second – a daily rhythm with less boredom and monotony, in which time at work demarcates smoke breaks. The results obtained in the current study require more in-depth statistical analyses. Empirical reports show that inmates report few available alternatives for smoking²³. The literature also indicates that the unemployment rate is the lowest among first-time offenders, and it is the highest among recidivists²⁴. In the current study, it was assumed that employment would significantly impact the motivation for smoking cessation. This is because having money for cigarettes, as well as actively spending the day at work, could potentially impact the results. However, the analyses showed that this relationship was not statistically significant.

In our opinion, when interpreting the current results, it is worth considering the data on inmates using psychoactive substances in harmful ways. A lack of personal agency, or the belief in not being able to influence one's own life, fits into the psychological profile of men serving

²⁰ A. Kieszowska, *Rodziny uwięzionych i ich miejsce w środowisku lokalnym*, „Annales Universitatis Paedagogicae Cracoviensis Studia Sociologica”, 2019, 2(8), s. 131-133, DOI: 10.24917/20816642.11.2.9.

²¹ D. Kaleta, P. Korytkowski, T. Makowiec-Dąbrowska, B. Usidame, L. Bąk-Romaniszyn, A. Fronczak, *Predictors of long-term smoking cessation: results from the global adult tobacco survey in Poland (2009–2010)*, “BMC Public Health”, 2012, 12, 1020, DOI: 10.1186/1471-2458-12-1020.

²² <https://www.tobaccoinaustralia.org.au/downloads/chapters/Introduction.pdf> (dostęp: 22.06.2023).

²³ J. Williams, D. Ziedonis, *Addressing tobacco among individuals with a mental illness or an addiction*, “Addictive Behavior”, 2004, 29, s. 1081–1083.

²⁴ M. Muskała M. *Więź osadzonych recydywistów ze środowiskiem*, Wydawnictwo Naukowe Polskiego Towarzystwa Pedagogicznego, Poznań 2006, s. 49.

custodial sentences in therapeutic systems^{25 26}. Moreover, depression and anxiety are the most frequent states described in individuals addicted to nicotine²⁷. This paints the picture of problems faced by individuals seeking to change their habits. Simultaneously, having a sense of control over the situation and a belief in the efficacy of one's own actions are general predictors of health- and wellbeing-related behaviors²⁸.

The current study did not yield results which would allow for concluding that mental wellbeing impacts the motivation for smoking cessation. In the inmate group, depression levels were not related to motivation. The relationship between depression and motivation was observed only in the control group. Simultaneously, it has been established that among Polish inmates, the factors leading to smoking include affective states such as boredom, lack of freedom, missing one's family, anxiety, and stress²⁹.

The inmates in the current study reported higher aggression, or tension related to aggression, but no differences in terms of anxiety and depression occurred. There were also no differences in psychological resilience. This result is surprising. However, the inmate group in the current study was more homogenous than the control group. The control group was comprised of individuals of the same gender who smoked cigarettes, without other common factors affecting their daily functioning. The inmate group in the current study was subjected to the phenomenon of "prison stress" which facilitates the use of defense mechanisms leading to the reduction of negative psychological tension³⁰. Additionally, the availability of illegal psychoactive substances in Polish penitentiary facilities is described as high, with these substances serving various

²⁵ K. Strzelczyk, *Poczucie kontroli u skazanych uczestniczących w więziennej terapii uzależnień*, [w:] O. Gorbaniuk, B. Kostrubiec-Wojtachnio, D. Musiał, M. Wiechetek (red.), *Studia z Psychologii w KUL*, Wyd. KUL, Lublin 2010, s. 86–87.

²⁶ M. Majkowicz, *Praktyczna ocena efektywności opieki paliatywnej – wybrane techniki badawcze*, [w:] K. De Walden-Gałaszko, M. Majkowicz M. (red.), *Ocena jakości opieki paliatywnej w teorii i praktyce*, Akademia Medyczna Gdańsk, Zakład Medycyny Paliatywnej, Gdańsk 2000, s. 21–22.

²⁷ R.L. Spitzer, J.B. Williams, K. Kroenke, M. Linzer, F.V. deGruy, S.R. Hahn, D. Brody D., J.G. Johnson, *Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study*, „Journal of the American Medical Association”, 1994, 272, s.1751.

²⁸ W. Świętochowski, M. Wawrzków, *Motywacja osób dorosłych do realizowania zachowań zdrowotnych*, „Psychologia wychowawcza”, 2020, tom 17, s. 92–93, DOI: 10.5604/01.3001.0014.2651.

²⁹ A. Sieminska, E. Jassem, K. Konopa, *Prisoners' attitudes towards cigarette smoking and smoking cessation: a questionnaire study in Poland*, „BMC Public Health”, 2006, 6, s. 181.

³⁰ M. Ciosek, *Psychologia sądowa i penitencjarna*. Wydawnictwo Prawnicze LexisNexis, Warszawa, 2003, s. 298–308.

functions, including adaptive ones³¹. Smoking cigarettes is expensive. In turn, cigarettes may serve as a form of currency, used to repay debts in prison³². More frequent alcohol and psychoactive substance use has been observed among currently smoking inmates than among inmates who no longer smoke or inmates who never smoked³³.

The current study has its limitations, and the topic requires further exploration. Recidivists are not the only inmate group, although they are becoming more numerous. It is interesting to consider whether there would be differences between recidivists and individuals in detention. From the point of view of the latter group, it could be assumed that their stress and anxiety levels would be significantly higher due to, among other, the instability of their legal situation, their participation in legal proceedings, and their status as temporary detainees. It is also worth considering other special stressor characteristics, e.g., applying for a disciplinary penalty.

Nicotine addiction in penitentiary facilities also involves the staff. It is known that both the inmates as well as the staff are aware of the risks associated with cigarette smoke and smoking cigarettes, as well as of their impact on health and deaths among the inmates³⁴. Information campaigns are considered to be an important element in introducing “prisons without smoke” policies without riots forming in reaction³⁵. Forced abstinence results in various difficulties in functioning among inmates, including emotional problems, irritability, and conflict-proneness. Simultaneously, its lack causes discomfort³⁶. Limitations regarding nicotine in penitentiary facilities have a real impact on the inmates, the staff, and the visitors³⁷. Studying employee attitudes towards the situation and potential solutions seems to be an important complement to the

³¹ G. Kudlak, *Terapia uzależnień od środków odurzających i psychotropowych w warunkach więziennych w kontekście przeciwdziałania przestępczości*, „Archiwum Kryminologii”, 2014, 36, s. 274–275, DOI:10.7420/AK2014H.

³² E.M.E. Awooda, D. Shashati, *Tobacco in prisons: a focus group study*, „Tobacco Prevention and Cessation”, 2019, 5, 25, s. 4–5, DOI: <https://doi.org/10.18332/tpc/109784>.

³³ <https://www.aihw.gov.au/getmedia/531e8ced-3489-4cb2-ba0e-f1f947898133/15798.pdf.aspx?inline=true>.

³⁴ K. Wierzbicki, *Działania Szkoły Więziennej w zakresie promocji zdrowia i profilaktyki zagrożeń zdrowia w środowisku więziennym. Personalistyczna koncepcja człowieka w edukacji zdrowotnej*, [w:] P. Stępnia (red.), *Blaski i cienie współczesnej przestrzeni penitencjarnej. Człowiek a system*, Wydawnictwo UAM w Poznaniu, Kalisz – Poznań 2014, s. 610–620.

³⁵ M. Heffera, R. Hopkins, D.P. Thomasa, *Successes and unintended consequences of smoke-free prisons*, „Public Health Research & Practice”, 2016, 26, 2, e2621619, DOI: <http://dx.doi.org/10.17061/phrp2621619>.

³⁶ J.R. Hughes, S.B. Gulliver, J.W. Fenwick, W.A. Valliere, K. Cruser, S. Pepper, P. Shea, L.J. Solomon, B.S. Flynn, *Smoking cessation among self-quitters*, „Health Psychology”, 1992, 11, 332.

³⁷ T. Butler, R. Richmond, J. Belcher, K. Wilhelm, A. Wodak, *Should smoking be banned in prisons?*, “Tobacco Control”, 2007, 16(5), s. 291.

knowledge on this issue. It also has significant psychological meaning for reinforcing the role of the staff in shaping the solution policies in penitentiary facilities. It would also be important to examine whether inmates have knowledge on pulmonological clinics, have ever used telephone hotlines for individuals suffering from addiction, and how they perceive access to nicotine addiction treatment services.

The current study and its result have their limitations in terms of the overall knowledge on nicotine addiction in penitentiary facilities. For example, the current study did not employ the Fagerström test for assessing nicotine addiction, only a measure of motivation. The analyses focused on a single psychoactive substance. It is known that psychoactive substance use disorders (including alcohol and nicotine) co-occur with mental disorders, e.g., mood disorders, in some patients.

From the perspective of future studies, it would be worthwhile to examine the issue of motivation in greater detail. The current study examined family support, but having children was not assessed. Inmates' motivation in the context of psychoactive substance use is an interesting topic for analyses concerning whether smoking can be a risk factor for recidivism – especially considering crimes, i.e., stealing in order to buy tobacco.

Further theoretical and empirical analyses should also not ignore the issue of legal regulations pertaining to smoking in penitentiary facilities. The current solutions of smoking in cells versus smoking in specially designated areas result from the character of the penitentiary facility. However, it is also known that smoking is two to three times more common among inmates than in the general population³⁸. Tobacco use is the main cause of early death and disability in Europe³⁹. Simultaneously, there is a lack of prevention and addiction treatment in anti-smoking clinics. Tobacco addiction should be treated as a chronic disease⁴⁰. If medical and therapeutic staff consider smoking as a less severe problem

³⁸ https://ec.europa.eu/health/ph_determinants/life_style/drug/documents/drug_frep2.pdf (dostęp: 12.05.2023).

³⁹ <https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/ResultDoc/download/DocumentKy/79003> (dostęp: 15.06.2023); <https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/ResultDoc/download/DocumentKy/79003> (dostęp 11.06.2023).

⁴⁰ M.R. Picciotto, J.P. Kenny, *Molecular mechanisms underlying behaviors related to nicotine addiction*. „Cold Spring Harbor Perspectives in Medicine”, 2013, 3(1). a012112, DOI: 10.1101/cshperspect.a012112.

than mental disorders or other addictions, they are underestimating its impact on health and life⁴¹.

Perceptions (including social perceptions) of inmates' right to health is an interesting topic from the intersection of sociology, psychology, and law⁴². International literature points to the ubiquity of smoking bans in penitentiary facilities, as well as to the fact that inmates subjected to smoking bans during imprisonment will resume smoking after their sentence. Additionally, penitentiary staff has more positive attitudes towards smoking bans than do inmates⁴³. Simultaneously, interventions to reduce smoking are available and accepted by inmates⁴⁴.

Conclusions

Based on the assumptions verified in the analysis as well as on the available literature on nicotine addiction and penitentiary issues, it should be highlighted that:

1. The topic of nicotine addiction in penitentiary facilities has seen numerous solutions outside of Poland due to its proven negative impact on staff and inmate health.
2. On average, family support was higher in the inmate group, and there was also a positive relationship of this variable with psychological resilience and motivation for smoking cessation.
3. Statistically significant differences in terms of employment were observed only in the control group. The analysis showed that employed non-inmates reported motivation for smoking cessation less frequently than did unemployed ones. This effect was not statistically significant in the inmate group.

⁴¹ R.D. Hurt R.D., I.T. Croghan, K.P. Offord, K.M. Eberman, R.M. Morse, *Attitudes towards nicotine dependence among chemical dependency unit staff—before and after a smoking cessation trial*, „Journal of Substance Abuse Treatment”, 1995, 12, s. 247–248.

⁴² K. Wierzbicki, D. Gałek, M. Stańczuk, *Selected problematic issues concerning penitentiary practice*, „International Journal of New Economics and Social Sciences”, 2022, 9-25 DOI:10.5604/01.3001.0016.3399.

⁴³ H. Albany, R. Richmond, M. Simpson, A. Kariminia, Y.I.J. Hwang, T. Butler, *Smoking Beyond Prison Bans: The Impact of Prison Tobacco Bans on Smoking Among Prison Entrant*, „Journal of Correctional Health Care”, 2021, 27, s. 280–288, DOI: 10.1089/jchc.19.08.0066; A. Brown, H. Sweeting, G. Logan, E. Demou, K. Hunt, *Prison Staff and Prisoner Views on a Prison Smoking Ban: Evidence From the Tobacco in Prisons Study*, „Nicotine & Tobacco Research”, 2019, 21, 8, 1031-1032, DOI:10.1093/ntr/nty092.

⁴⁴ J. Sim, *Collecting and analyzing qualitative data: issues raised by the focus group*, „Journal of Advanced Nursing”, 1997, 28, s. 345–346.

4. The current study did not yield results which would allow for concluding that mental health impacts the shaping of motivation for smoking cessation among inmates. The relationship between depression and motivation occurred only in the control group.
5. Further analyses should take into account penitentiary-specific stressors and inmates' detailed motivation, also from the point of view of the psychological specificity of addiction treatment patients.

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Legal acts:

Act of. November 9, 1995 on the protection of health against the consequences of using tobacco and tobacco products (Dz.U. z 1996 r Nr 10, poz. 55.).

Regulation of the Minister of Justice of 20 June 2011 on detailed conditions for the use of tobacco products on the premises of the premises under the jurisdiction of the Minister of Justice and in means of transport of persons (Dz.U. 2011 nr 135 poz. 795).

Executive Penal Code of 6 June 1997 (Dz. U. 90, poz. 557.).

