
Fear of Crime Determinants in Poland at the Covid-19 Pandemic: Empirical Assessment of Socio-Demographic and Economic Factors

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Abstract:

Purpose: The research paper explains to what extent sociodemographic, psychographic and economic determinants differentiate attitudes towards fear of crime in Poland at the COVID-19 pandemic.

Design/Methodology/Approach: The results come from an empirical study conducted on a representative sample of adult Poles. The application of the methodology relates strictly to that recognized and used in empirical research. Computer-assisted telephone interviews (CATI) were used at the data collection stage. At the stage of data analysis, multi-dimensional modeling with the use of optimal scaling (CATREG) was selected and descriptive and inductive statistics were used.

Findings: Polish society differs from other European societies in terms of fear of crime. Political worldview, religious beliefs, marital status, age and education are rare or unusual correlates of fear of crime but turn out to be very important in Poland. Only gender, in some extent – age and the state of prior victimization are similar in directions to other Western societies. Economic and geographic factors turned out to be weak and indirect or irrelevant and require further research.

Practical implications: The results justify the claim about the relatively good condition of Polish society, fear of crime is low and unrelated to economic factors. As a practical result, social groups that required political actions to reduce their fear of crime and actions to increase awareness of the threat of crime were identified.

Originality value: This is the first study of this type conducted in Poland for many years. As for originality in the research used CATI technique (in contrast to face to face interviews performing before), the widest set of independent variables in the Polish studies was examined – a set of numerous variables, views, attitudes, previous experiences related to crimes (victimization), social and economic status and indicators, including economic ones, related to the place of residence. As well as the method of categorical regression analysis, not yet used in the fear of crime studies.

Keywords: Fear of crime, fear of crime determinants, psychographic factors, demographic factors, economic factors.

JEL classification: K49, C51, Z00.

Paper type: Research article.

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1. Introduction

This research paper is an attempt to determine the combined impact of sociodemographic, psychographic and economic variables on intensity of fear of crime in Polish society. For this purpose, a model was built to answer the question of whether and to what extent individuals and socio-economic groups feel threatened by crime. It is worth emphasizing that the fieldwork were carried out during the COVID-19 pandemic, at the turn of December 2020 and January 2021.

The concept known as *fear of crime* (Hale, 1996) or less often *sense of security* (Skogan 1993; Szatan, 2012) has origins in English criminology and is defined narrowly, in emotional terms (Ferraro and La Grange, 1987; Sundeen and Garofalo, 1981). Jodie Lane summarize the discussion on the basis of definitions present in the literature. She pointed out three constitutive features of fear of crime: I. an emotional response, II. to a danger or threat, III. of an actual or potential criminal incident (2014).

Although the concept of fear of crime comes from criminology, but has now become interdisciplinary (Franc and Sucic 2014), economic factors are often and willingly included in the research (Dolan and Peasgood, 2007). Fear of crime is correlated with the economy but the relationship is multidimensional – economic factors can be considered both as a dependent variable and an independent variable of the phenomenon of fear of crime. Fear of crime leads to the *circulus vitiosus* (vicious circle), anxiety destroys interpersonal ties, and thus the capital of trust (Conclin, 1975) (the most valuable component of social capital).

This results in the self-isolation of individuals, failure to undertake group activities, and loss of citizens' trust in state institutions. This leads to a reduction in social and economic activity, resignation or failure to undertake business activity or migration of the most prosperous inhabitants of a given area, which deepens its social and economic degradation (Garofalo, 1981). Fear of crime can be considered as early indicator of economic and/or social instability. The phenomenon of fear of crime is also considered as an effect of social and economic disturbances (Vieno *et al.*, 2013).

This point of view is particularly important in the face of negative social, economic and political phenomena caused by the COVID-19 pandemic, as shown clearly by series of research conducted as part of the United Nations Development Program in over ninety countries around the world (United Nations Development Programme, 2020). Additionally the COVID-19 pandemic has objectively increased the intensity of crime in Europe – especially cybercrime, drug trafficking, sexual and domestic violence, fraud (Europol, 2020). The accumulation of the above-mentioned factors made us expect an increased intensity of fear of crime. Recognition of factors influencing the level of fear of crime will enable conducting social policy, preparing the most appropriate solutions for the most vulnerable groups.

During the analysis of the literature on the subject, the following research question was formulated, whether and to what extent sociodemographic, psychographic and economic factors differentiate intensity of the fear of crime.

2. Materials and Methods

The study was conducted on a sample of N=1002 adults (18+ y.o.) Poles from December 7, 2020 to January 5, 2021 (during the partial lock down). The data used comes from a quantitative empirical study financed by the Justice Fund, managed by the Minister of Justice, and conducted by the University of Warsaw Political Science Graduates Association. This subject of research was undertaken in Poland for the first time in many years. The research was carried out using the technique of Computer Assisted Telephone Interviews (CATI). It has a number of positive organizational, methodological and technical features; guarantee higher data quality: precision, accuracy, low error rate, credibility, validity. Most importantly, CATI research has the ability to generalize the results from a sample to a higher population than other available research methods and a higher percentage of people agreeing to participate in the study compared to other research methods (higher response rate) is obtained.

During the COVID-19 pandemic, the CATI method is the method of choice. The sample selection has statistical representativeness and was carried out using a method called Random Digit Dialing (RDD) (Mitofsky, 1970; Wakesberg, 1978). This method is considered optimal and classic by researchers (Potthoff, 1987). It is constantly modernized in research practice (Tucker *et al.*, 1992), new phenomena such as the impact of the development of mobile telephony are taken into account (Brick *et al.*, 2007; Keeter *et al.*, 2008). This method will enable the random selection of the sampling frame and, as a result, obtain representativeness in terms of socio-demographic features crucial for research purposes.

Multi-dimensional modeling and descriptive and inductive statistics in analyses were used. In order to measure the cumulative impact of variables Categorical Regression (CATREG) / Optimal Scaling was used. The source of this method is correspondence analysis (Greenacre, 1984) and multidimensional scalling (MDS) (Guttman, 1968). The central concept of this method is nonlinear regression with categorical variables by optimally scaling categories in categorical data. The purpose of using this method is to quantify the relationships between multiple independent variables and the one dependent variable. The fundamental advantage of optimal scaling is the ability to discover interactions, i.e., the combined effect of selected independent variables on the dependent variable. It is a comprehensive data mining technique which the fundamental advantage is the ability to discover interactions (the combined effect of selected independent variables on the dependent variable). At the same time, the perception of the dynamics of the development of crime in the last 12 months was also examined (criminal acts such as domestic violence, thefts and robberies).

3. Results

The model was made using the CATREG top-down method which turned out to be more satisfactory than the bottom-up method. The top-down method consists in incorporating all potentially important factors into the model (relevant from the point of view of literature or intuition and the researcher's predictions), and then gradual, systematic elimination of the variables showing the lowest level of tolerance (assessed on the basis of the goodness of fit F).

Following independent variables were taken for the calculations, sociodemographic factors (age, sex, education, income, location and magnitude of the place of residence, marital status and family situation, crime rate and crime detection rate, divorce rate and suicide rates), psychographic factors (prior victimization, political and religious attitudes/beliefs, the judgment of state institutions ensuring security, attitudes towards values related to the state and the law) and economic factors (unemployment rate, gross income per capita, housing per 1k population, wages, salaries and social benefits rate, level of professional activity in local populations). The dependent variable of the model was the respondent experiencing a sense of fear of crime for himself and / or his relatives. The calculation results are presented in Tables 1, 2, 3.

Table 1. Model summary for top-down categorical regression.

Multiple R:	0,605	R square:	0,366	Adjusted R square:	0,176
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Source: Own study.

Table 2. Analysis of variance (ANOVA) for the top-down CATREG model.

	Sum of squares	Degrees of freedom (df)	Mean square	F	Significance
Regression	81,310	51	1,594	1,923	$p \leq 0,01$
Residues	140,926	170	0,829		
Total	222,236	221			

Source: Own study.

Table 3. Categorical regression top-down CATREG model.

Name of the model component (predictor)	Beta coefficient	Degrees of freedom (df)	F	Significance	Zero-order	Partial correlation	Part correlation	Importance
Political self-identification (left-right scale)	0,28	8	13,1	$p \leq 0,01$	0,28	0,33	0,28	0,21
Occupation	0,29	14	17,4	$p \leq 0,01$	0,21	0,33	0,28	0,17
Sex	0,23	1	5,1	$p \leq 0,05$	0,23	0,27	0,23	0,15
Age of the respondent	0,22	3	2,5	$p \leq 0,1$	0,25	0,26	0,22	0,15

Marital status	0,24	5	11,1	$p \leq 0,01$	0,18	0,29	0,24	0,12
Place of residence (voivodship)	0,18	15	9,1	$p \leq 0,01$	0,17	0,22	0,18	0,08
Victimization	0,18	1	4,9	$p \leq 0,05$	0,27	0,22	0,18	0,08
Attitude towards religion	0,14	4	2,9	$p \leq 0,05$	0,09	0,17	0,14	0,04

Source: Own study.

The fit of the optimal scaling model expressed with multiple R was 0,61, which is considered a moderate (significant) relationship. The total variability of the dependent variable explained by the total influence of independent variables was 0,37 (so the model explains 37% of the variability of the crime fear factor). The moderate number of factors in the model (8) slightly lowers the coefficient, still leaving it substantial to 0,18 (18%).

However, the model is statistically significant at probability value greater than one percent. The visual evaluation of the sum of squares for regression and residuals in ANOVA (Table 2) shows that the regression model explains more than one half of the variability which is more than good result. Fear of crime is best explained by the following system of variables that make up the interactive model (non-accidental order – from the most important factor): political self-identification (left-right scale), occupation, gender, age of the respondent, marital status, place of residence (voivodship), prior victimization, attitude towards religion. The most frequently represented factors of the model are sociodemographic (five variables: gender, age, place of residence, marital status and occupation), two variables representing attitudes (religion and the sphere of politics) and the prior victimization. The first four factors are of similar importance, together they constitute two-thirds (68%) of the "predictive power" of the model created.

4. Discussion and Conclusion

Pointed out a number of similarities and differences to the common findings of other researchers. Unexpectedly, the key predictor turned out to be a political worldview, which is extremely rarely studied and is not often a variable explaining fear of crime in other societies. Few studies show that conservatives, as opposed to liberals, show the greatest fear of crime (Rahn and Transue, 2018). The opposite is true in Poland: people with left-wing views feel most fear of crime, and those with right-wing views the least of all. Among people declaring themselves to be left-wing, the percentage of people claiming that during the pandemic crime increased by as much as 41%, while for centrists – 31%, and right-wing only 16% (moderate correlation: $\eta = 0,202$).

The occupation turned out to be another predictor in the model. The highest fear of crime can be indicated among "white collars", service workers as well as officials and managers. The lowest sense of threat is noted among students, the unemployed and workers. The fear of crime is more common among women than among men. This is the most obvious variable, widely identified as significant over the past four decades (Lab, 2016; Fox *et al.*, 2022). The highest intensity of anxiety among middle-aged people (35-65 y.o.), and the lowest among young people (18-34 y.o.).

However, global research results usually show a positive correlation between fear of crime and age (Fox *et al.*, 2022). Relationships but non-cohabitating and singles indicate the lowest fear of crime. On the other hand, the highest level of anxiety is observed in divorced and married people. The region of residence (voivodship) significantly differentiates Poles' sense of security, however, it is not related to macroeconomic factors. It may be significant that the problem of fear of crime concerns large urban centers – the larger the city of residence, the higher the anxiety (positive moderate correlation: $R=0,273$ $p\leq 0,001$; $\rho=0,276$ $p\leq 0,00$; $\eta=0,291$).

Regional differences in the field of fear of crime require further research, the more so that European studies show the intensity of fear of crime depending on the level of wealth in a given region (Kemppainen *et al.*, 2014). Victimization was investigated as having been a victim of a crime in the last 12 months (reported or not reported to law enforcement agencies). In Poland, it turned out to be an important variable generating fear of crime. In world studies, inconclusive results are obtained (Naplava, 2008; Brunton–Smith and Sturgis, 2011). Religious belief is rarely the subject of research, and even if that does not prove to be a significant factor (Bader *et al.*, 2020). In Poland, it is one of the important elements shaping the fear of crime.

The fear of crime is felt the most by those who have doubts about faith, and the least by those who are unbelievers. As part of the Polish specificity, it is worth pointing out that the higher the education, the higher the feeling that crime has increased in the last twelve months (positive but weak correlation: $R=0,193$ $p\leq 0,001$; $\rho=0,208$; $p\leq 0,001$; $\eta=0,193$). Economic factors, contrary to the expectations and results of European researchers, turned out to be secondary in Poland. Regional unemployment rates, real household income are not statistically significant. The housing stock index turned out the only significant factor but very weak and non-linear ($\rho=0,055$ $p\leq 0,1$; $\eta=0,143$). The income of respondents and households are insignificant. Fear of crime is highest among those with the lowest incomes and the highest incomes but the coefficients are weak ($\rho=0,093$ $p\leq 0,05$; $\eta=0,154$).

Taking into account features such as gender (women with higher fear of crime), age (to some extent) and prior victimization, Poland society does not differ from the findings of Western societies. However, the similarities end there. The strong correlation with fear of crime factors such as the political worldview (leftists) and religious beliefs (doubtful and unbelievers), education (higher), marital status (in a relationship), age (middle-aged) are strongly atypical. Economic factors turned out

to be weak and indirect or irrelevant, and the fear of crime increased during the pandemic, but slightly and only in groups who previously reported a higher level of anxiety and it oscillates around low values. The results justify the claim about the relatively good condition of Polish society, fear of crime is low and unrelated to economic factors; the signs of a crisis in the form of a significant increase in anxiety remain unnoticeable. The results, however, made it possible to obtain precise information on vulnerable social groups, especially anxious ones on which specific social policies should focus.

References:

- Bader, Ch.D., Baker, J.O., Day, L.E., Gordon, A. 2020. *Fear Itself: The Causes and Consequences of Fear in America*. New York University Press, New York.
- Brick, J.M., Brick, P.D., Dipko, S., Presser, S., Tucker, C., Yuan, Y., 2007. Cell phone survey feasibility in the U.S.: Sampling and calling cell numbers versus landline numbers. *Public Opinion Quarterly*, 71, 23-39.
- Brunton-Smith, I., Sturgis, P. 2011. Do Neighborhoods Generate Fear of Crime? An Empirical Test Using the British Crime Survey. *Criminology*, 49, 331-369.
- Conclin, J.E. 1975. *The Impact of Crime*. Macmillan, New York.
- COVID-19. Socio-economic impact. United Nations Development Programme. <https://www.undp.org/content/undp/en/home/coronavirus/socio-economic-impact-of-covid-19.html>.
- Dolan, P., Peasgood, T. 2007. Estimating the Economic and Social Costs of the Fear of Crime. *The British Journal of Criminology*, 47(1), 121-132.
- Ferraro, K.F., LaGrange, R. 1987. The Measurement of Fear of Crime. *Sociological Inquiry*, 57(1), 70-97.
- Fox, K.A., Nobles, M.R., Piquero, A.R. 2016. Gender, Crime Victimization, and Fear of Crime. *Security Journal*, 22, 24-39.
- Franc, R., Sucic, I. 2014. Fear of Crime. Michalos, A.C., (eds), *Encyclopedia of Quality of Life and Well-Being Research*. Springer, Dordrecht.
- Garofalo, J. 1981. The Fear of Crime: Causes and Consequences. *Journal of Criminal Law and Criminology*, 72(2), 839-857.
- Greenacre, M.J. 1984. *Theory and Applications of Correspondence Analysis*. Academic Press, London.
- Guttman, L. 1968. A general nonmetric technique for finding the smallest coordinate space for a configuration of points. *Psychometrika*, 33, 469-506.
- Hale, C. 1996. Fear of Crime: A Review of the Literature. *International Review of Victimology*, 4(2), 79-150.
- Keeter, S., Dimock, M., Kennedy, C., Best, J., Horrigan, J. 2008. Costs and benefits of full dual frame telephone survey designs. Paper presented at the 63rd Annual Conference of the American Association for Public Opinion Research, New Orleans.
- Lab, S.P. 2018. *Crime Prevention: Approaches, Practices, and Evaluations*. Routledge, New York.
- Lane, J., Rader, N.E., Henson, B., May, D.C., Fisher, B. 2014c. *Fear of Crime in the United States: Causes, Consequences, and Contradictions*. Carolina Academic Press, Durham.
- Mitofsky, W. 1970. Sampling of telephone household, unpublished. Central Bureau of Statistics memorandum.

- Naplava, T. 2008. Kriminalitätsfurcht und registrierte Kriminalität. *Monatsschrift für Kriminologie und Strafrechtsreform*, 91, 56-73.
- Potthoff, R.F. 1987. Some generalisation of the Mitofsky-Waksberg technique for Random Digit Dialling. *Journal of the American Statistical Association*, 82, 409-418.
- Rahn, W.M., Transue, J. 1995. The Political Significance of Fear of Crime. Pilot Study Report to the NES Board. Retrieved from: <https://electionstudies.org/wp-content/uploads/2018/10/nes008467.pdf>.
- Skogan, W.G. 1993. The various meanings of fear: The Fear of Crime and Criminal Victimization. Enke, Stuttgart.
- Sundeen, R.A., Garofalo, J. 1981. The Fear of Crime: Causes and Consequences. *Journal of Criminal Law and Criminology*, 72(2), 840.
- Szatan, M. 2012. Strach a lęk w ujęciu nauk humanistycznych. *Studia Gdańskie*, 31, 325-342.
- Tucker, C., Casady R., Lepkowski, J. 1992. Sample Allocation For Stratified Telephone Sample Designs. *Proceedings of the Survey Research Methods Sections, American Statistical Association, Alexandria*, 566-571.
- Vieno, A., Roccatto M., Russo, S. 2013. Is Fear of Crime Mainly Social and Economic Insecurity in Disguise? A Multilevel Multinational Analysis. *Journal of Community & Applied Social Psychology*, 23(6), 519-535.