



Data Article

Looking at crime-communities and physical spaces: A curated dataset

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ABSTRACT

This article describes a curated dataset entitled “Looking at Crime: Communities and Physical Spaces”, which comprises data from different sources, namely Diagnosis of Local Security (DLS), Diagnosis of School Environment (DSE) and observation of physical spaces. The main topic covered was crime and related variables at the Historic Centre of Porto (HCP), a well-known urban area located in the North of Portugal. It is currently attended by inhabitants, workers, students and tourists. This dataset includes i) data from two different self-reports: i.1) demographics, perception of (in)security, victimization, social control and community cohesion obtained through an inquiry applied to the adult community; and i.2) data from school climate and students behavioural problems, which may be seen as risk factors for juvenile delinquency, collected through a web-survey applied to school personnel; and ii) data from observation of physical spaces, attending to the Crime Prevention through Environmental Design (CPTED)

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principles. The dataset allows descriptive and inferential statistical analyses, being useful for students, academics, stakeholders, police forces and policy-makers, to better understand crime and its related variables, forecast criminal incidents, and further develop associated preventive and intervention programmes.

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Specifications Table

Subject	Social science
Specific subject area	Criminology
Type of data	Figure
How data were acquired	Data about insecurity, victimization, social control and community cohesion was gathered through the Diagnosis of Local Security (DLS) survey. Data related to school climate and students' behavioural problems were collected through the Diagnosis of School Environment (DSE) survey. Based on Crime Prevention through Environmental Design (CPTED) principles, the physical characteristics of spaces were collected through a mobile application available for Android. Data was analysed through the Microsoft Excel and IBM SPSS, version 27.
Data format	Aggregated raw and partial analysed data.
Parameters for data collection	Data collected addresses the Historic Centre of Porto (HCP) concerning criminality and insecurity, communities, physical spaces and potential related variables, such as school climate and incivilities.
Description of data collection	A quantitative approach was employed to collect data about criminality and insecurity, victimization, social control, community cohesion, school climate, students' behavioural problems, incivilities and physical characteristics of the spaces. All assessed variables were integrated in this curated dataset.
Data source location	Porto, Portugal
Data accessibility	Repository name: Mendeley Data Data identification number: 10.17632/646mjvxbk.4 Direct URL to data: https://data.mendeley.com/datasets/646mjvxbk/4
Related research article	M. A. P. Dinis, L. M. Nunes, A. Sani, Criminalidade no Centro Histórico do Porto e distribuição de espaços físicos, <i>Psicologia</i> . 34(2020) 268-276. https://doi.org/10.17575/psicologia.v34i1.1681 L. M. Nunes, A. Sani, A., M. A. P. Dinis, M. A. P., Diagnósticos Locais de Segurança no Centro da Cidade do Porto – Uma aposta no contexto da psicologia policial, <i>Psicologia</i> . 34(2020) 261-267. https://doi.org/10.17575/psicologia.v34i1.1681 V. Azevedo, A. Sani, L. M. Nunes, D. Paulo, Do you feel safe in the urban space? From perceptions to associated variables. <i>Anuário de Psicologia Jurídica</i> , 31 (2021) 75-84 https://doi.org/10.5093/apj2021a12

Value of the Data

- This dataset brings together, for the first time to our knowledge, data about self-reported information about criminality and (in)security, self-reported information about school environment and students' behaviour as promoters of crime, and the observation of physical characteristics of spaces, being useful for students and academics to learn and to develop intervention strategies towards crime prevention.

- Information about crime, (in)security and related variables, including physical spaces, may benefit from the improvement in knowledge, forecasting and development of intervention programs by academics, stakeholders, and policy makers, aiming to reduce associated crime rates. Multidisciplinary data is useful in the following areas: Criminology, Sociology, Psychology, Statistics, Urbanism, and Education, among others.
- Collected data can further be analysed through inferential statistical methods (e.g., variable interaction, predictive analyses) and examined by other fellow researchers.

1. Data Description

According to Flanders and Muñoz [1], the main purpose of a curated dataset is to turn “raw and abstracted material created as part of research processes” into a way that it “may be used again as the input to further research”. This was the starting point for the development and availability of the current dataset, that collected information about self-reported perceptions of (in)security and criminality, as well as related variables (Diagnosis of Local Security (DLS)), self-reported perceptions of school environment, parental involvement, and students’ behaviour as risk factors for delinquency and criminal trajectories (Diagnosis of School Environment (DSE)) and, finally, the observation of physical spaces according to Crime Prevention through Environmental Design (CPTED) Principles [2–4] (CPTED – Physical Spaces Observation; see Fig. 1). These different sources of information allow the related research to achieve a comprehensive picture of criminality and (in)security, and to perform some comparisons and/or triangulation among them. The overall purpose is to consolidate community interventions that aim to create safer physical spaces and positive social coexistence [5].

All information is focused on the Historic Centre of Porto (HCP), an urban area located in the North of Portugal. HCP was partially established by UNESCO as World Heritage in 1996 and, more recently, awarded as the “Best European Destination”. It comprises the former parishes of Cedofeita, Santo Ildefonso, Sé, Miragaia, S. Nicolau and Vitória, currently aggregated in an area of 5.42 km², attended by inhabitants, students, workers and a growing number of tourists, being a permanent overcrowded area throughout both day and night-time.

(a) Self-reports:

(a1) DLS: It is an empirically validated mechanism for analysing a community, based on international standards and practices [6]. Community perceptions about (in)security and criminality were collected between 2018 and 2020, through an enquiry applied to inhabitants, workers and students attending the HCP. The dataset included information about sociodemographic characteristics (8 items), perception of (in)security (8 items), victimization (28 items), social control (9 items), and community participation (7 items). Due to heterogeneity in questions and answering options, a detailed description of the variables and the codes are presented in Appendix 1 for (re)use purposes.

(a2) DSE: The majority of the international [7] and Portuguese [8] research on school environment is focused on students, and the number of studies focusing on school professionals (SP) is scarce [9]. Considering the importance of SP perception of school environment, parental involvement, and students’ behaviour problems, how they deal with it and how they can contribute to improve it, were the main topics addressed through this instrument. The following information was collected: sociodemographic information, school climate (including environmental-structural and relationships dimensions), students’ behavioural problems, parental involvement and community involvement. Briefly, the measures includes questions about sociodemographic variables (4 items), professional variables (2 items), school identification (4 items), school environment and surroundings (9 items), school dynamics and internal/external functioning (16 items), and characteristics/students behaviours (8 items). Due to heterogeneity in questions and answering options, a detailed description of the variables and the codes are presented in Appendix 1 for (re)use purposes.

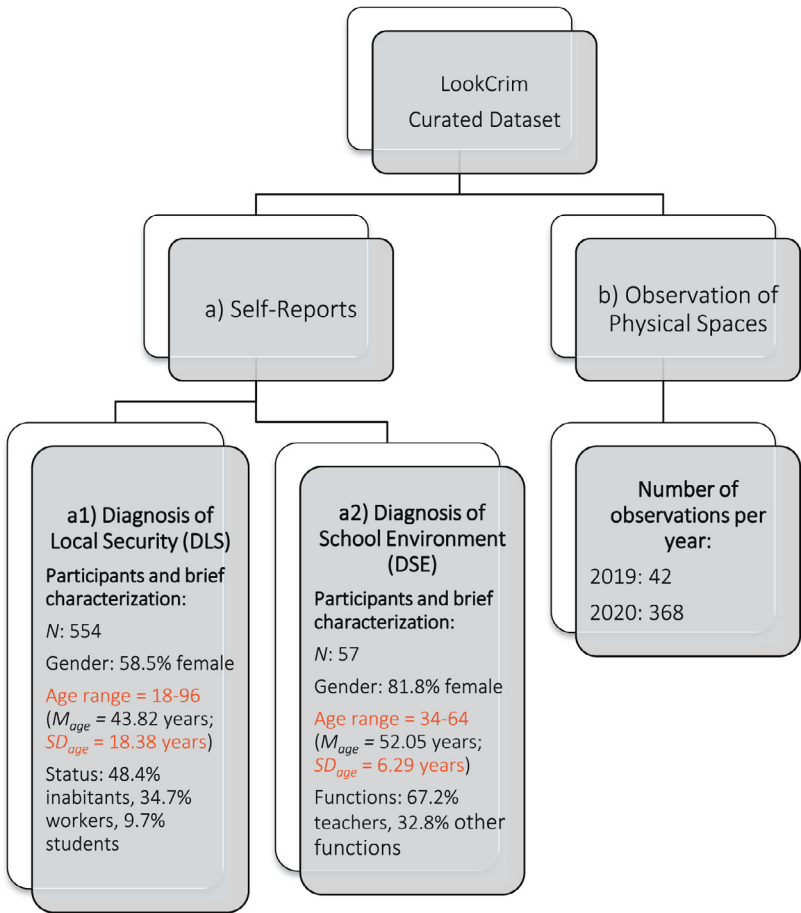


Fig. 1. Structure and content of LookCrim curated dataset.

(b) Physical Spaces Observation:

The analysis of spaces as elements that affect behaviours and whose characteristics may enhance the occurrence of crime and the existence of opportunities for such occurrences [3] was another source of information included in the dataset. Data was collected between 2019 and 2020. Based on the CPTED principles, the following variables were included: corners with low visibility (1 item), spaces with low visibility (1 item), spaces without surveillance (1 item), spaces not attended by people (1 item), high-risk spaces (6 items), accesses (2 items), lighting (2 items), functionalities (3 items), conditions (6 items), and attendance (3 items). For each item, observers should rate the presence on a four point-Likert scale, ranging from “not present” (1) to “very present” (4). When appropriate, absolute frequencies are also collected.

The dataset is presented in its original formulation (i.e., Portuguese), but all variables and codes were translated to English, being available in the document labelled “Appendix 1.eng”.

2. Design, Materials and Methods

2.1. Design

Data was collected from three different sources of information – self-reports from the community and school professionals, and observation of physical spaces (see Fig. 1) – to which a quantitative approach based on cross-sectional design was applied. Moreover, descriptive and correlational individual studies were performed, which allowed exploring the variables association.

2.2. Population

The DLS surveyed the local populations/community, including inhabitants, workers or students from HCP, aged equal or above 18 years old, about objective and subjective indicators such as crime, (in)security, victimization, social control, or community participation.

The DSE assessed the school professionals' perception integrating the educational community of every school located in the HCP, except from colleges and universities.

Finally, the observation of the physical spaces and the identification of important physical aspects related to CPTED took place, indeed, in every public space located at the HCP.

2.3. Sample and location of the study

Concerning DLS, a convenience sample ($N = 554$) was selected based on three inclusion criteria: (i) being an inhabitant, worker or student at the HCP; (ii) being aged equal or above 18 years old; and (iii) fluently understanding and speaking Portuguese. All the participants invited to collaborate in a DLS survey were recruited in streets, squares, shops, offices, schools, green parks, and other public and private spaces at HCP. Similarly, the DSE was based on a convenience sample of educational community constituted by 57 school professionals from basic and secondary schools located from the same location. Lastly, 410 physical spaces in the territorial area of the HCP were observed and studied.

2.4. Procedure

Different procedures were applied to achieve the mentioned individual databases and, finally, the curated dataset. Data regarding insecurity and victimization was collected using the “DLS Questionnaire” [10], a self-report measure with 67 closed and open-ended questions, developed in cooperation with the Porto Metropolitan Police Command and validated for the Portuguese population. Through a paper-and-pencil or online format, the DLS Questionnaire allows to collect quantitative and qualitative data. It takes 20–30 minutes to complete and participants did not receive any incentive to do so. Concerning the DSE, data was collected through an online survey, which took about 15 minutes to be completed. The recruitment of participants was made through the direct contact with each school principal by email or phone, in order to request the forwarding of the link with the questionnaire research for all school professionals. On the observation of physical spaces, data collection was carried out by the research team using a mobile application [11], created specifically for the purpose, available for Android and iOS smartphones. This computer application integrated a system of categories previously designed to characterize spaces based on the principles previously enunciated by the so-called CPTED programs [4], and considering the 3D approach [2]. Once used in the context of field data collection, it was enough for the team members to indicate in the application which characteristics would be observable, in each location and for each category/variable. The total number of variables reached was 51.

All observations were made and recorded by trained team members, to standardise the data collection process.

The present curated dataset was created in three steps: first, all variables included in the individual databases were identified; second, after a cross-check, those that were similar, but presented different names were made homogeneous; and, third, connection variables were identified and/or created, to link the selected databases.

2.5. Data analysis

The current dataset was the basis of several already published articles and, through the software IBM SPSS (for Windows, version 27.0) and Microsoft Excel, several statistical tests were performed. Data analysis included both descriptive (univariate and bivariate statistical analysis) and inferential statistics to characterize the main variables (e.g., criminal patterns, school climate, perception of (in)security, incivilities) and to explore relationships among variables and to compare groups [11,12]. Regression and mediation analyses were also applied to further test the relationships among variables (e.g., [13]). On the DLS, the data obtained was equally subject to qualitative analyses. Briefly, qualitative data from open-ended questions were coded through thematic analysis by at least two members of the research team, aiming to reach a consensus, and later they could be further analysed quantitatively. Finally, it should be noted that further analysis can be done, depending on the interests of each research team moving forward.

2.6. Ethical considerations

The “LookCrim” project was carried out in accordance to the Declaration of Helsinki and had the ethical approval of the Internal Review Board of the University Fernando Pessoa (Porto, Portugal). Additionally, this research project was formally supported by the local authorities, namely the parish council, the PMPC and the PSP.

The DLS required a cooperation agreement between stakeholders with a strategic interest in the social development of the community (e.g., autarchy, police, civil protection) and the research team. After the agreement and formal authorizations, the informed consent was collected from every participant and data was anonymously collected. Concerning the DSE, all individuals gave their informed consent for inclusion before participating in the study. Before completing the survey, the respondents received a narrative preamble explaining the study’s aims and informing them about the voluntary nature of the participation. This research project section was also submitted and approved by the Portuguese Ministry of Education, Ref. No. 0498800002. All data obtained by self-report was anonymized. Lastly, all observations were made with the authorization and collaboration of the local authorities. In data collection, care was taken to not register private property, only community and public spaces were analysed.

After obtaining the first results, a public presentation was arranged to disseminate them, either to the scientific community, local authorities, stakeholders and the community itself, in an open and free event intending to disseminate the results obtained until then. When the results justify it, additional presentations are being carried out.

Ethics Statement

The present work was carried out in accordance with Declaration of Helsinki and informed consent was obtained from all participants. The study was approved by both the Ethics Committee of the institution responsible, University Fernando Pessoa, Porto, Portugal and the Portuguese Ministry of Education, as clarified above.

Declaration of Competing Interest

This work was supported by the Portuguese Science and Technology Foundation (FCT) under grant of project “LookCrim - Looking at Crime: Communities and Physical Spaces”, reference PTDC/DIR-DCP/28120/2017. FCT had no influence on the conceptualization, methodology, writing and submission of the manuscript.

The authors declare that they have no known competing financial interests or personal relationships which have or could be perceived to have influenced the work reported in this article.

CRediT Author Statement

Vanessa Azevedo: Conceptualization, Methodology, Data curation, Writing – review & editing, Writing – original draft; **Rui Leandro Maia:** Conceptualization, Methodology, Data curation, Writing – review & editing, Writing – original draft; **Maria João Guerreiro:** Conceptualization, Methodology, Data curation, Writing – review & editing; **Gisela Oliveira:** Conceptualization, Methodology, Data curation, Writing – review & editing; **Ana Sani:** Conceptualization, Methodology, Writing – review & editing, Writing – original draft; **Sónia Caridade:** Writing – review & editing, Writing – original draft; **Maria Alzira Pimenta Dinis:** Writing – review & editing, Writing – original draft; **Rui Estrada:** Writing – review & editing, Writing – original draft; **Daniela Paulo:** Methodology, Data curation, Writing – review & editing; **Mariana Magalhães:** Writing – review & editing; **Laura M. Nunes:** Conceptualization, Methodology, Writing – original draft.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:[10.1016/j.dib.2021.107560](https://doi.org/10.1016/j.dib.2021.107560).

References

- [1] J. Flanders, T. Muñoz, An introduction to humanities data curation, in: T. Muñoz, J. Flanders. (Eds.), *Digital Humanities Data Curation*, 2021 <https://archive.mith.umd.edu/dhcurator-guide/guide.dhcurator.org/intro/> Accessed April 15, 2021.
- [2] T. Crowe, T., *Crime Prevention Through Environmental Design*, Elsevier, Oxford, 2013.
- [3] C. Jeffery, *Crime Prevention Through Environmental Design*, SAGE, Beverly Hills, 1971.
- [4] National Crime Prevention Council, *Crime Prevention Through Environmental Design Guidebook*, National Crime Prevention Council, Singapore, 2003.
- [5] A. Sani, L.M. Nunes, Insegurança e Vitimação - A Importância do Diagnóstico Local [Insecurity and victimisation - The importance of Local Diagnosis], NEA - Novas Edições Acadêmicas, Saarbrücken, 2017.
- [6] General Directorate of Internal Administration [DGA]Manual de diagnósticos locais de segurança [Guidance on local safety audits. A compendium of international practice], Ministério da Administração Interna, Lisboa, 2009.
- [7] K. Vagi, M. Stevens, T. Simon, K. Basile, S. Carter, S. Carter, Crime prevention through environmental design (CPTED) characteristics associated with violence and safety in middle schools, *J. Sch. Health* 88 (2018) 296–305.
- [8] M. Carvalho, P. Alão, J. Magalhães, Da indisciplina ao clima de escola: A voz dos alunos [From the indiscipline to the school climate: The voice of students], *Rev. Port. Invest. Educ.* 17 (2017) 42–60.
- [9] S. Caridade, M.A.P. Dinis, A. Sani, L.M. Nunes, V. Azevedo, School personnel perception of parental involvement and students' behavior problems: practical implications, *Educ. Urban Soc.* 53 (5) (2021) 491–514, doi:[10.1177/0013124520950335](https://doi.org/10.1177/0013124520950335).
- [10] A.I. Sani, L.M. Nunes, Questionário de diagnóstico local de segurança: Estudo numa comunidade urbana [Questionnaire of local security diagnosis: a study in an Urban community], *Anál. Psicol.* 31 (2) (2013) 185–195, doi:[10.14417/ap.609](https://doi.org/10.14417/ap.609).
- [11] F. Gouveia, A. Sani, M. Guerreiro, V. Azevedo, H. Santos, L.M. Nunes, Mapping CPTED parameters with the LookCrim Application, *Crime Prevention and Community Safety* 23 (2021) 252–263, doi:[10.1057/s41300-021-00119-9](https://doi.org/10.1057/s41300-021-00119-9).

- [12] V. Azevedo, A. Sani, L.M. Nunes, D. Paulo, Do you feel safe in the urban space? From perceptions to associated variables, *Anuário de Psicologia Jurídica* 31 (2021) 75–84, doi:[10.5093/apj2021a12](https://doi.org/10.5093/apj2021a12).
- [13] S. Caridade, H.F.P. Sousa, M.A.P. Dinis, The mediating effect of parental involvement on school climate and behavior problems: School personnel perceptions, *Behavioral Sciences* 10 (8) (2020) 1–14, doi:[10.3390/bs10080129](https://doi.org/10.3390/bs10080129).