

Simone Tulumello* [1]
Roberto Falanga* [2]

[1] [2] Universidade de Lisboa, Instituto de Ciências Sociais

An Exploratory Study of Uses of “Urban Security” and “Urban Safety” in International Urban Studies Literature

Introduction

The word *security* derives from the Latin headword *securus*, similarly to what happens in several European languages: *segurança* (Portuguese), *sicurezza* (Italian), *seguridad* (Spanish), *sécurité* (French), *Sicherheit* (German). English is maybe the only European language to provide a second word with similar but different meaning: *safety*, from the Latin headword *salvus*. Security and safety are both about prevention.¹ However, their etymologies suggest a different nuance of meaning: while the condition of *securus* (*se-cura*, free from care) is one of being not in need of protection, the condition of *salvus* (save) is one of being protected from harm.

In contemporary English, security is about prevention of intentional actions, safety is about prevention of unintentional actions.² Whilst the distinction between the two terms is rigorously employed in some

* Simone Tulumello is funded by Fundação para a Ciência e Tecnologia under grant SFRH/BPD/86394/2012. Roberto Falanga is funded by the European Commission (FP7 MOPACT “Mobilising the Potential of Active Ageing in Europe”). The authors would like to thank: Chiara Carrozza, PI of the project Being Digital, for having organized the workshop Digital Methods at the University of Coimbra (2014); the teachers of the workshop Tommaso Venturini, Paul Girard and Benjamin Ooghe-Tabanou; an anonymous reviewer, as well as the editors of this special issue, for constructive insights.

¹ Bruce Schneier, *Beyond Fear. Thinking Sensibly About Security in an Uncertain World* (New York: Copernicus Books, 2003), 12.

² *Ibid.*

fields,³ it often tends to get fuzzier: this is the case of urban studies about (prevention and/or repression of) crime. According to the International Centre for the Prevention of Crime, urban security is a “public good delivered by the state under regular circumstances” and urban safety a “subjective feeling of being secure as experienced by citizens.”⁴ This distinction operates differently from the general one: here, security refers to a policy/practical dimension (i.e. *reducing* actual danger), safety refers to perceptions (i.e. *feeling* safe). When we look at scholarly works, we cannot find unanimously acknowledged distinctions between the two concepts.⁵ Similarly to what Maguire, Frois and Zurawski have recently stated about human security,⁶ research in the field of urban security/safety is plagued by conceptual, and linguistic, vagueness. And, acknowledging that security and safety are culture at the same time as they concern policy,⁷ we have good reasons to engage with this vagueness for the implications that the academic ‘discourse’ has for political and public debates. In this sense, this article intends to contribute to this special issue at the intersection of two perspectives: firstly, we deem that the use of language, given its role in the (re)production of knowledge and action, is an object of

³ Industrial management is probably the most prominent example: here, security refers to protection from external threats, safety refers to protection from risks stemming from operational activity.

⁴ International Centre for the Prevention of Crime (ICPC), *Crime Prevention and Community Safety* (Montreal: ICPC, 2012), 3.

⁵ This is grounded on extended qualitative literature reviews carried out for previous works, cf. Simone Tulumello, “Fear and Urban Planning in Ordinary Cities: From Theory to Practice,” *Planning Practice and Research* 30, no. 5 (2015); Simone Tulumello, “From ‘Spaces of Fear’ to ‘Fearscape’: Mapping for Re-framing Theories about the Spatialization of Fear in Urban Space,” *Space and Culture* 18, no. 3 (2015); Simone Tulumello, “Local Policies for Urban Security and Spatial Planning in the Lisbon Metropolitan Area: the Cases of Lisbon, Cascais and Barreiro Municipalities,” *Estudos e Relatórios ICS 5-2014* (2014), accessed September 10, 2015, <http://repositorio.ul.pt/handle/10451/15721>

⁶ Mark Maguire, Catarina Frois and Nils Zurawski, *The Anthropology of Security. Perspectives from the Frontline of Policing, Counter-terrorism and Border Control* (London: Pluto, 2014), 2.

⁷ Cf. Susana Araújo, “Security Unlocked and Fictions of Terror.” *Review of International American Studies* 3, no. 3 (2008/2009): 5-14.

study where social sciences and humanities can fruitfully cooperate and learn from each other; and, secondly, we want to contribute to building knowledge for the construction of a common language for studies in the field of (in)security, its cultures and its policies/politics.

Against this background, this article sets out a systematic, albeit preliminary, exploration of the way the concepts of *security* and *safety* are employed in scholarly urban studies literature about crime (prevention). Seeking to build a systematic methodology, we analysed sets of bibliographic information retrieved from Web of Science (hereafter WoS) by Thomson Reuters – one of the two largest databases of indexes and abstracts of scientific articles from international academic journals (the other being Scopus by Elsevier) –, using network analysis on author keywords, complemented with text analysis of abstracts. Findings were then interpreted using an overall critical viewpoint combined to the approach to discourse analysis as employed in the field of psycho-sociological research. Given the limitations of our methodology and source of data (cf. sections 1 and 2), we deem this study a preliminary step, which needs to be complemented by further qualitative, in-depth studies. The article is organized following the structure of experimental articles in four sections, before the conclusions: conceptual methodology; operational methodology and data; findings; discussion (interpretative analysis).

According to its exploratory nature, and because of the conceptual methodology we employed (cf. next section), the study is mainly inductive: we have set out our interpretative analysis over findings, rather than using them to verify a preliminary theoretical framework. However, we wanted, at the same time, to verify one hypothesis concerning the relations between studies about urban security/safety and the field of critical urban studies – studies on urban geopolitics,⁸ geopolitics of fear,⁹ surveillance studies,¹⁰ and so forth. The hypothesis is that these two

⁸ See Ugo Rossi and Alberto Vanolo, *Urban Political Geographies: A Global Perspective* (London: Sage, 2012).

⁹ See Rachel Pain, “The New Geopolitics of Fear.” *Geography Compass* 4, no. 3 (2010), 226-240.

¹⁰ See David Murakami Wood, *The Watched World: Globalization and Surveillance* (Lanham: Rowman & Littlefield, 2015).

fields tend to be mutually blind, that is, that studies about urban security/safety tend to privilege operational, evidence-based approaches, whereas scholars in the field of critical urban studies tend not to engage with the micro-practices of urban security/safety policy-making.

1. Conceptual methodology

To start with, we shall reflect on four methodological/conceptual issues stemming from: our background as scholars; the study, and use, of English as international language; the use of WoS as source of data; and the use of keywords as main object of study.

Firstly, this article is the result of the common work of: a planner/geographer with previous research experience in the fields of urban security, urban fear and urban geopolitics;¹¹ and a sociologist/psychologist with methodological experience in text and interpretative analysis applied to policy analysis.¹² In practical terms, this meant that the former, building on his previous experience in the field of study, was mainly responsible for developing the research questions and research methodology, whereas the latter was mainly responsible for interpreting findings, taking advantage of his methodological background, but without a specific expertise on the research theme. It is on these grounds that the study is mainly inductive.

Secondly, when studying scholarly literature in English, it is necessary to remind some specificities of English as an ‘international’ language. Minca reminds us how non-Anglophone scholars “are forced continually and inescapably to dialogue/work on two parallel levels – within the context of their own national geographies, with their rules,

¹¹ See: Tulumello, “Fear and Urban Planning in Ordinary Cities”; Tulumello, “From ‘Spaces of Fear’ to ‘Fearscape’”; Tulumello, “Local Policies for Urban Security”.

¹² See Roberto Falanga, “Developing Change: A Psychosociological Action Research with Civil Servants Engaged in Participatory Processes” (PhD dissertation, Universidade de Coimbra, 2013), accessed September 10, 2015, <http://hdl.handle.net/10316/24148>; Roberto Falanga, “Changes need Change: A Psychosociological Perspective on Participation and Social Inclusion,” *Rivista di Psicologia Clinica* no. 2 (2014): 24-38.

logics, and languages, but also within the broader international (read AngloAmerican) context, with its own logics and its own particular lingua franca.”¹³ This is especially relevant for our research object, inasmuch non-Anglophone scholars (i.e. most authors in our sample), mentally accustomed to use one single term, confront themselves with the need to choose among two terms, in absence of a unanimously acknowledged definition of their differences.¹⁴ We believe this is one of the reasons for the conceptual/linguistic vagueness in this field – and, being both non-Anglophone, one of the impulses for our decision to engage with it.

Thirdly, we are aware that it is hard to define the borders of our empirical object of study, that is, scholarly literature in English (about a theme whatsoever). Among all available sources of scholar production, we had to pick a reliable and representative source of data. We decided to use WoS for two reasons, one conceptual and one operative. In conceptual terms, WoS is not only one of the most comprehensive and systematic sources of bibliographic information available for social sciences, it also represents a ‘benchmark’ for scholars in a global academic environment strongly influenced by evaluation and metrics. When deciding where to submit their works, in fact, scholars also take in account factors such as the indexes a journal is included with, WoS being widely considered the most ‘prestigious’ one. We therefore expect to analyse bibliographic information from outlets considered of high quality, hence to have a picture of the way the terms urban security and safety are used by a mainstream scholarship.¹⁵ From an operational perspective, WoS provides us with an effective search engine and high

¹³ Claudio Minca, “Venetian Geographical Praxis.” *Environment and Planning D: Society and Space* 18, no. 3 (2000), 287.

¹⁴ In this respect, we had preliminarily considered the possibility of discerning between, and exploring differences among, articles authored by Anglophones and non-Anglophones. However, we had to desist, inasmuch as bibliographic information only provide some hints, that is, authors’ surnames and countries of institutional affiliations, which are not reliable sources for determining one’s nationality and/or mother tongue.

¹⁵ We are aware of, and agree to a large extent with, critiques about the capacity of indexes, and the metrics stemming from them, to measure research ‘quality’ – see Arturo Casadevall and Ferric C. Fang, “Causes for the Persistence of Impact Factor Mania.” *mBio* 5, no. 2 (2014), e00064-14. However, it is not our scope here to

quality datasets. WoS has three main limitations: it almost exclusively covers journals; not all high-quality, international journals are indexed on it; it is mainly representative of a Western scholarship.¹⁶

Fourthly, using WoS datasets, we had the possibility to analyse three fields: titles, author keywords, and abstracts. We decided to focus the core of our analysis on keywords for two reasons. Firstly, keywords summarise what an article is about:¹⁷ authors choose them in order to express their ideas and maximise the chances for their articles to be found by others' searches. Secondly, the selection of keywords is not only the result of individual preferences, it is one (among several) expressions of cultural instances orienting and guiding human and scientific speech.¹⁸ The deployment of network analysis on keywords of articles employing the terms urban security/safety therefore allowed us to explore *what scholars write about*, as the result of their individual choices and the underlying cultural models.

2. Operational methodology and data

The operational methodology is composed of four phases: download of dataset; refinement of dataset and extraction of networks; network analysis (production of findings 1); text analysis (production of findings 2).

2.1. Download of dataset

We downloaded the dataset interrogating the search engine of the online application of WoS¹⁹ with the string:

debate quality of research and its assessment, but rather to explore research that the academic community acknowledges with high quality.

¹⁶ Cf. Artur Bajerski, "The Role of French, German and Spanish Journals in Scientific Communication in International Geography," *Area* 43, no. 3 (2011): 305-313.

¹⁷ This is the main reason we used keywords as they are spelled rather than lemmatising them. Moreover, words related to *safety* and *security* such as 'safe', 'secure', 'safely', 'securely', are very unlikely to be used as keywords.

¹⁸ Cf. Renzo Carli and Rosa M. Paniccia, *L'Analisi Emozionale del Testo. Uno Strumento Psicologico per Leggere Testi e Discorsi* (Rome: Franco Angeli, 2002).

¹⁹ Web of Science, <http://apps.webofknowledge.com/>

‘(urban and/or city) and (security and/or safety) and crime.’

In addition to ‘(security and/or safety)’ we looked for records containing ‘urban and/or city’ and ‘crime’ with the aim to restrict our sample to articles in urban studies and exclude articles in fields such as disaster management, industrial management, information security. The query produced a dataset of 697 records²⁰. This was not the final dataset, as we will explain below.

2.2. Refinement of dataset and extraction of networks

We transformed the dataset (downloaded in .txt format) in a Comma Separated Value file (.csv)²¹ and imported it on Open Refine²² for clean-up²³ and tagging of records in three categories: records containing *security*; records containing *safety*; records containing both terms. We tagged the records on the base of text filters applied to the fields ‘title’, ‘abstract’, and ‘author keywords.’ In 47 records, we found neither *security* nor *safety* in these three fields, meaning that the search engine had found them among the field of keywords assigned by WoS. We excluded these records from the dataset, insofar as we wanted to study articles whose authors use the words security and safety.

The final dataset, composed of all articles from WoS containing ‘(urban and/or city) and (security and/or safety) and crime’ in the title and/or author keywords and/or abstracts, is made of 650 records of which 218 containing *security* only, 351 containing *safety* only, and 81

²⁰ Downloaded April 17, 2015.

²¹ Using ScienceScape tools developed by Science-PO Medialab (available at http://tools.medialab.sciences-po.fr/sciencescape/wok_utils.php).

²² Open Refine, previously Google Refine, is a standalone, open source, desktop application for data clean-up and transformation to other formats (available at <http://openrefine.org/>).

²³ Main clean-up operation was the identification and homogenisation of differently spelled or misspelled keywords, that is, different AE and BE spelling, different use of capitalization or punctuation, singular/plural terms, and the like – e.g. *neighborhood*, *neighbourhood*, *neighborhoods*, *neighbourhoods*.

containing both words. The lists of most recurrent subjects and journals confirm that the sample is relevant to an international urban studies literature (table 1). The temporal distribution of articles (fig. 1) shows a sustained growth since early 1990s of the recurrences in our sample: however, considering the recent establishment of WoS, this may be due to the growing availability of journals and sources in more recent times, rather than to growing relevance of urban security/safety studies. We therefore consider our sample as representative of the whole period 1992-2015 (with just one study prior to this) rather than studying temporal variations.

We decided to analyse networks of keywords co-occurring in the same article. In these networks, a node is a keyword and an edge is an article where two keywords co-occur. We used keywords as they are used by authors, that is, both words and multi-words carrying specific meanings (e.g. *fear of crime*). We extracted four networks,²⁴ one from the complete dataset (hereafter [all]) and three from the following subsets: articles using *security* only (hereafter [sec]); articles using *safety* only (hereafter [saf]); articles using both terms (hereafter [both]). See Table 2 for the main characteristics of the networks.

²⁴ Using Table 2 Net tool developed by Science-PO Medialab (available at <http://tools.medialab.sciences-po.fr/table2net/>). Type of network: 'normal' (nodes: author keywords; edges: titles). The networks are 'weighted' on the number of connections: the number of times the same keywords are co-occurring will influence the geography of the network.

*Tulumello & Falanga: An Exploratory Study of Uses of “Urban Security”
and “Urban Safety” in International Urban Studies Literature*

Subject category	Journal		
	<i>n</i>	<i>n</i>	
Criminology & Penology	79	Journal of Environmental Psychology	16
Public, Environmental & Occupational Health	79	Urban Studies	16
Environmental Sciences & Ecology	66	Security Journal	14
Urban Studies	59	Policing. An International Journal of Police Strategies & Management	13
Psychology	38	Social Science & Medicine	11
Social Sciences – Other Topics	37	Environment & Behavior	10
Geography	31	Journal of Urban Health. Bulletin of the New York Academy of Medicine	10
Government & Law	31	European Journal of Criminology	9
Sociology	30	American Journal of Preventive Medicine	8
Computer Science	25	British Journal of Criminology	8
Engineering	24	Journal of Criminal Justice	8
Public Administration	23	American Journal of Community Psychology	7
General & Internal Medicine	16	Geoforum	7
Business & Economics	14	Journal of Architectural & Planning Research	7
Area Studies	13	Journal of Urban Affairs	7
Biomedical Social Sciences	10	Urban Affairs Review	7
International Relations	9	Criminology & Criminal Justice	6
Anthropology	8	Environment & Planning B. Planning & Design	6
Architecture	8	Housing Policy Debate	6
Health Care Sciences & Service	7	International Journal of Behavioral Nutrition and Physical Activity	6

Table 1. Most frequent subject categories and journals in the database (our elaboration on data WoS)

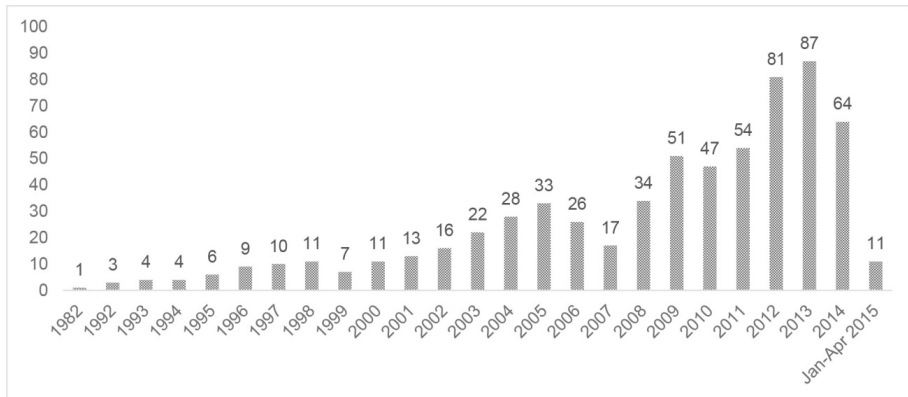


Figure 1. Articles per year in the sample (source: our elaboration on data WoS).

2.3. Network analysis (production of findings 1)

The four networks were then imported to Gephi²⁵ as separated projects. We spatialized the network using the Force Atlas 2 layout.

ForceAtlas2 is a force directed layout: it simulates a physical system in order to spatialize a network. Nodes repulse each other like charged particles, while edges attract their nodes, like springs. These forces create a movement that converges to a balanced state. This final configuration is expected to help the interpretation of the data. The force-directed drawing has the specificity of placing each node depending on the other nodes.²⁶

Force Atlas 2 uses a spring-electric layout: nodes repel each other with a logarithmic force, whereas edges practice a linear attraction force. The spatialisation of the network depends only on the number of connections.

²⁵ Gephi is an Open Source software (available at <https://gephi.github.io/>) for visualization and exploration of networks, complex systems, and dynamic and hierarchical graphs.

²⁶ Mathieu Jacomy et al., “ForceAtlas2, a Continuous Graph Layout Algorithm for Handy Network Visualization Designed for the Gephi Software.” *PLoS ONE* 9, no. 6 (2014), 2.

*Tulumello & Falanga: An Exploratory Study of Uses of “Urban Security”
and “Urban Safety” in International Urban Studies Literature*

name	dataset	n. of articles	nodes (keywords)	n. of edges	Lin Log mode*	Gravity**	Scale***	Modularity resolution
[all]	All articles	650	1341	5540	ON	15	2	2
[sec]	Articles using ‘security’ only	218	599	2514	OFF	4	5	2
[saf]	Articles using ‘safety’ only	351	718	2496	OFF	3	4	1.3
[both]	Articles using both terms	81	202	575	OFF	8	2	-

* Lin Log algorithm is a variant to Force Atlas 2, with a more powerful repulsion force.

** Gravity variable adds an attraction force towards the centre of the network, preventing disconnected components from drifting away.

*** Scale variable adjusts the size of the graph, modifying the repulsion force.

Table 2. Main characteristics and variables of networks analysed in Gephi (our elaboration).

We adjusted the final visualization of the network using three variables (see table 2): Lin Log; Gravity; Scale.²⁷ These variables are used for purposes of readability only, insofar as they do not influence structural characteristics of the network (nodes/edges).

Finally, we used Modularity²⁸ to extract clusters of communities, that is, sets of nodes with an internal density (number of connections) significantly larger than the density between the set and the remaining network.²⁹ In other words, clusters are subsystems with strong internal, and relatively weak external, interactions. In our networks, clusters are sets of keywords occurring together relatively often, constituting communities of themes. Gephi allows us to adjust the calculation of modularity through the variable Resolution, which polarises the network

²⁷ See Jacomy et al., “ForceAtlas2, a Continuous Graph Layout Algorithm,” 3-4, for details.

²⁸ “The modularity is, up to a multiplicative constant, the number of edges falling within groups minus the expected number in an equivalent network with edges placed at random.” Mark E. J. Newman, “Modularity and Community Structure in Networks,” *Proceedings of the National Academy of Sciences* 103, no. 23 (2006), 8578.

²⁹ Andreas Noack, “Modularity Clustering is Force-directed Layout,” *Physical Review E* 79, no. 2 (2009), 026102.

to different degrees. We decided to analyse the five biggest clusters for each network.

2.4. Text analysis (production of findings 2)

The Modularity did not highlight any meaningful cluster in the network [both] – the network is too small and already too polarised. For this reason, we decided to complement the study of this dataset with text analysis of the abstracts. We created a unique text file (.txt) where each paragraph is one abstract.³⁰ Then we uploaded the text on KH Coder,³¹ excluded common English words from the analysis, and produced a Co-occurrence Network, an analysis of words occurring in the same paragraph, hence abstract.³²

3. Findings

As far as the networks [all], [sec] and [saf] are concerned, findings are the clusterisation in communities and the geography of the network spatialized. As for the clusterisation, we experimented with different values of the variable Resolution with the aim to highlight meaningful communities. Accordingly, we picked values (see table 2) that polarised the network in clusters meaningful for their statistical weight, guaranteeing that the clusters analysed included, in total, at least half of the total network (table 3). Table 4 shows the lists of keywords most frequent in each cluster, with number of recurrences. In vertical, it is possible to read the results for each network, in horizontal the results for each hierarchy of clusters.

³⁰ The text is composed of 80 abstracts (one record was missing of abstract) and 15,463 words.

³¹ An open source software developed by Koichi Higuchi (available at <http://khc.sourceforge.net/en/>).

³² See <http://sourceforge.net/p/khc/discussion/222396/thread/2da0ff02/> for full details on the methods employed by the software.

	Network:	[all]	[sec]	[saf]
1 st	(Blue)	27.07%	18.87%	20.61%
2 nd	(Red)	21.55%	13.69%	12.53%
3 rd	(Green)	11.11%	9.35%	9.75%
4 th	(Orange)	7.46%	9.35%	8.22%
5 th	(Purple)	6.94%	8.18%	7.66%
<i>Sum</i>		<i>74.13%</i>	<i>59.44%</i>	<i>58.77%</i>

Table 3. Relative size of clusters of keywords analysed (5 biggest of each network) (our elaboration).

As for the geography, we rendered the networks (figs. 2, 3, 4). In the figures, it is possible to read three main information. Firstly, when two nodes (keywords) tend to be near, it means that they appear more often in the same article or community of articles. Secondly, we attributed a ranking to nodes, assigning a size proportional to the count of occurrences, meaning that bigger nodes are keywords occurring more often. Thirdly, we assigned colours to nodes, highlighting the five biggest clusters (see tables 3 and 4) – hereafter, we will use the name of the colours to identify the clusters.

As far as the network [both] is concerned, we could not make use of the clusterisation of communities. Table 5 shows the list of 20 keywords most frequent (table 5). As for the geography (fig. 5), in addition to the ranking and the relative position of nodes, it was possible to print the keywords, thanks to the smaller size of the network.

Finally, we rendered the Co-occurrence Network stemming from the text analysis of abstracts of [both] (fig. 6). In this visualisation, bigger nodes are more frequent words, near nodes are words co-occurring often in the same abstract, darker nodes have more connections (they co-occur with more words).

Network	[all]		[sec]		[saf]	
		<i>n.</i>		<i>n.</i>		<i>n.</i>
1 st (Blue)	crime	52	security	20	safety	31
	security	30	crime	16	neighbourhood	24
	violence	26	police	7	physical activity	24
	police	15	urban space	5	built environment	15
	policing	15	community policing	4	walking	15

2 nd (Red)	safety	35	violence	10	crime	30
	neighbourhood	29	fear of crime;	4	violence	11
	physical activity	24	homicide;		gender	8
	built environment	19	neighbourhood;		public space	7
	walking	15	race		community policing; social disorganization; urban environment	4
3 rd (Green)	fear of crime	29	urban violence	7	fear of crime	21
	Fear	13	city	5	Geographic Information System (GIS)	8
	gender;	12	gender;	3	crime prevention;	4
	public space		insecurity			
	urban environment	6	biography; built environment; democratization; exclusion; human security; perceived insecurity; small arms; social capital; urban poverty	2	perceptions of safety housing	3
4 th (Orange)	city	8	policing	10	perceived safety	6
	urban violence	7	private security	7	United States of America;	5
	social capital	6	proximity	3	victimization	
	organized crime terrorism; trust in the police	5 3	crime displacement; private security guards; public places	2	Crime Prevention Through Environmental Design (CPTED)	4
					mental health; public housing; social control	3
5 th (Purple)	Crime Prevention Through Environmental Design (CPTED)	7	Latin America; organized crime terrorism	5	public safety	7
	community	6	corruption; cybercrime;	3	police	4
	neighbourhood disorder; situational crime prevention	4	drug trafficking; homeland security; Mexico city	2	public opinion;	3
	Canada; defensible space; quality of life; safe cities; social cohesion; United States of America; violent crime	3			trust in the police	2
					assault; attitudes; Canada; citizens; prevention; simulation; weapons	

Table 4. Most frequent keywords in the five biggest clusters of networks [all], [sec] and [saf] (our elaboration).

*Tulumello & Falanga: An Exploratory Study of Uses of “Urban Security”
and “Urban Safety” in International Urban Studies Literature*

	<i>n.</i>
security	10
crime	6
violence	5
urban security	
police;	4
community safety;	
safety;	
fear of crime	
public safety;	3
policing;	
perceived risk;	
public space	
urban safety;	2
urban space;	
crime prevention;	
security manager;	
fear;	
public perceptions;	
built environment;	
campus safety	

Table 5. 20 most common keywords in dataset [both]
(our elaboration)

4. Discussion: interpretative analysis

This section critically interprets the findings. We shall start with the analysis of network [all], which allow us to set the main interpretative hypotheses, to be verified through the analysis of networks [sec], [saf], [both], and text analysis of abstracts of [both]. The interpretative analysis is grounded on an understanding of the ‘discourse’ (or speech) as one component of social construction and (re)production.³³

³³ Cf. Michael Farrelly, “Critical Discourse Analysis in Political Studies: An Illustrative Analysis of the ‘Empowerment’ Agenda,” *Politics* 30, no. 2 (2010), 98-104.

Accordingly, authors' speeches are not to be understood as absolutely separated expressions of similar issues. It is rather possible to find some common cultural instances lying on the ground of their choice to focus on specific aspects of these.

Accordingly, we have adopted an overall critical viewpoint combined to the approach to discourse analysis as employed in the field of psycho-sociological research³⁴ – also building on etymology.³⁵ Network, discourse and text analysis thus provides qualitative insights about symbolical instances shared by local communities and orienting their members' speech.³⁶

4.1. Main dataset: building an interpretative hypothesis

To start with, the keyword most used in the whole dataset is *crime*³⁷ suggesting that *crime* makes sense of the keywords *security* and *safety* – we should remember that the variable *crime* was used to frame the selection of the papers, that is, focus on some among the polysemic meanings of *security* and *safety*.³⁸ According to the mutual position of the three keywords, with *crime* in a nodal position, *security* and *safety* are both used in relation to *crime*, with some themes in common (those in-between) and others not (those in the external parts of the network). It is through the analysis of the five biggest cluster of the network that we can explore this use, setting out our interpretative hypothesis.

³⁴ Cf. Carli and Paniccia, "L'Analisi Emozionale del Testo".

³⁵ As for the analysis of the words' etymologies we have relied upon the online source www.etymonline.com which provides an adequate base for a general understanding and consistent with the goals of this article.

³⁶ Cf. Francesca R. Dolcetti, Nadia Battisti and Fabrizio Casuccio, "Costruire Testi: Analisi di un Processo di Formazione all'Intervista in Psicologia." In *9es Journées Internationales d'Analyse Statistique des Données Textuelle*, ed. Serge Heiden and Bénédicte Pincemin (Paris: France, 2008), 409-420.

³⁷ The word *crime* comes from the Old French *crimne*, derived from the Latin *crimen* meaning 'charge, indictment, accusation, fault, offense' and, from late XIV century, meaning 'offense punishable by law'.

³⁸ As regards the other variables, 'urban', as a keyword, only appears associated to other words (*urban environment* in the Cluster Green and *urban violence* in the Cluster Orange) while 'city' does not appear among the most common keywords.

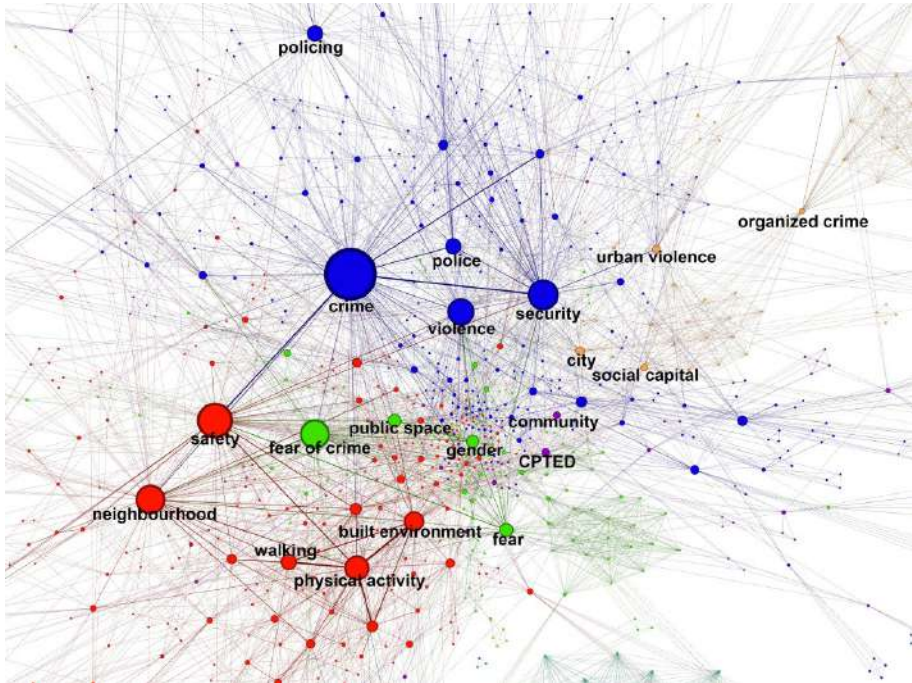


Figure 2. Spatialisation of the network of keywords [all] (all dataset) (source: authors)

Despite being the biggest one, the Blue cluster is fairly dispersed. This means that its keywords have not exclusively internal connections, but they are shared with other clusters. From the symbolic point of view, the keywords lead to a social dimension of *violence* where, in contrast, *security* implies the absence of *crime*. Security is the solution that the legitimized authority – *police* and *policing* – should guarantee in order to correct, isolate, distance (i.e. repress) forms of deviancy.³⁹

The Red cluster is organized through a more compacted network of connections. Here, *safety* plays a key role for concepts associated to community life. According to the information at this level of analysis, we can question whether the ‘symbolical weight’ of the urban context (*neighbourhood*, *physical activity*, *built environment*, *walking*) recalls

³⁹ The word *police* was originally the same as *policy*, deriving from Latin *politia* ‘civil administration’, (and hence from Greek *polis*, ‘city’). The meaning of ‘administration of public order’ is from late XVII century French.

the importance of trust-based relationships constructed by people living close together or rather specific dimensions to be addressed in order to guarantee (feelings of) safety in the urban space.

Spatially, the Green cluster mediates the Blue and Red ones. The words improve previous insights by providing a look ‘behind’ the need of security and safety. The centrality of the word fear is evident and witnessed by the two most frequent keywords: *fear of crime* and *fear*. While in the first case the *fear* has a target, the ‘crime’, in the second it communicates a more pervasive feeling of living insecure/unsafe. Fear is linked to the word public (*public space*), which comes from Old Latin *poplicus* (‘pertaining to the people’, from *populus*, ‘people’) and recalls the collective dimension of *fear* – especially in relation to *gender* relationships.

The Orange cluster contributes to place a set for *security* while corroborating two of the variables used for the production of the dataset: *city* and *urban violence*. Urban context is not neutral; it is rather the scenario for *organized crime* and actions connected with *terrorism*. In symbolic terms, city is where social disaggregation takes place.

Also the Purple cluster mediates the Blue and Red ones, emphasising the local space of *community* and neighbourhood (*neighbourhood disorder*). The multiwords *Crime Prevention Through Environmental Design (CPTED)* and *situational crime prevention* highlight the need for concrete solutions at the urban level. The focus is on situational paradigms, that is, prevention of the action of the individual offender, rather than social prevention of issues at the roots of crime.⁴⁰

To sum up, our initial interpretative hypothesis is that *security* refers primarily to a regulatory dimension (Blue cluster) deployed in the urban space (Orange cluster), still partaking of a relatively open set of themes. As for *safety*, we can say that it relies upon a more self-referential field of studies, but we are not yet capable of attributing it to a social dimension or specific instruments to be deployed at the local scale (Red cluster).

⁴⁰ Situational prevention of crime is grounded on an understanding of crime as the result of rational decisions by motivated actors. Accordingly, it aims at reducing opportunities for, and rewards stemming from, crime. CPTED is an attempt at the creation, through means of urban planning and design, of communities capable of self-defence from external offenders.

Fear mediates the two concepts (Green cluster) and concrete solutions at the micro-level tend to focus on situational prevention (Purple cluster).

We shall now improve, correct, or confirm our initial hypotheses by looking at keywords emerged in articles using only *security* and *safety*, i.e. the networks [sec] and [saf].

4.2. Subset ‘security’: the policing-oriented approach to security?

As a confirmation of the symbolical weight of the word *security*, this is the most frequent word of the network [sec]. After *security*, the keywords most used in the Blue cluster are *crime* and *police* – likewise in the Blue cluster of the network [all]. The cluster confirms the previous hypothesis about the predominant regulatory dimension of *security*, albeit in the less repressive fashion emphasised by *community policing*. In fact, considering both urban and policy-based etymology of the word *police* (and *policing*), it sounds quite reasonable to assume the ‘regulatory’ nature of the use of security. Both *urban space* and *community* say something about the context – yet, urban is also among the variables guiding the selection of the papers.

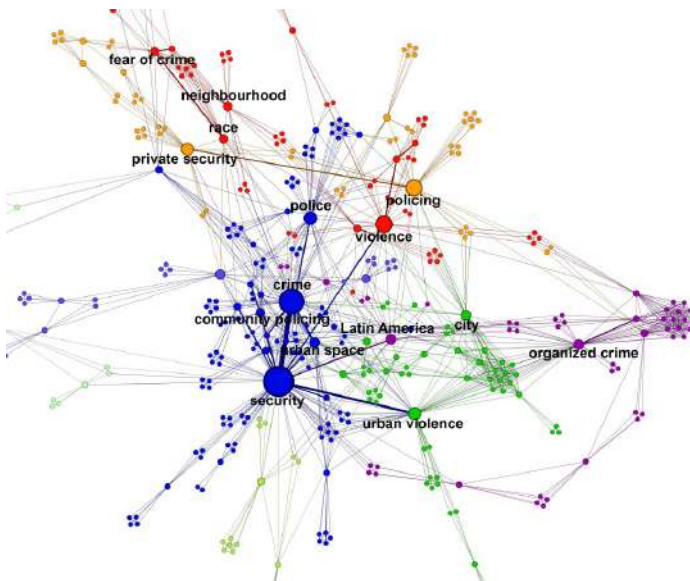


Figure 3. Spatialisation of the network of keywords [sec] (articles using only *security*) (source: authors).

The Red cluster introduces elements of strong social characterization. Terms like *violence* and *homicide* frame the ontological objects of *security*. However, and beyond their ‘concreteness’, both words introduce a symbolical dimension connected to social disaggregation and defeat. The keyword *race* can be interpreted by linking its symbolical weight to another keyword included in the following cluster, the Green one. The words *race* and *gender*⁴¹ confirm that forms of social marginalization should be understood as a ‘target’ of violence and/or discourse surrounding it.⁴² The interpretative tone is confirmed by the word *insecurity*, which in turn argues that social disaggregation is the reason for claims of security. The last word of this cluster represents a specification of this interpretative hypothesis. The word *biography* recalls the life story and, so, single stories of individuals, either oppressors or victims, involved in extreme cases of social disaggregation.⁴³

The Orange cluster adds some specifics to the way prevention is carried out, that is, through *policing*, also to be carried out by private companies (multi-words *private security* and *private security guards*). Here, the word *proximity* reinforces the local scale as the one where policing and patrolling are carried out.

The last cluster (Purple) provides words that provide concrete examples of the interpretative hypotheses drawn for this network. *Latin America* should be understood as a place of both specific and symbolical conditions for speeches about urban security. And the following words, *terrorism*, *corruption*, *cybercrime*, referring to collective dimensions of

⁴¹ The word *race* means ‘people of common descent’ and is attested from the XVI century, possibly from Italian *razza*, of unknown origin (cognate with Spanish and Portuguese *raza*), meaning ‘tribe, nation, or people regarded as of common stock’. The word *gender* is from Old French *gendre*, ‘kind, species; character; gender’ (from Latin *genus*).

⁴² Studies about the geographies of fear have been deconstructing commonplaces about the role of specific groups in urban violence. Myths about women and the elderly as more likely to be victims are often not grounded on actual data, whereas ethnic minority groups, often feared as threats, often suffer of higher victimisation rates. Cf. Pain, “The New Geopolitics of Fear”.

⁴³ Biography originates from late Greek *biographia*, ‘description of life’, from *bio-* (life) plus *graphia* (record, account).

crime, are all examples of *organized crime*, reporting again the idea of a disaggregated society.

When comparing these interpretative hypotheses with the initial hypothesis (cf. section 4.1), we see an improvement of the understanding of authors’ approaches to *security*. *Security* is the symbolical medium to portray cases of extreme social disaggregation at the urban level. The relationships are played at the ‘individual’ level, where the individual recalls a certain lack of vision on society as a whole. Individuals are seen as either oppressors or victims, but there is no mention of the ‘reasons’ why some behaviours should be imperatively classified as deviant.

This group highlights how the authors generally deal with *security* as a matter of individual deviancies to be regulated (at the urban level). Great attention should be given to the illustrative ‘semiotic triangle’ formed by *policy*, *police* and *polis* (‘city’), sharing the same etymological root and symbolically merging aspects of political regulation (*policy*) and control (*police*) at the urban level (*polis*). The definition of ‘policing-oriented’ approach to security pretends to evoke such symbolical combination. Little attention is paid to what gives reason to specific cases of violence in society demanding the action of that semiotic triangle. Emphasis is rather given to the degenerative escalation of crime that is likely to occur when missing regulatory measures. Therefore security is the expression of how deviancy can be contained through the application of the policies and the action of the police. This group of keywords refers to the limits and not about the resources.

Finally, the relatively spread geography of this network, together with the fact that *security* is not in the central position of it, reinforce the idea that scholars using *security* only tend to adopt concepts concerned with security in a quite spread way. The clusters are not compacted and keywords present rather diffused intersections among them. Such element suggests that these keywords originate from a set of scientific contributions intertwining multiple scientific discourses.

4.3. Subset ‘safety’: what ‘society-oriented’ approach to safety?

In confirmation of the symbolical weight of the word *safety* for this group, this is the most frequent word. The five keywords considered to

interpret the Blue cluster of this group are the same as those composing the Red cluster of the network [all]. Hence, we can try and solve the ambiguity stemming from our initial hypothesis concerning the use of *safety*. Is *safety* more oriented to public and community life, or does it refer to specific means for (situational) prevention of crime?

The Red cluster does not add much information. It contains the *public space*, but also words that brings us closer to the hypotheses drawn from the keyword *security - crime, violence, and community policing*.

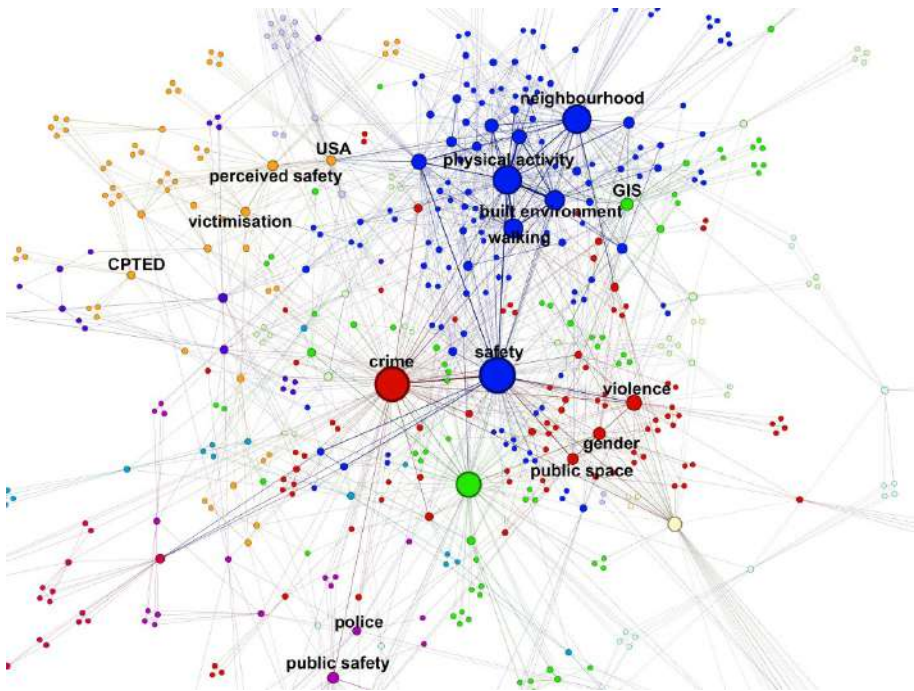


Figure 4. Spatialisation of the network of keywords [saf] (articles using only *safety*) (source: authors).

The following cluster (Green) goes on highlighting crime as a leading concept by means of two multi-words: *fear of crime* and *crime prevention*. The latter reinforces the ambivalence by introducing the term *prevention*, i.e. public action before risk situations. As a matter of fact, prevention has been increasingly associated to different fields of public

action (e.g. health, care, quality of life, etc.), but we still need to make sense of what kind of prevention is associated with *safety*. Alongside, the multiword *perceptions of safety* and two important multiwords in the following cluster *perceived safety*, and *victimization*⁴⁴ put the individual perceptions and experiences with crime at the very centre of the debate. A further element that strengthens the orientation towards subjectivity is the multiword *mental health* – which refers to specific dimensions in the generation of safety/unsafety patterns. Interestingly, the only specific means associated with prevention is again *CPTED*. This tells us of the kind of ‘society’ envisaged, that is, one where cohesive urban communities are capable of self-defence from alien threats.

The Purple cluster adds the multiwords *public safety*, *public opinion* and *trust in the police*. The first two contain the word public that etymologically refers to something ‘open to general observation’ (from XIII Old French) and ‘of the people; of the state; done for the state’ (from Latin). With regards to *trust in the police*, it can be understood on two grounds. The first refers to the ‘content’: police as the collective guard of order that people should rely on modern States. The second refers to the symbolical level: trust implies the existence of a community network where police can be legitimized by people. Without legitimization, police could certainly play a role but could hardly have a social function. In sum, this group pinpoints what is likely to stay on the symbolical ground of safety: social perception.

Several hints from the analysis of the network suggest that the collective dimension of analysis, here, is that of community/communities (small, homogeneous, cohesive groups) rather than the society as a whole. This would explain how social issues carry little weight in terms of social reasons, like power relationships or structural problems like poverty, inequality, and the like. On the one hand, the clusters open to a reflection on the role of social construction in community life, but, on the other hand, they do not give further elements for deep critical understanding of how society actually constructs its *safety*.

⁴⁴ Victimisation surveys are commonly used in criminology studies as a way to improve statistics about crime occurrences. Cf. Jan van Dijk, *Approximating the Truth about Crime. Comparing Crime Data based on General Population Surveys with Police Figures of Recorded Crimes* (Guyancourt: GERN-CNRS, 2009).

Lastly, this scientific community approaches *safety* in a more homogeneous way than the community approaching *security*: in this network, the clusters look fairly uniform and compacted, suggesting that there is wider degree of agreement in the ways *safety* is approached by the authors of the papers analysed.

4.4. Subset ‘security’ AND ‘safety’: towards a critical interpretation of the approaches

According to the findings from the analysis of networks [sec] and [saf], we can reformulate and improve our initial hypotheses.

On the one hand, the word *security* evokes some sort of ‘policing’ against cases of social disaggregation. This approach relies on the semiotic triangle ‘policy-police-polis’ that owns a regulatory nature. The identification of oppressors/offenders and victims seems to limit critical understanding on actors and rules of ‘social games’. Little space for reflection is kept whenever the identification of good and bad actors is likely to turn into mainstreaming solutions for all seasons. Importantly, resolutions of this kind often end up deciding what is right and what is wrong in universalistic terms. As a result, what is considered as wrong is automatically kept far from society and ‘policed’ inasmuch deviant. This scenario is an extreme one and it should be understood as functional to the exploratory goal of this article.

On the other hand, the use of the word *safety* recalls forms of prevention against, and perceptions of, crime. Distant from mere ‘policing’, this group of keywords evokes the importance of taking into account perceptions of safety at the community scale. The construction of *safety* at this scale has important consequences at the symbolical and ontological levels. Feeling safe at the individual level cannot help but relying on collective instances for less social risks and dangers. As such, safety implies some extent of collective sharing of social norms, necessarily stemming from the evaluation of what can be judged as right and what can be judged as wrong by a specific community. Stemming from this assumption, safety recalls the ways communities construct their norms, their ‘rules of the game’. When considering this socially-

weakly connected to other words. Finally, *safety* is not only visibly frequent, but it also owns a strong network of connected words.

This overview allows us to deduce that while *security* is much more used as keyword, *safety* has much more weight in terms of content due to its connections with other words. As for the former, the relative dispersion of the scientific community approaching *security*, as previously suggested, together with the few connections resulting from the content analysis of the abstracts, suggests that the policing-approaches are likely to provide more focused discourse though less strong in content. This hypothesis implies looking at the discourses concerning crimes as almost exclusively concerned with the relation between oppressor and victim in terms of evidence-based observations rather than deepening reflection on structural reasons behind urban crime. As for the latter, the extensiveness of the network of the word *safety*, considering the relative homogeneity of the scientific community dealing with it (cf. previous sections), suggests that the *safety* approaches provide some extent of uniformity as a whole, while guaranteeing a variety of discourses within. However, likewise for *security*, also *safety* lacks of critical view on the structural reasons of urban (in)security and (un)safety. The words connected with both *security* and *safety* in the abstracts are fairly indefinite at the symbolical level. Excluding our attention from the words used as variables – *crime*, *urban*, and *city* – words like *results*, *measure* and *data* tells us of the dominance of quantitative analyses and evidence-based approaches. We also see quite neutral terms, such as *effect*, *use* and *concern*, that very little say about the ‘content’. Last, words like *government* and *policy* confirms the expected subjects promoting solutions. Words such as *work*, *include* and *school*, which may add something about structural problems, are very marginal to the network and disconnected from the core of it. In these terms, the lack of concern with social reasons sounds consistent with a paradigm more oriented to provide solutions rather than understanding the reasons at the heart of urban crime. In other terms, we can infer that authors of this sample are not very concerned with *security* and *safety* as occasions for deeper problematisation of social problems.

Conclusions

The article sought to move some steps to overcome the linguistic vagueness in the use of the concepts of urban security and urban safety – in relation to crime (prevention) – in urban studies literature. The method (network analysis on keywords, complemented by text analysis of abstracts from a share of the sample) has proved useful in respect to the exploratory (i.e., systematic and preliminary) character of the article – further studies could extend our approach, e.g. analysing networks of citations to better assess the self-referentiality of scholarly communities.

Two main conclusions can be inferred from the inductive study. Firstly, there is a line of distinction between communities of authors writing primarily *about* security or safety, in this field. As for the geography of these communities, the former looks more open, that is, these authors link security to a wider set of themes and some also use the word safety in their texts. On the contrary, the community of authors writing primarily about safety looks more self-referential. Secondly, as far as the use of the two words is concerned, security is more commonly associated with a regulatory (even repressive) understanding of crime prevention, whereas safety is more commonly associated with perceptions of, and situational means for prevention of, crime and violence.⁴⁵ However, and despite this differentiation on the operational dimension, the use of the two words is not very differentiated as far as the deep understanding of crime is concerned. Both communities of authors, in fact, tend to look at security/safety as a goal to be pursued – i.e. a solution to specific problems – through action on the (individual, rationally motivated) offender. In the case of the community of authors privileging safety, this is complemented by a focus on the way local communities approach the alien threat.

This allows us to confirm the hypothesis about the relation of mutual blindness between works in the field of urban security/safety and in the field of critical urban studies. We shall recall Melossi's claim that

⁴⁵ This is coherent with the definition provided by International Centre for the Prevention of Crime, *Crime Prevention and Community Safety*, cf. introduction.

the heart of the criminological matter is that deviant behaviour is not the property of the individuals that enact them. It is rather the result of a system of relationships, which is characteristic to a given society, and unfolds *together with (much more than against!)* that society.⁴⁶

On the contrary, our findings suggest that this is not the case for mainstream literature in the field of urban security/safety, which is dominated by an understanding of deviant behaviour as something generating outside the society and that needs to be 'solved'. In other words, little attention seems to be paid to the structural grounds and ways the society as a whole constructs the identification of *what* is safe/secure or unsafe/insecure. We therefore advocate for a renewed critical engagement of scholarship in this field, through studies that would shift the focus from 'solutions' *per se* to the 'problems' that lead societies to demand security/safety.

Works Cited

- ARAÚJO, Susana. "Security Unlocked and Fictions of Terror." *Review of International American Studies* 3, no. 3 (2008/2009): 5-14.
- BAJERSKI, Artur. "The Role of French, German and Spanish Journals in Scientific Communication in International Geography." *Area* 43, no. 3 (2011): 305-313. Doi: 10.1111/j.1475-4762.2010.00989.x.
- CARLI, Renzo and Rosa M. PANICCIA. *L'Analisi Emozionale del Testo. Uno Strumento Psicologico per Leggere Testi e Discorsi*. Rome: Franco Angeli, 2002.
- CASADEVALL, Arturo and Ferric C. FANG. "Causes for the Persistence of Impact Factor Mania." *mBio* 5, no. 2 (2014): e00064-14. Doi: 10.1128/mBio.00064-14.
- DOLCETTI, Francesca R., Nadia BATTISTI and Fabrizio CASUCCIO. "Costruire Testo: Analisi di un Processo di Formazione all'Intervista in Psicologia." In *9es Journées Internationales d'Analyse Statistique des Données Textuelle*, edited by Serge Heiden and Bénédicte Pincemin, 409-420. Paris: France, 2008.

⁴⁶ Melossi, Dario, "'In a Peaceful Life'. Migration and the Crime of Modernity in Europe/Italy." *Punishment and Society* 5, no. 4 (2003), 383. Emphasis on the original text.

- FALANGA, Roberto. "Developing Change: A Psychosociological Action Research with Civil Servants Engaged in Participatory Processes." PhD dissertation, Universidade de Coimbra, 2013. Accessed September 10, 2015, <http://hdl.handle.net/10316/24148>.
- . "Changes need Change: A Psychosociological Perspective on Participation and Social Inclusion." *Rivista di Psicologia Clinica* no. 2 (2014): 24-38. Doi: 10.14645/RPC.2014.2.471.
- FARRELLY, Michael. "Critical Discourse Analysis in Political Studies: An Illustrative Analysis of the 'Empowerment' Agenda." *Politics* 30, no. 2 (2010): 98-104. Doi: 10.1111/j.1467-9256.2010.01372.x.
- INTERNATIONAL CENTRE FOR THE PREVENTION OF CRIME (ICPC). *Crime Prevention and Community Safety*. Montreal: ICPC, 2012.
- JACOMY, Mathieu, Tommaso VENTURINI, Sebastien HEYMAN and Mathieu BASTIAN. "ForceAtlas2, a Continuous Graph Layout Algorithm for Handy Network Visualization Designed for the Gephi Software." *PLoS ONE* 9, no. 6 (2014): e98679. doi: 10.1371/journal.pone.0098679.
- MAGUIRE, Mark, Catarina FROIS and Niel ZURAWSKI. *The Anthropology of Security. Perspectives from the Frontline of Policing, Counter-terrorism and Border Control*. London: Pluto, 2014.
- MELOSSI, Dario. "'In a Peaceful Life'. Migration and the Crime of Modernity in Europe/Italy." *Punishment and Society* 5, no. 4 (2003), 371-397. doi: 10.1177/14624745030054001.
- MINCA, Claudio. "Venetian Geographical Praxis." *Environment and Planning D: Society and Space* 18, no. 3 (2000): 285-289. Doi: 10.1068/d1803ed.
- MURAKAMI WOOD, David. *The Watched World: Globalization and Surveillance*. Lanham: Rowman & Littlefield, 2015.
- NEWMAN, Mark E. J. "Modularity and Community Structure in Networks." *Proceedings of the National Academy of Sciences* 103, no. 23 (2006): 8577-8582. Doi: 10.1073/pnas.0601602103.
- NOACK, Andreas. "Modularity Clustering is Force-directed Layout." *Physical Review E* 79, no. 2 (2009): 026102. Doi: 10.1103/PhysRevE.79.026102.
- PAIN, Rachel. "The New Geopolitics of Fear." *Geography Compass* 4, no. 3 (2010): 226-240. Doi: 10.1111/j.1749-8198.2009.00295.x.
- ROSSI, Ugo and Alberto VANOLO. *Urban Political Geographies: A Global Perspective*. London: Sage, 2012.

*Tulumello & Falanga: An Exploratory Study of Uses of "Urban Security"
and "Urban Safety" in International Urban Studies Literature*

- SCHNEIER, Bruce. *Beyond Fear. Thinking Sensibly About Security in an Uncertain World*. New York: Copernicus Books, 2003.
- TULUMELLO, Simone. "Fear and Urban Planning in Ordinary Cities: From Theory to Practice." *Planning Practice and Research* 30, no. 5 (2015): 477-496. doi: 10.1080/02697459.2015.1025677.
- . "From 'Spaces of Fear' to 'Fearscape': Mapping for Re-framing Theories about the Spatialization of Fear in Urban Space." *Space and Culture* 18, no. 3 (2015): 257-272. Doi: 10.1177/1206331215579716.
- . "Local Policies for Urban Security and Spatial Planning in the Lisbon Metropolitan Area: the Cases of Lisbon, Cascais and Barreiro Municipalities." *Estudos e Relatórios ICS 5-2014* (2014). Accessed September 10, 2015. <http://repositorio.ul.pt/handle/10451/15721>.
- VAN DIJK, Jan. *Approximating the Truth about Crime. Comparing Crime Data based on General Population Surveys with Police Figures of Recorded Crimes*. Guyancourt: GERN-CNRS, 2009.