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CONTENTS

ABSTRACTS

INTERNAL SECURITY: CHALLENGES FOR THE EUROPE OF THE XXIST CENTURY

Paulo Oliveira, Danguolé Seniutienè and Fernando Gonçalves

This article presents actual problems, related to internal security, which occur in the EU in the process of globalisation in the XXIst century. The long-existing practices of information-sharing and transnational police cooperation have accelerated in recent decades. Information travels instantaneously in cyberspace; speedy transportation brings the most distant and exotic lands within the reach of the intrepid traveller, including police officials; the world's economy and financial system are intricately integrated and respond to butterfly disturbances in any part of the globe; crime and insecurity are not limited by borders. Globalisation affects people's lives in many states; the most important needs of each person are needs for security and welfare. Economic and political integration, the European Union being the most advanced example, have necessitated a concomitant integration, harmonisation and cooperation among laws, policies and agencies. In the EU, this now means working in an increasingly borderless Schengen area. This article aims to reveal the major threats emerging in internal security and seeks a proposal, from the law enforcement authorities' activities of overall coordination, priority areas of cooperation discussed, and international communication.

SURVIVAL STRESS MANAGEMENT THROUGH MENTAL SKILLS TRAINING IN LAW ENFORCEMENT

Bogdan Mînjină

Survival stress is an extreme type of operational stress felt by law enforcement personnel in situations involving the risk of being killed or injured. This type of stress has outstanding negative effects on performance. The present study aims to emphasise the importance of using mental skills training to manage survival stress. The study also argues the need to implement a research direction to identify the most effective methods of mental conditioning to address law enforcement critical incidents.

TANDEM PROJECT: DEVELOPING CULTURAL INTELLIGENCE IN POLICE TECHNOLOGY STUDENTS USING CULTURAL/ETHNIC MENTORS

Roger MacLean

The Tandem Project was an experimental applied pedagogical approach designed to meet the needs of diverse community policing and training in Montreal, Quebec, for police technology students in their first year. It allows the students to develop cultural awareness, cultural competency and cultural intelligence. This approach was developed to expose students in their first year to a random selection of ethnic/cultural mentors who represent 13 to 20 minority groups of the 120 groups in Montreal. The students when meeting with the mentors learn basic cultural etiquette, proper intervention techniques and how to engage community members concerning a number of issues. They also learn how the community perceives the police and main barriers between the police and the community. The results are twofold; the students learn who their future clients are and what their needs are. They also learn culture-specific interaction and communication techniques as well as culture-specific de-escalating approaches. Additionally, the mentor and their community learn to overcome negative stereotypes of police and develop a level of trust. As one church parishioner from a minority community said, 'it was nice to have the police students come to our church, it shows they care.'

COOPERATIVE POLICING IN THE CITY: VOLUNTARY CIVIC ENGAGEMENT AND THE CITIZENS' PERSPECTIVE

Nathalie Hirschmann

This paper originates from a comprehensive research programme which evaluates the context of different policing agents' presence amongst others in organisations life of the police, public life, the citizens' perception of this presence, and the potential impact on subjective security. The aspect of voluntary policing is highlighted.

FOREST ARSONISTS: CRIMINAL PROFILING AND ITS IMPLICATIONS FOR INTERVENTION AND PREVENTION

Cristina Soeiro and Raquel Guerra

The main aims of this study are the characterisation of criminal, psychological and social aspects of the Portuguese forest arsonists and the identification of its most important criminal characteristics. The research variables include criminal behaviour, socio-demographic and psychological and juridical-penal aspects. Results from a sample of 452 offenders show a typology characterised by four types of forest arsonists: instrumental-retaliatory; instrumental-beneficial; expressive-clinical history; expressive-fire attraction. The subsequent need for differentiated intervention and prevention strategies is discussed.

THE CAUSES OF LATENCY OF PARTICULAR CRIMES AGAINST MORALITY

Monika Hullová

This article resumes the results of research on the latency of particular crimes against morality (rape, sexual violence, and sexual abuse, procuring and soliciting prostitution, manufacturing of child pornography). Among others, in order to collect data from the respondents (size of a sample — 153 male representatives and female representatives above 18 years old), an explorative method of questionnaire has been used. Main issues explored were the following: personal experience with these types of crimes (how, where, when, etc.); willingness to report these crimes to the police (why yes or no, when, under which circumstances, how to increase their willingness, etc.); motivation for cooperation with the police; effectiveness of crime detection and clarification (criminal police service, investigative service, national police organisation); main problems related to crime detection and clarification; estimations of the level of latency of particular crimes against morality and real criminal rate.

FORENSIGRAPHY: THE INTEGRATION OF IMAGING TECHNIQUES INTO THE CRIMINAL JUSTICE SYSTEM

Reingard Riener-Hofer, Bridgette Webb and Eva Scheurer

This article defines imaging in the context of the criminal justice system, introduces the term 'forensigraphy' and presents relevant examples. Legal requirements for the implementation of forensigraphy are discussed.

THE OVERVIEW AND LEGAL BACKGROUND OF NEW PSYCHOACTIVE SUBSTANCES IN EUROPEAN COUNTRIES

Gabor Kovacs and Mónika Nogel

The analysis is based on European and national data of the last five years and aims at investigating the effectiveness of regulations. It aims at investigating whether legal intervention has substantive effects on the availability of these substances, whether it influences their supply, effects the appearance of new ones, or is able to confine the spread of designer drugs.

INTERNAL SECURITY: CHALLENGES FOR THE EUROPE OF THE XXIst CENTURY

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Keywords: European Union; internal security; knowledge society; international cooperation.

Abstract: This article presents actual problems, related to internal security, which occur in the EU in the process of globalisation in the XXIst century. These long-existing practices of information sharing and transnational police cooperation have accelerated in recent decades. Information travels instantaneously in cyberspace; speedy transportation brings the most distant and exotic lands within the reach of the intrepid traveller, including police officials; the world's economy and financial system are intricately integrated and respond to butterfly disturbances in any part of the globe; crime and insecurity are not limited by borders. Globalisation affects people's lives in many states; the most important needs of each person are needs for security and welfare. Economic and political integration, the European Union being the most advanced example, have necessitated a concomitant integration, harmonisation and cooperation among laws, policies and agencies. In the EU, this now means working in an increasingly borderless Schengen area. This article aims to reveal the major threats emerging in internal security and seeks a proposal, from the law enforcement authorities' activities of overall coordination, priority areas of cooperation discussed, and international communication.

INTRODUCTION

With reference to operational concept, internal security is currently and mostly perceived as covering multiple areas of intervention. Its goal is to handle threats such as organised crime, drug trafficking, illegal migration, human trafficking, sexual exploitation of minors, child pornography, terrorism, gun trafficking, economic and cybercrime, among other, less significant threats, having in common a direct impact on life, safety and welfare of citizens.

Security has therefore become a key factor of living in society and a decisive argument of sustainability that must be based on the inevitable sociability, whose degree directly influences the level of social cohesion. All citizens aspire to live in a secure environment and to enjoy their freedom. Security is therefore a basic right.

After the World Trade Centre attacks, European politicians realised deeply the necessity of building a real European security policy, shared by the will of European citizens. The Madrid bombings on 11 March 2004, and the London bombings on 7 July 2005, even more robustly demonstrated that no country was safe from the threat of terrorism, and that the most appropriate strategy would be greater police cooperation expressed in joint action (Seniutienè, Oliveira and Gonçalves, 2013).
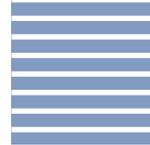
According to the European Union (2010), justice, freedom and security call for policies of mutual reinforcement respecting, at the same time fundamental rights, international protection, the rule of law and privacy. In this context, it emerges as absolutely essential that insecurity is a concept that reveals a sense of self-constraint, insecurity over the fear of the unknown, uncertainty about the future, and especially, the intentions of others.

We are currently in a process of global change of high complexity, resulting from the profound changes that are experienced with different intensities globally and which largely indicates changes in the economic, political, military relationship along with a profound revolution at knowledge level, both in its creative dimensions and in the aspects of its use and dissemination.

According to Sen (2007) the continuous inequalities in the global economy are closely related to a set of institutional failures which must be overcome. Besides the important omissions that need to be rectified, there are also serious problems of mission that must be faced in order to achieve global justice. The negative trend of the global economy affects our understanding of the world, and compromises the explicit grounds that sustain public commitment to eradicate poverty. This is one of the most serious concerns, since poverty (absolute poverty) and inequality (relative poverty) are primary sources of uncertainty and terrible scourges which deserve to be part of our top priorities.

Regardless of the causes mentioned, some authors argue that in the long term as a result of migration, international communication networks involving economic, social and political institutions, as well as the national culture and identity of all countries involved may be established, enabling a greater articulation of these matters (Oliveira, 2013).

The knowledge society is not free from doubts and this raises a number of questions of undeniable relevance. We highlighted those we consider most relevant as the basis of an internal security policy, summarised as follows:

Will knowledge societies be risk societies?

Access of a large number of interveners to knowledge whose application can cause irreparable damage will not be enough to open a *'Pandora's box', rich in promises but also in unpredictable risks?*

Is the acceleration of creation, absorption and diffusion of knowledge an advantage for the new self-regulatory capacity of modern societies?

Does the knowledge society effectively constitute an efficient platform to handle its own new complexity?

To what extent can the knowledge society become effective (effective and efficient) in the elimination of ignorance, error, fear release, uncertainty reduction and its measurement as a real risk?

The biggest challenge for the knowledge society is to learn to face instability, insecurity and political and social risks arising from them.

In fact, as stated in Unesco's report entitled 'Towards knowledge societies' (2007, 230) what makes some political risks acceptable is exactly the fact that they are 'intentional'. This distinction between voluntary accepted and passively lived risks is the centre of ethical reflection on inequalities over risk. This strongly emphasises the problem of knowing how to prevent risks without having identified them previously. Internal security will certainly solve many problems of this nature in the context of their practices, both in planning (especially contingency) and in operation.

We're changing the paradigm of power relations' changes at all levels of society, and the redefinition of dominant social groups and privileges' holders, also at different levels, reinforces in a substantive manner the need for new and more sophisticated mechanisms, policies and security strategies.

But it must be taken into account that change is neither easy nor free of turbulence. Indeed, as Fukuyama (2012) alerts us, when environment changes and new challenges arise, often there is a disjunction between existing institutions and present needs. These institutions are usually conservative (reluctant to change) and supported by legions of installed interests opposed to any fundamental change. In fact, what has been observed is that the adaptive institutions are the only ones that survive, since environments are constantly changing.

On top of the abovementioned constraints are also added those coming from fundamentalist movements of a different nature and
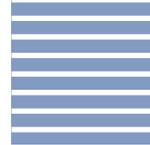
characteristics that, in the field of security threats, will encourage movement of considerable violence, using several levels of mobilisation factors which, in the end, will be no less than resistance movements to preserve the privileges that feel threatened.

The major threat is that terrorism can be strengthened by the free flow of information, the public character of scientific debate and discussion in specialised knowledge societies. These are inviolable principles and can, in this way, 'facilitate the wrong use of knowledge', as it is fully undeniable that 'the misuse of knowledge has been a constant throughout history.' The great danger 'is to see the benefits of science transform themselves in harmful results or pure disappointment in a time of great threats' (Unesco, 239).

In this context, 'one of the great challenges that knowledge society will face' is the construction of 'concerted and sustainable forms of peaceful use of resources (including technological capital) to prevent conflicts'. This task cannot be effectively accomplished without mobilising joint efforts of science, society and security forces (Unesco, 240). Education is the key to human security policies and the main tool to encourage the expansion of knowledge society (Unesco, 243).

The inevitable reorganisation of the world in a logic of extended geo-economic areas, requires profound political joint actions of the European Union to be therefore crucial to think about a wider security, demanding for that purpose a devoted set of principles, values and rules covering justice, freedom and the security triangle, particularly by setting a strategic and operational organisation framework and police cooperation within the Union.

It has always been agreed that the state with the greatest military power prevails, but in the present information age, this power may be divided by numerous actors. In fact, changes in the traditional power structure are related to changes in the global economy, politics, demography and migration streams. In reality, as stated by Nye (2012), classical power transition among great states may be less problematic than the rise of non-state actors.

UNEQUAL EUROPE

In fact, over the last decade, European countries have been engaged in the creation of common policies on justice and home affairs, pressed by the need for intergovernmental coordination in fighting organised crime, illegal migration, full exploitation of legal migration channels, drug trafficking, human trafficking, minors' sexual exploitation, child pornography, terrorism, gun trafficking, economic and cybercrime, among other things. However, despite a clear commitment by all Member States to move towards common standards in these areas, European countries still have different approaches to cultural and immigration issues, mainly due to national laws.

Indeed, there is no European common space of values and attitudes towards immigration and citizenship issues. However, in order to harmonise the different conceptions of European integration, depending on the history of each country, the European Commission defined integration as a process that prevents and balances the social marginalisation of immigrants.

One of the core objectives of the European Union is to provide its citizens with a high level of security within an area of freedom, security and justice. That objective is to be achieved by preventing and fighting crime through closer cooperation between law enforcement authorities in the Member States, while respecting the principles and rules relating to human rights, fundamental freedoms and the rule of law on which the Union is founded and which are common to the Member States (Seniutienè and Oliveira, 2012).

In the so-called mixed migratory flows, and in a more economic view, we obviously found the so-called 'economic migrants'. Although development and globalisation have promoted and improved the mobility of capital, technology, goods and services, they do not truly improve or create conditions for successful migration, increasingly feared by countries with a high hosting capacity.

Currently, everything circulates more freely, except people. Inequalities continue to grow, according to the place of birth, abilities and talents. International migration raises increasingly political protectionist attitudes, mainly from rich countries which represent the highest potential destinations of migration flows.
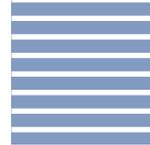
Mobility should not be seen either as an achievement or as an invasion, but rather as a diffuse, slow, continuous movement that does not, in any way, tend to be sensitive to political and dissuasive measures introduced by rich countries. If rich countries are not able to accommodate and integrate those who are no longer allowed to remain in their own homelands, which countries can achieve this? If we look, for example, for certain western European countries which have built their business models based on open borders and free movement of goods and people, we find that, in fact, this same model tries to prevent, at all costs, the phenomenon of migration through the use of legal–administrative and police–military restrictions.

The complex nature of the EU, well summarised in its motto 'Unity in diversity', highlights the problem of defining a unique model of integrating immigrants across the continent. Europe consists of many different cultures and many different countries. These cultures address very differently aspects related to immigration and integration.

EU STRATEGY FOR A COMMON SECURITY POLICY

Human security includes everything that is 'empowering' for individuals — human rights, including social and cultural economic rights, access to education, healthcare, equal opportunities and good governance. To reduce security to the traditional concept of public order maintenance is not only philosophically redundant but conceptually ineffective in advanced modern societies. Modern security therefore demands a vision and systemic action in which the maintenance of order via a 'curative' (direct repressive action by the security forces) can only be understood as the last resort complement of a carefully scheduled and preventive maintenance action, not only public policy but also social peace that precedes it.

The European spirit we share not only calls for but also demands it. This is the context that supports and reinforces the imperative of a concerted action of security in the European context. Full permanent respect of human rights is expected, whose observance depends, in the first instance, on knowledge and respect for local cultures, on pluralism of the systemic approach to the concept of security, on tolerance of different conceptions of social justice, and on the availability of access guarantees to information and prompt communication.

This subject matters in which it is not easy to identify multiple 'market failures' and, for that reason, it is essential to consider public intervention in coordination with the requirements of new principles and old values of conviviality that universal human progress claims. In parallel, the availability of security, individual and collective, cannot help being observed, but security must be seen in its wider context of society and only then gain the true sense of top priority.

To this extent, it is worth recalling Chomsky (2014) when he states that the Magna Carta was a huge step forward for humanity, since it 'established the right of any free man — and later any individual — not to be subject to arbitrary charges'. It also established the presumption of innocence, the right not to be persecuted by the state and a fair and swift trial. These concepts are expanded upon in the habeas corpus doctrine. The lesson is clear and its foundation completely non-negotiable.

To European Union citizens, security is actually a main priority. The concept of internal security must also be understood as a concept of sustainable development. The absence of fixed internal border controls inside the Schengen area is indeed an important move for mobility within the European region. Moreover, technological advances have revolutionised the way and speed of communications, also allowing greater openness of our societies abroad.

With the entry into force of the Amsterdam Treaty, the European Union's overall aim is to develop itself as a space that provides citizens safety and better access to justice, necessarily implying the creation of appropriate policies on the police and criminal justice in order to fight all those who prevaricate and, at the same time, a disruption from the purely intergovernmental cooperation.

In this sense, the Schengen convention was created, providing common external border controls, common visa and asylum policy, police and customs cooperation rules and security measures (Seniutienè, Oliveira and Janušauskas, 2013).

As we know, in a world where crime and the underground economy are increasingly globalised, the criminal organisations become
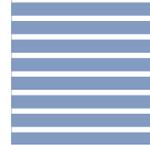
more sophisticated, and face states more unable to ensure high levels of security to their citizens. In this sense, it becomes essential to reinforce police and judicial cooperation in criminal matters at the European Union level. Its role should be taken as crucial to the efficiency and effectiveness of subsequent police and criminal justice systems to fight transnational crime.

It should be noted that the concept of internal security must have a broader concept that extends to multiple and varied sectors in order to address other threats that have a direct impact on the safety and welfare of citizens, including natural disasters, such as earthquakes, wildfires and floods, as well as storms.

A strategy for EU internal security focuses mainly on bringing together existing synergies in the fields of police cooperation, criminal justice and integrated border management systems, ensuring that they can mutually complement and reinforce each other.

The new safety philosophy has to position itself in a world filled with violent disruptions of different kinds, where those of a demographic nature present themselves as particularly sensitive, especially in Europe, within which economic and social prosperity will be particularly dependent forces that lead to the coordination of different contexts of the binomial growth/development, where the assumption of 'natural growth' is seriously dependent on immigration, and where the developing countries assume themselves as suppliers of the key base hand-labour resources. This scenario demands an open position on multiculturalism and reinforces rules for success on that commitment to freedom and solidarity that becomes the key argument of development/growth, able to sustain the levels of quality of life and well-being assumed as legitimate yearnings.

Ignoring such a reality easily becomes a source of dissatisfaction and source of tension as it is stated by Sen (2007: 190), 'negligence may be sufficient reason for resentment, but a feeling of invasion, degradation and humiliation can be even easier to mobilise for rebellion' thus making prevention a stronger and powerful strategy, much higher than repression: security must be seen in an integrated way, i.e. as a multi-faceted phenomenon, in which the relevant topics are presented with different dimensions ranging from the political to the police, from the economic to the social, from

the cultural to the historical, from the military to strategic information, etc.

Therefore, Europe must consolidate a security model based on principles and values of the Union, such as respect for human rights and fundamental freedoms, respect for the rule of law, dialogue, solidarity, transparency and tolerance, essential components in supporting democracy.

Based on the Stockholm programme framework, the strategy for EU internal security should give a firm commitment to further answers on the challenges related to protection of rights and freedoms; improve cooperation and solidarity among Member States; taking this as an absolute priority in prevention and anticipation; address the causes of insecurity and not only its impacts, involving all sectors that have a role to play in public protection, whether political, economic, social or other; inform citizens about security policies and ultimately strengthen the interdependence between internal and external security, establishing an approach of 'global security' versus 'smart security' with other countries.

CONCLUSIONS

There is a direct relationship between immigration and insecurity. Crime has no ethnic, national, cultural or religious origin. However, freedom of movement also benefits crime, imposing compensatory measures in terms of safety, i.e. external border control and police and judicial cooperation. Safety is a condition of freedom, a basic right for every citizen.

Accordingly, it is worth remembering Sen (2007: 225) when he says that the sectarian violence that exists around the world is no less bullying or less reductive today than in the past. Behind the primary brutality, there is also a great conceptual confusion about the identities of people, the I transforms the multidimensional human beings into one-dimensional creatures, adding that natural classifications may involve two distinct types of distortions, but related: the incorrect description of people belonging to a target category and the reinforcement that the incorrect characteristics are the only relevant features of the identity of the person in question (Sen, 2007: 35).

It is necessary to further enhance the development of common tools and policies to minimise common threats and risks using a more integrated approach in order to build an essential pillar in the common internal security strategy. It is essential to build methods of identification, risk assessment and, whether they are natural risks or human originated, the EU Member States will most likely face them in the future. Security policies, especially the prevention ones, must be cross-cut and broaden, including not only police but also institutions and professionals, whether locally or nationally. It is important to obtain cooperation with other sectors, such as schools, universities and other educational institutions in order to prevent young people from going into crime. The private sector also has an important role, especially the one related to financial activities, contributing decisively in implementing mechanisms to prevent fraudulent activities or money laundering.

In this sense, the challenge that European countries have to face in the coming years is a real integration of different identities, each bearing their language, history and culture humanity, emphasising the principles of tolerance, freedom and equality opportunities to contribute to a fairer and better quality of life for its citizens.

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SURVIVAL STRESS MANAGEMENT THROUGH MENTAL SKILLS TRAINING IN LAW ENFORCEMENT

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Keywords: mental skills training; mental toughness; survival stress; law enforcement critical incident.

Abstract: Survival stress is the extreme type of operational stress felt by law enforcement personnel in situations involving the risk of being killed or injured, which has outstanding negative effects on performance. The present study aims to emphasise the importance of using mental skills training to manage this type of stress. The study also argues the need to implement a research direction to identify the most effective methods of mental conditioning to address law enforcement critical incidents.

INTRODUCTORY ISSUES

LAW ENFORCEMENT CRITICAL INCIDENTS CHARACTERISTICS

Law enforcement personnel often encounter emergencies or crises. The most important risk to personnel in such situations is the threat to life in the context of frequent interaction with dangerous people. The degree of resistance of some people relative to the activities of law enforcement personnel can be very high, in some cases, assaults and even killings occur.

Law enforcement critical incidents often occur suddenly and unpredictably from a situation that initially seemed routine (Federal Law Enforcement Training Centre, 2004). Many situations routinely encountered by police personnel (investigation on domestic violence, traffic stops, undercover operations or arrests) have the potential to exhibit extreme risks (Pinizzotto, Davis and Miller III, 2006). An increasing number of shootings take place in poorly lit environments, at close range, and in the presence of many people, including innocent witnesses, and often end in less than three seconds (Pinizzotto, Davis and Miller III, 2006).

Difficulty of action in law enforcement critical incidents is determined by several factors such as: the need for quick decision-making to save their own lives and/or of others or for preventing damage in complex and risky environments; the difficult transition from one calm routine period to a quick decisive reaction (Federal Law Enforcement Training Centre, 2004); the complex normative framework (procedures, institutional and legal regulations) which increases the difficulty of decision-making under time pressure.

In order to identify the reasons for fatalities and assaults on law enforcement staff despite technological advances, innovative equipment and proactive policing strategies, Pinizzotto, Davis and Miller III (2006) propose the concept of a deadly mix to describe an integrative process that combines in the aggression moment all specific features of the police personnel, offenders and circumstances.
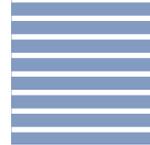
Hyper-vigilance biological rollercoaster is a chronic state determined by long-term exposure to the law enforcement environment characteristics like those previously described with many negative effects on law enforcement officers and their families' quality of life. This is a concept proposed by Gilmartin (2002), based on his observation that on-duty, the police officer is 'alert, alive, engaged, quick-thinking' to approach possible threats (action phase), while off-duty they are 'detached, withdrawn, tired and apathetic' (an equal and opposite reaction phase to action).

SURVIVAL STRESS

Risks of personal injury or death present in law enforcement critical incidents causes survival stress. It has been defined as the perception (real or imagined) of serious personal injury or death threat, or the stress of being responsible for another's protection against an imminent serious injury or death, in the context of decreased reaction time (required) (Siddle, 1995). The Federal Law Enforcement Training Centre (2004) uses the concept of acute stress to describe a similar type of stress, characterised by the sudden occurrence, novelty, intensity and short duration.

Performance in extreme situations is influenced by the autonomic nervous system, composed of the sympathetic and parasympathetic nervous systems. Individual perception of the threat determines the automatic activation of the sympathetic nervous system, which causes narrowing and distortion of perceptions, inhibits rational decision-making and increases reaction time, reduces the quality of fine motor skills execution and massively decreases memory immediately after a critical incident (Siddle, 1999). The second component of the autonomic nervous system, dominant in no stress times, is the parasympathetic nervous system which is intended to try calming the body. Although in a combat situation the body needs the functions controlled by the parasympathetic nervous system (such as visual acuity, cognitive processing, fine and complex motor skills performance), this is inhibited and control is taken over by the sympathetic nervous system (Siddle, 1999).

Among the psychological responses to stress are anxiety (nervousness, apprehension, fear, or worry) and anger (frustration, aggression, guilt, or revenge) (Wollert, Driskell, & Quail, 2011).

STRESS AND PERFORMANCE IN LAW ENFORCEMENT CRITICAL INCIDENTS

Several studies have shown that in law enforcement critical incidents work performance decreases with the increase of stress levels intensity (e.g. Federal Law Enforcement Training Centre, 2004; Nieuwenhuys, Caljouw, Leijsen, Schmeits, & Oudejans, 2009; Wollert et al., 2011).

Siddle's (1995) research revealed disruption of the motor skills (fine, complex and ultimately gross) and of the cognitive abilities as the heart rate frequency increases to over 115 beats per minute. Siddle's findings on the relationship between heart rate and performance had two important practical implications for law enforcement activities: the use of force training is based on gross movements, characterised by simplicity; the use of breath control techniques to adjust the heart rate (Vonk, 2007). But low arousal level, indicated by a small number of heart beats, is not favourable for performance as some research found that subjects have the fastest reaction time after they did sufficient physical exercises to achieve a heart rate of 115 beats per minute (Kosinki, 2013).

Hick's law, proposed in 1952, should also be considered in training personnel acting in high-stress situations: the increases in the available response options number of an individual to a stimulus will increase logarithmically their reaction time to that stimulus.

Disturbances in the sensory and perceptual processes are other factors that affect performance in life-threatening situations. The occurrence of the following phenomena was revealed in such situations: tunnel vision, lighthouse effect, weapon focus, auditory exclusion, sensory exclusion, distortion of distance and depth perception.

The decision-making process carried for determining a course of action in critical incidents is very important for performance, especially in terms of safety and ways of using force. In such incidents 'stressors increase the likelihood that decision-makers will choose the first option they consider' (Federal Law
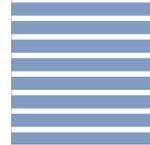
Enforcement Training Centre, 2004). Among other factors, the decision-making process is influenced by informational inputs, delivered by sensorial and perceptive processes. Several models of decision-making have been used in law enforcement: the OODA model developed by John Boyd in the seventh decade of the previous century, the SOODA model proposed by Soltys (2008), the AAADA model proposed by Asken (2010) and the recognised-primed model of naturalistic decision-making developed by Klein, Calderwood, and Clinton-Cirocco (1986) (cited in Klein, 1993).

Exposure to high-stress critical incidents can cause a range of psychological responses with extreme intensity which severely affect performance, such as hyper vigilance and choke. Siddle (1995) considers hyper vigilance as a 'catastrophic failure of the cognitive processing capabilities, leading to fatal increase of reaction time (freezing in place, failure to remember training, failure to perceive important factors or irrational acts)'. Choke, a concept from sports psychology, was defined as 'a process whereby the individual perceives that his resources are insufficient to meet the demand of the situation, and concludes with a significant drop in performance' (Hill, Hanton, Fleming, and Matthews, 2009).

Driskell, Salas, Johnston, and Wollert (2008, cited in Wollert et al., 2011) have identified the following psychological mechanisms by which stress impacts performance: increases distraction and decreases focus; increases cognitive load and demands on cognitive resources; increases the intensity of negative emotions and frustration; increases fear and anxiety; increases social maladjustment.

MENTAL SKILLS TRAINING — A MODERN TOOL FOR SURVIVAL STRESS MANAGEMENT

MENTAL TOUGHNESS

A group of experts constituted in 2013 to develop a safety standard for law enforcement personnel from the US Michigan state revealed that officer safety is strongly influenced by elements like winning mindset, emotional control and situational awareness. According to

Siddle (1995), a survival mindset involves the ability to concentrate and reflex action, without hesitation, in conditions of death risk and requires self-discipline in training, the will to take the life of another if necessary, the belief in executed missions and holding of a solid values system. Grossman and Christensen (2007) list several attributes of the mindset necessary to deal with life-threatening situations: the feeling to be prepared for and even willingness to confront instances of interpersonal conflict, the avoidance of reality denial that 'bad things can happen' and clear thinking in relation to the actions to be carried out in such situations.

After studying numerous police officer-involved shootings, Blum and Blum (2004) believe that having a positive and dominant mental attitude, which implies the will to survive, is among the common factors that ensure successfully dealing with these incidents. Lindsey (1999, cited in Mayhew, 2001) claims that survival training should routinely include survival mindset development.

A winning or survival mindset and a positive or dominant mental attitude are similar concepts to mental toughness, a sports psychology concept. Miller (2012) argues that mental toughness is called warrior mindset or battle mind by other authors.

In sports psychology mental toughness involves holding a natural or developed psychological advantage that allows an athlete to cope better than his opponents with sports demands (in competition, training, lifestyle) and specifically allows him to be more consistent and better than his opponents in maintaining determination, concentration, confidence and control under pressure (Jones, Hanton, & Connaughton, 2002). Mental toughness is based on a series of mental skills (e.g. thoughts control, arousal control, attention control, motivation, self-confidence) that are interrelated although have not necessarily the same level of development (cited in Miller, 2008a).

Development and practical expression of mental skills involves the use of techniques such as self-talk, tactical breathing and visualisation. Mental skills development is made through mental skills training, a custom-designed programme which implies the systematic and consistent training, practice and application of the aforementioned techniques to attain the desired mental skills

levels. Modern training programmes for dealing with critical incidents include, like most mental skills training programmes, the following key stages: providing information, skills acquisition, application and practice. The application and practice stage, the 'practice of (mental) skills under conditions that increasingly approximate the real-world environment' (Wollert et al., 2011), is essential for mental skills achievement.

Research has shown that, depending on the individual, the stress response may be more gradual and nuanced. This finding represents the psychophysiological basis for the differences in coping and resilience (Miller, 2008b). Dienstbier (1989) used the concept of toughness to denote distinct psychophysiological reaction pattern typical for animals and people who cope effectively with stress, characterised by smoothness and efficiency of physiological arousal, such a retained reaction preventing catecholamine's depletion, important neurotransmitters that affect mood and motivation (cited in Miller, 2008b). Miller (2008b) considers that the psychophysiological argument for most mental conditioning programmes from law enforcement, emergency services and military fields consists of the fact that the (physiological) response indicating toughness or its absence interact with the individual's psychological appraisal of his ability to cope with challenge, as stated by Dienstbier.

LAW ENFORCEMENT MENTAL SKILLS TRAINING SPECIFIC ELEMENTS

The survival stress effects at physiological, psychological and performance levels are inevitable, but with the proper training they can be mitigated. Therefore, law enforcement personnel training for critical incidents designed to prepare the instant response capability in critical situations, life-threatening, with fast and appropriate actions (Federal Law Enforcement Training Centre, 2004) should be one of the important objectives of personnel training.

Mental skills training is a form of primary prevention in law enforcement operational stress management. It is an important condition for supporting effective operational performance in extreme situations, due to the survival stress performance effects.

Miller (2008a) believes that the functions of mental toughness training in law enforcement

are the optimisation of policing during progress and reduction of the chances that personnel be affected by operational stress, including by post-traumatic stress syndrome. The mental toughness skills and their training for controlling tactical stress are essential to ensure conditions for the effective management of the numerous decision-making process cycles carried out during tactical operations or even during incidents that take place in a short time (Asken, 2005, cited in Asken, 2010).

Mental toughness training of police personnel was traditionally performed implicitly or indirectly, mental toughness being a side effect of rigorous physical expectations, demanding discipline and performance standards and of reality-based (scenario) training (Manning, Laufer, Asken, & Hamd, 2011). The use of this type of training has been argued, criticised, for example, by Thompson and McCreary (2006). In such a context, Manning et al. (2011) consider that explicit mental toughness training is more useful and mention the example of the US Military Academy West Point performance enhancement programme.

Csikszentmihalyi's flow concept, regarded by many sports psychologists as the optimal mental state for performance, has been specifically applied in the law enforcement and emergency services fields by Asken (1993), Le Scanff and Taugis (2002) and Doss (2007) (cited in Miller, 2008a).

Sweet and Gannon (2011) presented a series of proposals for the mental skills training programmes designed for the development of survival and winning mindsets: embedding of the lessons learned from the survivors of fatal disasters and society's crises; use of preparatory exercises which, by virtue of their content and repetition, will form aggressiveness, determination, confidence and craftsmanship; visualisation of the dominant and aggressive response in life-threatening situations. Among the recommendations from the mental skills training field made by Grossman and Christensen (2007) to train personnel for performance in high-stress situations are the following: training in conditions similar to those in reality, repeating suitable words to prevent blockage in critical situations, preparing for recognising and acting on the psychological and physiological responses to extreme stress and violence, acceptance of

the possibility of tragic event occurrence, stress inoculation and tactical breathing.

A number of researches demonstrated the efficiency of mental skills training techniques in law enforcement and related fields, a number of which are presented by Sweet and Gannon (2011).

An important condition for the effectiveness of mental skills training to address law enforcement critical incidents is to implement integrated training, which brings together all types of training (psychological, physical, tactical) (Wollert et al., 2011; Manning et al., 2011).

ELEMENTS FOR ARGUING THE EXISTENCE OF A NEW PARADIGM IN LAW ENFORCEMENT PERSONNEL MENTAL CONDITIONING

The mental skills training techniques used in sports psychology to improve performance can be transferred to other high stress performance situations, such as those from law enforcement or military fields. Miller (2008a) notes that, in agreement with the fact that sports were always a ritualised types of fighting, most of the research and practical elements of the public safety and emergency services mental toughness training come from sports psychology.

The aforementioned author presents some characteristics of commonly used stress management techniques, which distinguish them from mental skills training techniques: tend to focus almost exclusively on physical and mental calm for preparation in relation to or for subsequent approach of stressful events; are not specifically designed for stress management during life or death critical incidents by emergency services personnel; do not use the whole range of cognitive, behavioural and physiological self-management techniques for effectively approaching life or death crisis occurring in law enforcement.

Manning et al. (2011) present a series of arguments for the practical implementation of direct mental toughness training in law enforcement: 'the current development of conceptualising and training of law enforcement and the military personnel as tactical athletes has been seen as potentially benefitting from the result of integrating psychological skills

and mental toughness training (with) physical conditioning'; 'growing body of knowledge about the interactions between the psychological and physical elements and (about) the function during high-stress police encounters'; 'description and coordination of approaches to minimise the potentially performance degrading effects of stress'; 'empirical demonstration that mental toughness and psychological skill training does indeed impact the quality of tactical performance'.

MENTAL SKILLS TRAINING THROUGH EXPOSURE TO FIGHTS IN HIGH-INTENSITY COMBAT SPORTS IN THE APPLICATION AND PRACTICE STAGE OF MENTAL SKILLS TRAINING PROGRAMMES

There are several similarities between the fights in high-intensity combat sports (which push heart rate up to 75 % of its maximum or more in fights and workouts) and law enforcement critical incidents. The main common features of high-intensity combat sports and close combat are the objective of adversary domination, deliberate injury as a means of obtaining victory, intense physical exertion and certain common fighting techniques. Regarding the last aspect mentioned, it is worth adding that the use of force continuum, applied by US law enforcement institutions, involves inclusively the use of empty hand control techniques that are taken and adapted from combat sports.

The majority of assaults on police officers are unarmed attacks, for their reduction being useful the greatest prowess in defensive tactics (Mayhew, 2001). This situation is one of the major arguments to demonstrate why mental skills training through exposure to fights in high intensity combat sports in the application and practice stage of mental skills training programmes can be a very good method for the formation, maintenance and development of mental skills. Improvements in controlling heart rate and other physiological systems have been obtained following the implementation of a standard sports psychology programme for self-regulation of arousal in combat sports in conjunction with daily training of a group of cadets from the US Air Force in modern military hand-to-hand combat by the Danskin Centre for Performance Enhancement, a part of US Kansas State University Counselling Services in 2008.

Considering the above issues, it can be anticipated that mental skills training through exposure to high-intensity combat sports fights, can be a viable alternative to, or may complete, stress exposure training through participation in event-based scenarios in the application stage. To verify this idea, empirical research is useful, first to determine whether different types of fights from high-intensity combat sports cause stress rates higher than the rates produced by different types of law enforcement event-based scenarios. This testing is particularly useful if one takes into account that, according to Wollert et al. (2011), a condition of effectiveness of training with participation in event-based scenarios is 'suspension of disbelief' in their realism. The confirmation of the previous hypothesis category requires the testing of other hypotheses: mental skill levels developed by mental skills training through exposure to high-intensity combat sports fights in application and practice stage are higher than those developed by mental skills training through exposure to event-based scenarios in application and practice stage.

CONCLUSION

Research has found that mental skills training supports optimal performance in sports competitions, and lately, increasingly more evidence is appearing of its efficiency in fields in which critical incidents occur which trigger survival stress. In such fields, this type of training is or must be specifically designed to support the efficient performance of operational activities, including during their carrying out, and has a comprehensive character as it uses the full range of cognitive, behavioural and physiological self-management available techniques. There are several reasons for considering determining the effectiveness of the mental skills training through exposure to the high-intensity combat sports fights in the application and practice stage as a useful research direction for achieving an effective operational stress management. The most important is represented by the fact that these fights are more probable to cause high stress than event-based scenarios.

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TANDEM PROJECT: DEVELOPING CULTURAL INTELLIGENCE IN POLICE TECHNOLOGY STUDENTS USING CULTURAL/ETHNIC MENTORS (*)

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Keywords: law enforcement training; cultural diversity training; cultural intelligence; ethnic/cultural mentoring; community policing; Canada.

Abstract: The Tandem Project was an experimental applied pedagogical approach designed to meet the needs of diverse community policing and training in Montreal, Quebec, for police technology students in their first year. It allows the students to develop cultural awareness, cultural competency and cultural intelligence. This approach was developed to expose students in their first year to a random selection of ethnic/cultural mentors who represent 13 to 20 minority groups of the 120 groups in Montreal. The students, when meeting with the mentors, learn basic cultural etiquette, proper intervention techniques and how to engage community members concerning a number of issues. They also learn how the community perceives the police and main barriers between the police and the community. The results are twofold; the students learn who their future clients are and what their needs are. They also learn culture-specific interaction and communication techniques as well as culture-specific de-escalating approaches. Additionally, the mentor and their community learn to overcome negative stereotypes of police and develop a level of trust. As one church parishioner from a minority community said, 'it was nice to have the police students come to our church, it shows they care.'

INTRODUCTION

As the populations in the OECD countries continue to age and national birth rates decrease there has been a political prioritising to increase immigration for population replacement. The necessity to increase immigration is required to augment taxes and fill jobs that are not being filled by the local national population. An example of population complexity occurs in Quebec (a province of Canada) which has a population of approximately 8.5 million, with a median age of 42. Presently there are a higher percentage of those 65 and older than those 15 years old and younger. Consequently Quebec needs a yearly immigration of between 50 000 to 53 000 people for growth and replacement. The targeted populations for immigration to Quebec tend to be former Francophone colonies such as Algeria, Morocco, Mali, and Haiti to name a few. The majority of these countries also maintain Islamic beliefs.

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As with Quebec, and other modern countries, immigrants tend to be attracted to larger urban economic centres where they start their new lives within pre-existing communities or historically based enclaves. Currently the main economic urban centre of Quebec is Montreal which has a population of 3.8 million and contains 120 different cultural groups. Of these groups some have fully integrated into the Quebec culture, especially by the third generation. However the vast majority of those who immigrate still maintain specific aspects of their culture of origin. One underlying broad community issue seems to be a trust in police.

The form and volume of immigration increases the role of policing from just enforcing the law, to serving, protecting and mediating various issues. This means that police training needs to prepare police students to be aware of cultural differences and de-escalating techniques while learning to gain the trust and confidence of the various ethnic/cultural groups. Policing has become very complex with numerous layers that the police have to navigate.

BACKGROUND OF THE POLICE STUDENTS

The students in the John Abbott police programme are part of one of two streams. There is the 2-year stream consisting of students who have previous college or university education or who may be switching careers from, for example, being a paramedic to being a police officer. This particular group will go through the police technology programme in 2 years. They only need to take police technology courses to acquire the diploma in police technology. The other group is the 3-year stream. They tend to have just graduated from high school, or come through a qualifying year or 'pathways' programme. When the 3 years are completed they will have a college diploma. During the 3 years, these students will take numerous other courses, such as humanities, English, history and psychology. Once the students have completed their training at John Abbott College (or other Quebec police colleges) they do a further 10 weeks' training at the Quebec Provincial Police Training Centre at Nicolet, Quebec. After this process they are then ranked and hired by either the provincial or local police sectors.

The students in the John Abbott police programme are mainly (73 %) males, with 27 % being female, the vast majority are Caucasian, with 80 % coming from a French Quebec background. In terms of exposure, 65 % of the students were not brought up in diversity, essentially they were reared in homogenous areas. The average age of the respondents was 21 with a range from 18 years old to 39 years old. From this group of students, 36 % were 19 years old and 12 % were 23 years old. Academically, police technology students tend to have a higher than normal GPA, usually in the 80 % or higher ranges to get accepted.

Generally, they have little exposure to other cultures; even those few who are visible minorities in the programme can have limited exposure to other cultural/ethnic groups and are more aware of the issues of the majority. Beyond limited exposure there is the impact of the media, family and peers which can have negative influences on the perceptions that the students have internalised and maintain.

CONTEXT OF THE DIVERSE COMMUNITY COURSE

Presently the police technology students take a course in diverse community at John Abbott College usually in their first year, which exposes them to various cultural issues ranging from domestic violence issues, issues of 'saving face', the complexity of 'honour' and awareness of body language. Although academic lectures are used, the information is combined with direct live interaction scenario-based teaching approaches to help the students navigate the 'grey' areas of trans-cultural interaction and de-escalating various situations. Finally, the course uses the Tandem Project as a key component which allows for the development of cultural awareness, cultural competency and cultural intelligence.

COMPLEXITY OF POLICING

When cities have diverse communities the complexity of community policing and serving the population becomes multifaceted. Direct lecturing in courses and scenarios, although serving as a base of knowledge, are limited in that there are no components of direct interaction with
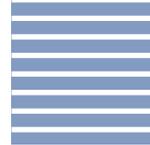
the ethnic/cultural communities. This highlights the key question of how do you start to expose police students to cultural diversity without direct interaction? In order to overcome this barrier the Tandem Project was developed.

TANDEM PROJECT

This particular project requires the volunteering of cultural/ethic mentors from various Montreal groups. For the first year of the Tandem Project we had cultural ethnic mentors from Shia and Sunni Muslims (both Arabic and black), El Salvadorian, Venezuelan, Jewish orthodox, Jewish semi-orthodox, black English Caribbean, black Haitian, Indian and South-East Asian communities to name a few. Each of the ethnic/cultural mentors was located through a 'snow ball' or networking approach. The mentors were chosen based on their desire to represent their community and be open to listening to the issues that the students have. Once the mentors were chosen, they were given a flexible outline of what was needed to be discussed and how to encourage the students to be fully engaged.

TANDEM PROJECT DISCUSSION PROCESSES

The discussion process was based on developing a rapport between the students and the mentors over a 6- to 8-hour time frame (three to four meetings of 2 hours each). This particular process allowed for both parties to openly get 'to know' each other. The second stage (second meeting) was used for the students to understand how police are being perceived by the community and the history of the community with the police. This second meeting also covered the different forms of intervention a police officer could encounter and how best to manage various situations from domestic violence, teen gang issues, and school bullying to highlight a few. The third meeting has the mentors and students finalising their discussion of issues. They also use this time to discuss preventative community approaches. The mentors also use this time to see what the students have learned. For example, one mentor asks the students at the end a simple question. What is the most important thing you can do toward someone from my community? All the

students, but one, figured it out, 'show respect'. The answer was very simple.

The final part of the third meeting is for the mentor and the students to develop an approach and intervention for a specific written scenario. This allows all parties to collaborate and develop a unifying approach to a cultural issue specific to that group. They work together to figure out how to do the best intervention possible.

Once the students have completed the first phase of the Tandem Project, they are then re-grouped into new groups. For example, students from the Jewish mentor, the black Haitian, the Sunni Muslim and those with the Indian mentor were placed into a new community policing group. For this final stage they have to identify the community needs, community overlaps and common community issues (think Venn diagram). They then develop a unique community policing approach which considers the needs of all of the communities. They also have to attempt to anticipate potential problems within this community and develop measures to ensure peace.

RESULTS

The Tandem Project placed 133 police technology students with cultural/ethnic mentors from a number of Montreal's cultural communities. All three participants, the mentors, the students and the community developed a more positive perspective about each other. The overall interaction allowed the students to learn how to interact with other cultures. For example, the students learned how to make a proper intervention for domestic violence calls, and how to properly split the couple for interviews. The students also learned how to initiate and maintain cross-cultural- and cross-gender-based discussions and interventions. The students became more aware of cross-cultural approaches to show respect, from a simple act of apologising for having boots on during an in-home intervention to showing proper respect in greeting their clients, especially the elders.

The host mentors and their community also showed positive attitudes and perceptions with a broad consensus that the students being exposed at the beginning of their training should be able to withstand contamination from senior
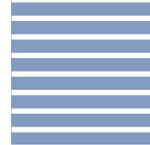
officers. The communities also have hope that a relationship will have begun which will grow over time. As one police student who was invited to participate in the black congregation Sunday service found that after the service a teenager from the black community told him, 'I never thought I would see a white, French police officer in my church, so let's talk about why you are here.' The two talked for the next hour and realised that they were not that different. The beginnings of such a dialogue, the realisation that we are all the same, we all want peace in life, a good job, and to enjoy life is the essence of the Tandem Project, to lower barriers, change stereotypes of all parties and overcome discrimination from both sides. Hopefully, in the future, the students will remember their interactions and they will determine, in part, their future interactions.

The final part of the course and the Tandem Project is to have the students develop their own cross-cultural scenario with the proper or correct resolution. From the last 2 years I have seen considerable insight and increased awareness of the complexity of cross-cultural issues. The students, in general, have evolved from cultural awareness to cultural competency to cultural intelligence. The increased depth of awareness of community issues and barriers has been significant in that the students more fully understand their clients and their role as police officers.

The final note and evolvement of the Tandem Project to be implemented in the autumn of 2014, with consulting from various mentors, is the development of a scenario system which will be based on reverse 'empathy training'. The scenarios will reverse the traditional roles of the students and those from the ethnic community. Essentially it will be the individuals from the ethnic communities playing the role of police while the police students will be the minority in specific situations. This process will allow the police students to experience what others experience from the police.

COOPERATIVE POLICING IN THE CITY: VOLUNTARY CIVIC ENGAGEMENT AND THE CITIZENS' PERSPECTIVE

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Keywords: security; police; civic engagement; subjective security; Germany.

Abstract: This paper originates from a comprehensive research programme which evaluates the context of different policing roles in organisations life of the police, public life, the citizens' perception of this presence, and the potential impact on subjective security. The aspect of voluntary policing is highlighted.

INTRODUCTION

German police forces are constantly confronted with political, economic, social, technological, and legal changes which they have to respond to despite clumsy administrative machinery (cf. Van den Born & Witteloostuijn, 2011; Van den Born et al., 2013). This coincides with a shifting security market in which the federal police forces ([1]) and the state police forces are no longer exclusively in charge of maintaining and producing security and order. Additional stakeholders appear in conjunction with the police, becoming a complementary agent for security and order. One such agent is the 'voluntary police', by which members of the community are involved in police work. This paper originates from a comprehensive research programme which

evaluates the context of different policing roles in organisations life of the police, public life, the citizens' perception of this presence, and the potential impact on subjective security. In the following, the aspect of voluntary policing is highlighted ([2]).

COOPERATIVE SECURITY POLICY IN THE CITY

The research project 'Cooperative security policy in the city' ([3]) evaluated urban security ([4]) and crime prevention cooperation in 16 German municipalities in four specific areas: youth as delinquents and victims; domestic violence; drug abuse; and 'policing presence' (Polizierende Präsenz). The latter sub-project investigated

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([1]) The federal police (*Bundespolizei*) is a national available police force (in 2013: about 40 000 employees of which 32 000 are police officers (*Bundespolizei*, 2014) and was known before 2005 as the German border police.

([2]) This aspect of voluntary policing was presented at the international conference on 'Community-based urban violence prevention: strategies and experiences' organised by Globus — The Global Urban Studies Institute at the Freie Unitversität Berlin on 6 June 2014.

([3]) In German, *Kooperative Sicherheitspolitik in der Stadt* or 'KoSiPol' was a joint research project funded by the Federal Ministry of Education and Research between 2010 and 2012, and forms part of the larger research programme between five partner institutions: the Westphalian Wilhelms-University of Münster (WWU, North-Rhine Westphalia), the European Centre of Crime Prevention in Münster (EZK, North-Rhine Westphalia), the Ernst-Moritz-Arndt University of Greifswald (EMAU, Mecklenburg West Pomerania), the University of Applied Sciences in Wiesbaden (HfPV, North-Rhine Westphalia), and the University of Applied Sciences for Public Administration and Management of North Rhine-Westphalia (FHöV). For further project findings, see Frevel, 2012.

([4]) The German language does not differentiate between security and safety.

the effects of the abovementioned shifting constitution of the (German) security market — focusing in particular on policing presence, which is defined as the visual appearance, the concepts, and profiling effects of organisations and individuals in charge of producing and maintaining order and security in public, semi-public, and private space (Groß & Hirschmann, 2011: 1).

Relevant to this study is the state police whose responsibilities extend to the defence of threats, crime control and prevention as well as the insurance of road safety (cf. Frevel, 2008: 3). Police activity usually starts when there is a potential or actual threat to (public) safety, security, and order (cf. Singer, 2006: 3). The German state police forces (Landespolizei) represent a separate authority for each of the 16 German states (Länder). Hence, each of the 16 German states has its distinct police legislation (⁵). In addition,

municipal regulatory agencies are also in charge of producing and preserving security and order and act as independent authorities next to the federal and state police forces. Therefore, there are independent specifications with regard to administrative and police legislation which influence organisations, terminologies, jurisdictions, and forms of collaboration (cf. Hirschmann & Groß, 2012: 17).

Figure 1 illustrates the plurality of stakeholders producing security in Germany. It shows that public safety and security is no longer an exclusive responsibility for the police forces but also extends to the voluntary and commercial sectors. Even though the German state attempts to comply with its obligations to provide security and safety for its population, a shifting of power is determined due to the transfer of certain typical policing tasks to the abovementioned actors (cf. Hirschmann & Groß, 2012; Van den Brink & Kaiser 2007: 5).

Figure 1 — **Organisation Chart**

Private sector, commercial bias	Local level			Federal and regional level	
Private Security Sector	**Public Order Office**	**'Freiwilliger Polizeidienst'(*)** **Security guards (**)** **Voluntary order and security service (***)** **Security partners (****)**	Police	**German Federal Police**	
Security services (e.g. physical protection & plant security, mobile services such as mobile patrol, personal security, cash and valuable transport, observation and control/surveillance of the local public transport, etc.)	'Ordnungspolizei' (police for public order) or 'Stadt-polizei' (city police, Hessen), general or local government office for public order			**Federal Criminal Police Office**	
				State police forces	
		(*) Hessen, Baden-Württemberg (**) Saxony, Bavaria (***) Lower Saxony (****) Brandenburg		**'Wachpolizei'** (Hessen)/ **Centralised target protection'** (Berlin)	

Source: Hirschmann & Groß 2012: 10; amendments by the author. Highlighted actors have been subjects of investigation.

(⁵) For an overview of German police forces see Groß, Frevel & Dams, 2008.
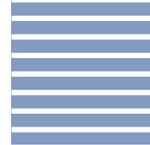
Some argue there is reorganisation of the state's monopoly on the use of force since traditional police are complemented by further stakeholders (cf. Behr, 2002). Still, national and state protagonists are the main guarantors for keeping public space 'clean' and safe — even when the trend of increasing privatisation of public spaces and with it the natural separation of public and private control sectors has also become blurred. To complicate the situation further, the classic 'third sector' has also become involved. Publicly organised voluntary associations like the 'Voluntary Police Service' (Freiwilliger Polizeidienst) in Baden-Württemberg and Hessen have entered the scene and will be the main focus for the remainder of this paper.

There are further regulatory agencies such as the Hessian city police (Stadtpolizei) which is the executive field service of the municipal office of public order (Ordnungsamt) and, not least of all, commercial private security companies (cf. Hirschmann, 2013: 35; Hirschmann & Groß, 2012: 9; Mähler, 2009: 106; Behr, 2006: 54; Beste, 2000: 299). Thus, questions arise about a possible new separation of powers in society (cf. Gusy, 1999: 117), including also the privatisation of social control (cf. Beste, 2009: 183), the privatisation of certain tasks which have been originally executed by the police (cf. Obergfell-Fuchs, 2000), a commercialisation of security and order, as well as the professionalism and specialisation of police work (cf. Behr, 2002: 92). In the sense of Habermas' (1985) 'The new complexity' (Die Neue Unübersichtlichkeit) one can observe a new complexity with regard to security and safety (cf. Hirschmann & Groß, 2012: 133).

The common research questions for the sub-project 'policing presence' — which equally apply to the voluntary policing interest — were the following.

- Organisation: In which way did national, municipally, and commercially acting stakeholders cooperate and how did the stakeholders perceive and accept each other?

- Topography: Which stakeholder is operating in which space and under what circumstances?

- Semantics: What were denominations introduced for the different players and why?

- Iconography: What symbols and visual appearance were chosen for the protagonists (for instance service clothes and colouring)?

- State's monopoly on the use of force: What is the balance between the apparent withdrawal of state powers and of the uprising actors?

VOLUNTARY CIVIC ENGAGEMENT IN POLICING: CITIZENS IN UNIFORMS

The voluntary police service (Freiwilliger Polizeidienst) has been available in Baden-Württemberg since 1963 and has existed in Hessen since 2001. It supports and complements the actions of police forces and is intended to strengthen internal security. The expectations in involving ordinary citizens in non-essential but similar policing tasks for public security include:

- to increase the number of visible police in public in order to raise the (subjective) feeling of security among the population;

- to improve the relationship between police representing the state law enforcement agency and the citizens.

This concept, partly critised as 'hobby horse policing' was introduced by conservative parties (Christian Democratic Union — CDU) in both states. However, the implementation of the concept differs from one state to another in essential points as will be seen below. The volunteers in Hessen are intentionally called 'voluntary police assistants' (Polizeihelfer) while those in Baden-Württemberg are known as 'police volunteers' (Polizeifreiwilliger). It has been shown that the type of description can be associated with the corresponding volunteering activity.

POLICE VOLUNTEERS IN BADEN-WÜRTTEMBERG

Police volunteers in Baden-Württemberg act as regular police officers according to the provisions of the Baden-Württemberg Police Act. Therefore, they are obliged to engage in law enforcement when they are on duty (Art. 6 par. 1, FPolDG). The wearing and use of firearms (Walter P5, calibre 9mm) is permitted but only on duty
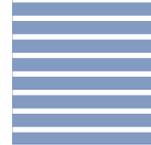
which on principle is done as 'double patrol' in pairs with a regular police officer. Carrying a gun is justified on the arguments that volunteers can get into a situation in which they have to protect their own lives or those of others (Polizei Baden-Württemberg, 2013).

The service uniforms of the police volunteers were almost identical to those of regular police officers. The only difference was the epaulette and the inscription *'Freiwilliger Polizeidienst'* on the breast plate. However, in 2007/08 the police force in Baden-Württemberg changed their uniforms (including the colouring) which did not extend to the police volunteers. Hence, the primary visual unity of both types of services ended. Like every citizen, police volunteers are endued with the so-called everyman's rights (⁶) which allows them, in accordance with the general principles of reasonable interference, to detain potential offenders until the arrival of a regular police officer (cf. Czepluch & Eschenbruch, 1995, 205f). In this regard, they can be seen as part of community-based crime prevention (for instance when they patrol schools, playgrounds or other public facilities) but also regressive in the sense of law enforcement (Art. 1, FPolDG).

Police volunteers are not employees or civil servants, but they can request a compensation fee of EUR 7 per hour (Art. 7, FPolDG). For reasons of cost-effectiveness they have to serve a minimum of 200 hours per year outside their actual occupation. Before starting their honorary duties they pass a 2-week training (⁷). Applications are open to German citizens or, when needed, persons with foreign citizenship. The minimum age is 18, while the upper age limit is 60. Applicants need to be in good health, enjoy a good reputation, be constitutionally faithful, show no serious criminal records, and care for order (Art. 61 StGB). The selection of the police volunteers is, in the end, the responsibility of the respective police station.

In 2010, this voluntary service was operating in 37 cities in Baden-Württemberg and the number

of volunteers was about 1 250. The change of government in 2011 (⁸) resulted in the dissolution of the voluntary service with a simultaneous increase in the number of the regular policing staff until 2016 (Baden-Württemberg 2011). Since 2013, no patrol activities by police volunteers are allowed any longer (cf. Bäßler, 2013).

VOLUNTARY POLICE ASSISTANTS IN HESSEN

In Hessen, the voluntary police assistants conduct patrols in teams of two without being escorted by a regular police officer and can only go on patrol by police order (Art. 6, par. 1, HFPG). They also have *'Jedermannrechte'* and, additionally in line with their respective assignment, the same rights and obligations as regular Hessian police officers (Art. 1, HFPG). They are not allowed to carry or use firearms (Art. 2, par. 1, HFPG). More than 700 voluntary police assistants are still active in around 100 cities and communities in Hessen. With a maximum of 20 hours of honorary office per month outside their actual occupation, they can request a compensation fee of EUR 7 per hour (Art. 8, HFPG). No employment benefits or integration into the civil servant status are permitted. Training is realised on the basis of a 50-hour uniformly-designed curriculum at the Hessian Police Academy (Art. 6, par. 2, HFPG)(⁹).

The Hessian voluntary police service acts preventively, being employed for patrol duties in public facilities, residential, and pedestrian areas; they likewise support the police in the field of physical services; and lastly conduct administrative regulations (Art. 1 par. 3 HFPG). The voluntary police assistants wear uniforms that are nearly identical to those worn by regular police officers (see Figure 4); only the designation *Freiwilliger Polizeidienst* on their breast plate, the headpiece, and the epaulette mark the differences. A mobile phone as a communicational tool, an ID card, and a can of pepper spray for self-defence represent their equipment.

(⁶) *Jedermannrechte'* according to Art. 127, par. 1 German Code of Criminal Procedure.

(⁷) Forty-four hours of theory, which covers basics in police law, criminal law, administrative law, police sanctions, traffic supervision, and regulation; a further 40 hours of practice in which they are concerned with behavioural training, conducting police actions, dealing with the radiotelephone, and self-protection; 16 hours of firearm training; 32 hours of demand-oriented practical introduction; and 18 hours of further education per year are likewise required.

(⁸) Change from a conservative government (CDU) to a green/red coalition (Bündnis 90/Die Grünen — SPD).

(⁹) The curriculum includes basics in police law, criminal proceedings law, administrative law, civil rights, techniques of negotiation, fundamentals in self-protection (including the use of pepper spray), and service operations.
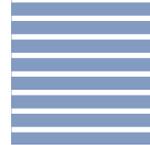
Applicants for the honorary office have to be in good health, have a minimum age of 18 years and not be older than 65 years, be able to speak and write German, and likewise to produce a school leaving certificate, or a completed professional education diploma. They need to be constitutionally faithful, show no serious criminal records, and care for order (Art. 61, StGB). Similar to Baden-Württemberg, the selection of voluntary police assistants is the responsibility of a commission which is composed of representatives of the on-site police and the municipality.

Even though some political parties (SPD, Bündnis 90/Die Grünen) in Hessen refuse the voluntary police service and demand its abrogation other political parties (for instance, the CDU) wish to restock the honorary office. Within the current coalition agreement of Hessen it was noted that the decision on the continuity of the honorary office will be made after performing an evaluation which has already been accomplished. According to unofficial information, the service will be maintained, but an increase has not been decided, nor is it desired.

RESEARCH METHODS

Aiming at a qualitative content analysis (Mayring, 2010), partially structured interviews were conducted between October 2010 and February 2011 with members of the respective security apparatuses and politicians (borough councillor, local politician) in four German cities of different sizes, geographical locations and legislations. Table 1 shows the quantitative distribution of the interviews conducted, and specifies which model in which city has been examined.

Table 1 — **Qualitative sample (interviews)**

	N total	Sex male	Ø-Ag (σ = standard deviation)
Town 'M' (analysing '*Stadtpolizei*')	12	12	44 years (σ = 7,4)
Town 'N' (analysing Hessian '*Freiwilliger Polizeidienst*')	9	9	54 years (σ = 8,7)
Town 'O' (analysing Baden-Württemberg '*Freiwilliger Polizeidienst*')	8	8	50 years (σ = 5,8)
Town 'P' (analysing 'private-police-partnership')	8	8	47 years (σ = 8,6)
In total	37	37	

Source: Hirschmann & Groß 2012: 43.

Furthermore, quantitative data collected in the same cities by the consortium partners at the Ernst-Moritz-Arndt University of Greifswald on the sub-project '*Polizierende Präsenz*' ([10]) were included in the analyses. Table 2 indicates the number of evaluated questionnaires by age and sex of the respondents. The samples are not representative, but the data findings can be interpreted as a trend picture.

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[10] Citizens' survey on the 'Subjective sense of security'. For further findings on the citizens' survey see: Bornewasser & Köhn, 2012.

Table 2 — **Citizens' survey** *Polizierende Präsenz*

	N total	Sex		Ø-Ag (σ = standard deviation)
		male	**female**	
Town 'M' (analysing '*Stadtpolizei*')	233	(114) 49 %	(119) 51 %	37 years (σ = 19.0)
Town 'N' (analysing Hessian '*Freiwilliger Polizeidienst*')	200	(83) 42 %	(117) 58 %	33 years (σ = 16.5)
Town 'O' (analysing Baden-Württemberg '*Freiwilliger Polizeidienst*')	224	(87) 39 %	(137) 61 %	44 years (σ = 18.1)
Town 'P' (analysing 'private-police-partnership')	274	(127) 46 %	(147) 54 %	43 years (σ = 16.0)
In total	931	(411) 44 %	(520) 56 %	

Source: Hirschmann & Groß 2012: 44.

All findings on '*Polizierende Präsenz*' are published in Hirschmann & Groß 2012. As the focus of this paper is on voluntary civic engagement, illustrated by the *Freiwilliger Polizeidienst* in Hessen (medium-sized Town 'N') and Baden-Württemberg (small-sized Town 'O'), and the impact of that engagement on citizens' perceived feeling of security only the survey data and the interviews of those two cities will be presented below.

RESEARCH FINDINGS: POLICING PRESENCE AND THE CITIZENS' PERCEPTION

In addition to general questions about locals' feelings of security and the public's confidence in security stakeholders, specific information about the *Freiwilliger Polizeidienst* were requested at the citizens' survey. Respondents were asked about their knowledge and perceived effectiveness of police officers and volunteers. The answers are summarised in Table 3:

Table 3 — **Citizens' perspective**

	Town 'N'			Town 'O'		
	%	$\overline{x}$	σ	%	$\overline{x}$	σ
Voluntary citizens' commitment for police tasks is essential.	50.0	2.58	1.0	64.2	2.22	0.9
Only the police should take care of security in Germany.	48.7	2.42	0.9	48.4	2.45	1.0
Next to the police, private security services should be available.	67.2	2.20	0.9	72.8	2.04	0.8
Only police forces aren't sufficient to assure public security.	62.3	2.23	1.0	68.8	2.07	0.9
The municipal administration in my town is taking care adequately of security.	56.4	2.45	0.8	65.2	2.26	0.7
It is difficult to distinguish between the distinct uniformed stakeholders who are taking care of public security.	38.8	2.78	1.0	29.0	2.93	0.8
The term 'Police' should only be used by the operational police and not by other stakeholders.	69.8	2.05	1.0	69.1	2.04	1.0
Citizens' willingness to get involved with the producing of security in the city.	46.3	2.58	0.8	56.1	2.43	0.9

$\overline{x}$ = arithmetic mean; = standard deviation; % (valid) = agreement (scale 1 & 2)

Two thirds of the questioned citizens believed that public security cannot be guaranteed by police forces alone; therefore, they deemed private security agencies necessary as well. However, almost half of the respondents represent the idea of the state's monopoly on the use of force by supporting the statement 'only the police should take care of security in Germany'. Two thirds up to three quarters of the interviewees prefer a stronger separation between the term 'police' and similar concepts (cf. Groß, 2014: 14). This information is of particular interest in relation to volunteers and some administrative staff in the municipality bearing not only a visual but also a semantic resemblance to the proper state police such as Stadtpolizei or Freiwilliger Polizeidienst (see Figure 2). Constitutionally, the term Polizei only refers to the executive organ of the government. It may be assumed that the introduction of such complementary designations has been done on purpose in order to produce a close connection to the regular police authority. The public seem to disagree with this practice as it arouses substantial confusion.

Figure 2 — **Confusing use of the 'police' label as attractive source of authority**

Wach**POLIZEI**	Stadt**POLIZEI**
civil employees at the police	*executive field service of the office of public order*

Bundes**POLIZEI**	(Landes)**POLIZEI**	Freiwilliger **POLIZEI**dienst
former German border police	regular police	citizens' in uniform

Source: Own compilation.

The confusing use of the term 'police' was evaluated by the interviewed stakeholders differently: in town 'N' for instance, there seemed to be less concerns as long as the assigned (limitations) of competences were respected. The semantic closeness to the police term was considered to be potentially dangerous where citizens approach voluntary police assistants with requests that the same could not meet. To avoid possible confusion one interviewee of the local government proposed the term 'citizen with special tasks' (Hirschmann & Groß, 2012: 86). However, as noted in Town 'O', a close association with the legitimate '*Polizei*' was thoroughly seen as essential where individuals are being used for reinforcement to the operational police force on the street. This is particularly important when they act — with some limits — on behalf of police officers in the sense of the Baden-Württemberg police law. In that case they need to be recognised as police officers — both by name and by appearance.

As it was stated before, the multiplicity of stakeholders produces a complex pattern of security and order production in Germany. Even if the survey data in Table 3 show that only 30 % to 40 % of the citizen respondents have difficulties distinguishing between the various uniformed protagonists, it can be assumed that the figure still is an under-representation considering that many respondents do want to admit that they do not know the difference (cf. Groß, 2014: 14).

Asking citizens in town 'N' and town 'O' if they knew the voluntary police service got different responses (see Figure 3): in town 'O', police volunteers are unknown to the majority of the survey respondents. In contrast, in town 'N' the voluntary police assistants are known by two thirds of the respondents. A possible reason could be the amount of volunteers in those cities. At the time of the survey, there had been 25 citizens and an extraordinary voluntary police assistant in town 'N'. It was apparent from discussions with members of the *Freiwilliger Polizeidienst* in town 'N' that the voluntary office became accepted by the citizens with increasing duration.

The *Freiwilliger Polizeidienst* in town 'O' had been introduced in the 1960s as part of the general development in Baden-Württemberg. The police station in town 'O' had five police volunteers available at the time of the survey.
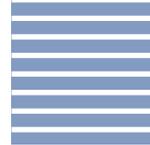
Figure 3 — **Citizens' knowledge of the stakeholders**
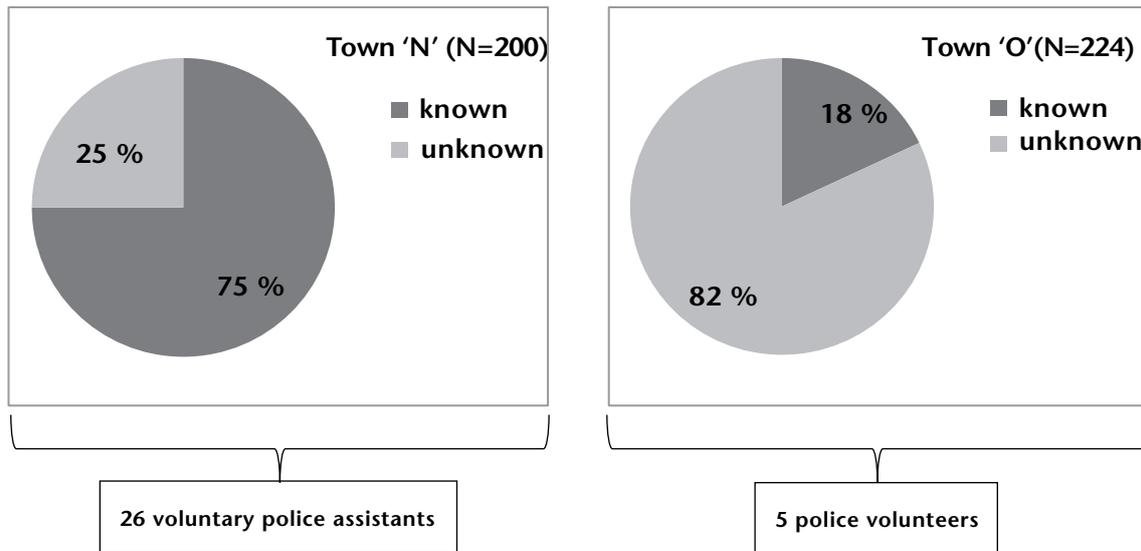
Source: Hirschmann & Groß 2012: 49; amendments by the author.

As the police volunteers in town 'O' performed their service together with a regular police officer in a two-man team and were clothed almost identically (including carrying a gun) the lack of distinctness could be another reason for the low level of awareness. The police volunteers were just not being recognised as what they really were: non-professional policemen in uniforms nearly identical to those of the police. Citizens normally only perceive two persons in uniform as some of the interviewed stakeholders in town 'O' stated. Similar to the semantic proximity, the uniform unity was seen as helpful, if not necessary when considering the type of actions they could get involved in. Thus, it was clearly stated: as long as the police volunteer is used to enhance the police sub-unit, they have to be treated like a police officer. Then the question arises as to whether citizens tended to boycott demands spoken by police volunteers. The answer is simple and is closely linked with the citizens' expectations. If there is no observable distinction between 'real' and 'lay' police, both earn the same respect (or disrespect) from the citizens.

Figure 4 — **New hessian uniforms since 2008 (parka from the front)**

*Source:* Hirschmann & Groß, 2012: 88 (photo: Nathalie Hirschmann).

Starting in 2005, state police forces ([11]) carried out a uniform reform, exchanging the uniforms of the operational police which also altered the colouring ([12]). Originally the colour of the uniforms related to responsible authority: beige-green belonged to the state police, light-blue was the colour of the voluntary police service and dark blue or black were the uniforms of the private security sector ([13]).

As a consequence of the reform, it has become difficult to distinguish between state police and alternative security providers. But just the missing differentiation seems to be helpful that this 'new type of police' for public order (cf. Söllner, 2001: 35; Zimmermann, 2005: 111) is getting accepted by the urban population. At the same time, by blurring the visual distinctions, an inflated image of police presence in public is created — intentionally or not. There are arguments for both interpretations. In an epoch of shrinking public funds the police can uphold a certain deterrent visibility which may help to maintain public order at a lesser cost.

Personal security and safety is an intangible right which can only be perceived by citizens indirectly via several (subjective) indicators, such as their personal feeling of safety (Groß, 2014: 14). Figure 5 shows clearly that more than 80 % of the survey respondents (citizens) feel safe in their district. As expected, the survey participants indicated (on a scale ranged from 1 'very unsafe' to 4 'very safe') to feel safer during the day (tendency of 'very safe') than at night (still a tendency to 'pretty safe'; see Table 4).

Figure 5 — **Feeling of safety in the district (in percentages)**
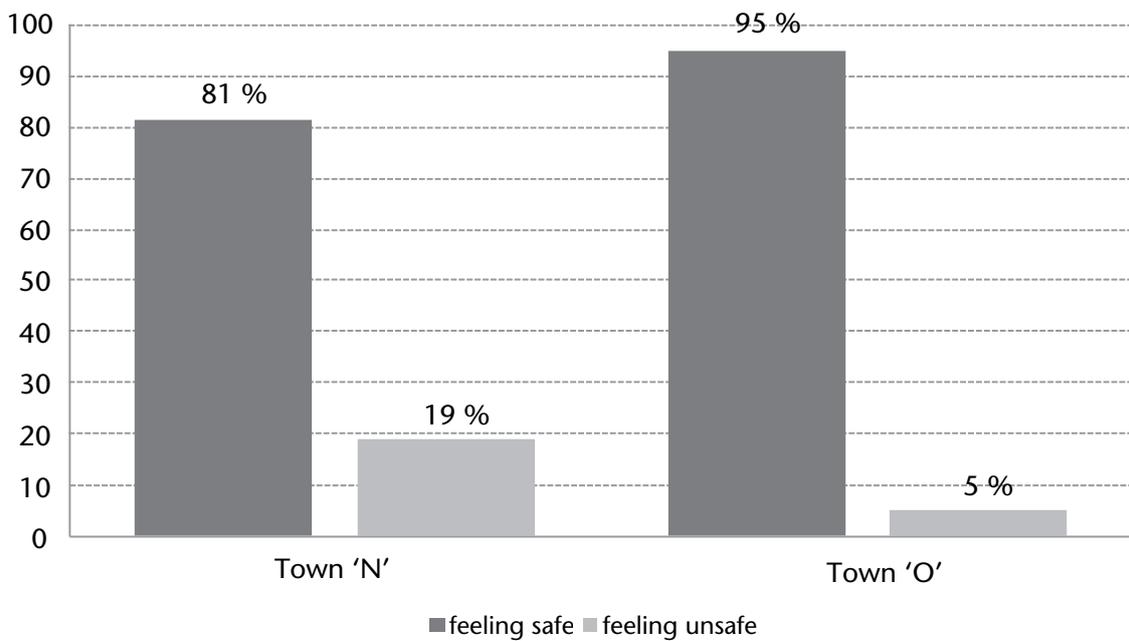
Source: Hirschmann & Groß, 2012: 45.

([11]) Bavaria and Saarland were exceptions.

([12]) Apart from the wearing comfort some interview partners assumed the uniform unity is also a result of a transnational standardisation of the visible policing presence.

([13]) In this context: Article 12 of the guard regulation states that the danger of confusion between the appearance of private security and police needs to be eliminated, a fact which is no longer excluded.
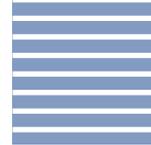
Table 4 — **Arithmetic means of the feeling of security by the time of day**

	Town 'N'	Town 'O'
Safer during the day	3.53	3.69
Safer at night	2.77	3.05
On a scale ranged from 1 'very unsafe' to 4 'very safe'.		

Source: Hirschmann & Groß 2012: 45.

The survey respondents were also asked about security- and safety-producing factors (see Table 5). Against the background of the demand for more uniformed players on the street, the following result appears surprising: the visible presence of policing protagonists is no crucial factor to increasing and positively influencing the feeling of security (an effect of acclimatisation? a feeling of monitoring and control?). Rather structural measures and having a good view of a space are seen as more meaningful. Furthermore, technical systems (alarm systems, video surveillance) have little influence on perceived security. Thus, one can conclude that technical systems serve to only minimally increase the personal feeling of security and safety; those systems are rather used by security agencies for the clearing up of incidents (cf. Hirschmann & Groß, 2012).

Table 5 — **Security-/safety-producing factors**

To feel safer outside if…	Town 'N'			Town 'O'		
	%	x	σ	%	x	σ
…places are well-lit.	86.7	1.77	0.8	85.4	1.73	0.8
…many people are on the street.	81.2	1.84	0.8	76.7	1.97	0.9
…places are well manageable.	89.2	1.74	0.8	78.8	1.88	0.9
…there are easily accessible options to get away.	68.4	2.13	0.9	68.7	2.12	1.0
…there are emergency response facilities (phone, alarm system) available.	50.3	2.48	0.9	53.5	2.41	1.0
…find oneself in a confident environment.	85.3	1.77	0.9	83.3	1.80	0.9
…video cameras are installed for surveillance.	37.1	2.78	1.0	48.2	2.55	1.0
…there are uniformed people on the street.	56.3	2.39	1.0	67.0	2.20	1.0
= arithmetic mean; = standard deviation; % (valid) = agreement (scale 1 & 2)						

Source: Hirschmann & Groß 2012: 46.

Lange and Schenck (2004: 313f) refer to an observed dilemma that the subjective feeling of security and the real vulnerability do not need to match and are positively influenced by implication. On the contrary, for instance, a reinforcement of police presence in quiet and calm residential areas may contribute to feeling more insecure in one's own district because it could be assumed by the residents: 'Something is wrong! Why else should there be so many police on the beat?'

CONCLUSION AND DISCUSSION

The practice of voluntary police services has been evaluated in two cities, one in the German state of Baden-Württemberg and the other in the state of Hessen. The two operate on different models. In Baden Württemberg, the voluntary police service was introduced some 50 years ago and was implicitly incorporated into the police force, but is currently being phased out. The police volunteers have similar powers as regular police officers; both work in pairs side by side when they go on patrol. Because both are armed and wearing almost identical uniforms, unprepared citizens could not distinguish easily between the two. In
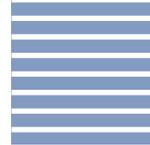
Hessen, the voluntary police assistants also have uniforms similar to the ones that are used by the regular police, but the two do not merge on duty and each of both types go on patrol in separate groups. The volunteers do not carry arms and their principal function is to increase the visible policing presence in the street and to serve as a communicative interface in order to improve the relationship between citizens and the traditional police. The volunteers are more 'civilians' than police officers; nevertheless, the voluntary police service is institutionally integrated and organised by the police.

According to our survey, the respondents felt safe in their neighbourhood district in both towns visited. However, the perception of security and safety depends on many different factors. Other data from the research do not confirm the assumption often voiced by public authorities or politicians, that a higher policing presence would increase the citizens' feeling of security and safety in general. On the contrary, the survey results suggest that a larger number of uniforms visible in public alone do not necessarily correlate with a higher perception of security. Therefore the decision to assimilate visual ('iconography') and semantic appearance of commercial and voluntary service providers with that of state police seems to be unlikely to lead to a higher perception of security by citizens. It may even turn out counter-productive to that aim when the 'dressed-up' commercially acting security agents and the 'hobby horse policemen' cannot provide the protection that the public, unable to distinguish between the different forms, expects from them. Hence, a clear differentiation of the various protagonists (especially appearance, used terms) is recommended in order to clearly indicate responsibilities as well as competences and to prevent confusion of roles.

Basically, there is no categorical objection against citizens playing a more active part in the field of policing prevention such as it is done with the model in Hessen [14]. Caution is advised if these concepts are used for compensation as a result of miscalculations or monetary shortages (in the sense: what you buy is what you get and do you really want what you buy?).

The plurality of agents of security providers, according to our results, does not challenge the state's monopoly on the use of force as long as the powers of each stakeholder are clearly defined, commonly known and respected.

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[14] Especially when following the basic idea pronounced by Eduard Lintner, Parliamentary State Secretary between 1991 and 1998 at the German Federal Government Department: 'Citizens do have a joint responsibility, they even are obliged to contribute' (translated by the author; Innere Sicherheit 4/1992 cited in Weichert, 1995: 272).

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FOREST ARSONISTS:
CRIMINAL PROFILING AND ITS IMPLICATIONS
FOR INTERVENTION AND PREVENTION

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Keywords: forest arsonist; criminal profiling; Portugal; southern Europe; forest fire prevention.

Abstract: The main aims of this study are the characterisation of criminal, psychological and social aspects of the Portuguese forest arsonists and the identification of their most important criminal characteristics. The research variables include criminal behaviour, socio-demographic and psychological and juridical-penal aspects. Results from a sample of 452 offenders show a typology characterised by four types of forest arsonists: instrumental-retaliatory; instrumental-beneficial; expressive-clinical history; expressive-fire attraction. The subsequent need for differentiated intervention and prevention strategies is discussed.

INTRODUCTION

Research shows that forest fire represents about 10 % of fires occurring annually (Anderson, 2010). Research also shows an incidence of intentional or negligent arson as around 13 % and 20 % in forest fire causes — the other identified causes being natural ones (Bushfire, 2010). In southern European countries, forest fires represent a problem with a strong social and economic impact. In order to develop appropriate prevention and intervention strategies, it is essential to develop studies to characterise this phenomenon.

This paper presents data from a research project carried out in Portugal by the Escola de Polícia Judiciária and the Polícia Judiciária, with the purpose of studying the individual and social characteristics of the forest arsonists. A similar study is being developed by the Spanish police (Guardia Civil) and it is expected that the two research teams will be able to compare results that can be used in a wider context, that is, by

other southern countries in Europe having this type of problem. This paper presents the most important results that have been obtained so far in Portugal and is organised in two parts: the first part discusses, in general, the psychological, social and behavioural variables that may explain the arsonist criminal conduct and tries to set up a specific offender's typology; the second part presents and discusses the main results of the Portuguese forest arsonist criminal profile project.

ARSON AND
HUMAN BEHAVIOUR

An interest in fire is something that occurs in humans very early. Studies made on human behaviour related with reaction to fire have shown a natural interest in fire in very young children. Nurcombe (cited in Barker, 1994) said that children aged 2 and 3 years already show such interest. Block and collaborators (cited in Barker, 1994) consider that an interest in fire may arise
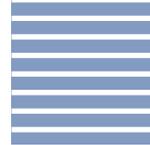
at between 3 and 5 years of age. Regardless of the age in which a special interest in fire appears, Lowenstein (2001) suggested that causes associated with arson include family problems, disruption of the personality or neurological predispositions, among others, which explain the appeal to use fire with a harmful intent.

Bearing in mind that this research refers to the study of forest arsonists' behaviour, a broad knowledge on the psychological, motivational, cognitive and social aspects of the individuals who commit this type of crime is important to understand the psychological processes they use to interact with the fire (Canter, 1990). Fineman (1995) argues that the arsonists' behaviour is influenced by individual, family, social and environmental factors. A study made by Geller (cited in Lowenstein, 2001) divided the arsonists into four categories: arsonists without any kind of disorder; arsonists with mental disorders; arsonists with medical or neurological disorders; and juvenile arsonists.

Arsonists' behaviour is often confused with pyromania. In psychological terms, it is important to clarify that pyromania explains just a small group of arson cases. Pyromania is categorised by an impulse to deliberately start fires as a way of relieving tension and typically includes gratification or relief afterward. Pyromaniacs feel fascination, interest, attraction and curiosity towards fire and its consequences, as well as pleasure and gratification after triggering fires. Despite this impulsiveness, pyromaniacs present some preparation before committing a crime. These individuals have a distinct behaviour from those who start fires because of psychosis, personal, monetary or political gain, or for revenge (APA, 2002). Thus, the main difference between pyromaniacs and arsonists refers to the presence, in the second group, of an instrumental motivation linked to concrete actions such as monetary aspects, criminal activity occultation and expression of an ideology, revenge, anger or even hallucination (APA, 2002).

Individuals with this kind of disorder are often regular observers of fire, usually begin false fire alarms and show interest in the mechanisms of fire combat. Therefore, their conduct presents a certain incongruity. If, on one hand, excitement by fire brings them to look for employment or apply themselves as volunteers in fire-fighting organisations, on the other hand, they are indifferent to the consequences fire can cause

to life or property and may even feel happiness facing the devastating results caused by fires (Barker, 1994). It has to be noted that research shows that the presence of pyromania is rare as an intentional cause of forest fire (Anderson, 2010).

ARSON AND CRIMINAL PROFILES

As already mentioned, it is possible to identify several explanations for arson as a criminal behaviour, which leads to the belief that there are different types of arsonists. Several studies present this conduct as a crime against property since the most important goal of the arsonist is the destruction of property (Canter & Frizton, 1998). Other studies define arson as a crime against persons since arsonists may have a person or a group as a specific target (Canter & Frizton, 1998). Geller (cited in Canter & Frizton, 1998) characterises this behaviour as a form of emotional expression because it is used as a way to communicate a desire or a need and is usually present in individuals who have different type of disorders.

According to Canter and Fritzon (1998), the arsonists should be seen as individuals who cannot have the impact they want by other means. A fire is a strategy used by the arsonist to achieve his goals. This kind of behaviour is explained by difficulties in the resolution of interpersonal problems and limitations in resisting to frustration in social contexts. In this perspective, the arson can be seen as a process of destructive interaction with the world. In this kind of criminal behaviour it is possible to identify two different types of targets: 1 — an internal source, when the target of the fire is linked to personal or social identity; 2 — an external source when the target of the fire is associated with an external object. In this crime it is also possible to make a distinction between acts based on motivational aspects: 1 — the expressive motivation is based on emotions and in this situation the arson may arise from a need to express particular type of emotions; 2 — the instrumental motivation is based on external reasons and refers to activities that have a direct goal to achieve certain purposes (Canter & Fritzon, 1998).
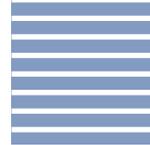
THE PORTUGUESE FOREST ARSONIST CRIMINAL PROFILES PROJECT

AIMS

The main aims of the project are:

✔ the identification of a forest arsonist criminal typology;

✔ the characterisation of specific typology with several criminal profiles based on:

– criminal behaviour variables

– social and demographic variables

– psychological and judicial variables

✔ to define prevention strategies for each obtained criminal profile.

RESEARCH METHODS

Sample

The sample is made up from 452 forest arsonists investigated and detained by the Portuguese criminal investigation police between 1995 and 2013. Four hundred and fifteen are male (92 %) and 37 female (8 %). Other relevant characteristics are shown in Table 1.

Table 1: **Main characteristics of the population sample (in percentage of the total)**

Age group	%
16–19 years	8
20–35 years	37
36–45 years	24
46–55 years	19
More than 56 years	12
Marital status	
Single	68
Married	19
Divorced	11

Educational level	
None	19
First level (basic)	41
Secondary school	20
Professional status	
Unemployed	37
Non-specialised professional	30
Sheppard or fire-fighter	10
Qualified worker	12
Clinical history	
Dementia associated to alcohol/ mental disorders	11
Depression	5
Schizophrenia	2
Other	
Unknown	46
Criminal history	
None	73
Arson	13
Aggression	3
Other	

The large number of single people and divorcees can be explained by the psychopathological history and interpersonal problems shared by a representative number of offenders in the sample. The professional status distribution corroborates the information obtained in the scientific literature. As for the clinical history, it is important to explain that data still need to be confirmed. In a police investigation context, to obtain information on one offender's clinical offender history is difficult. A psychological interview, made by police psychologists, still has to be carried out in order to validate the data.

INSTRUMENTS

The data collection was carried out using two instruments. The questionnaire for the investigation of the arsonist profile (QIPI) (Soeiro, 2002), which allows gathering data on several areas related with the arson and the individual

behaviour needed to establish the possible criminal profiles, namely:

✔ offender's psychological and social characteristics;

✔ victim's psychological and social characteristics;

✔ offenders/ victims relationship;

✔ offender's behaviour during the police interrogation;

✔ offenders police records analysis.

An offender's psychological interview is being used as the second data collection instrument. The purpose of the interview is to confirm mental disorders and to identify the most salient aspects of the offender life history. The interview is based on the psychopathy assessment checklist made by Hart, Cox and Hare (PCL: SV, 1995). The information obtained from the interview is also used to screen other kinds of mental disorders, such as depression, pyromania, schizophrenia, drugs and alcohol addictions, in these cases through the checklist of psychopathological disorders (cf. DSM-IV) (APA, 2002).

RESEARCH RESULTS AND DISCUSSION

PORTUGUESE FOREST ARSONIST CRIMINAL PROFILES

In order to explore the data and to try to obtain an arsonist typology two exploratory statistical procedures were used: the homogeneity analysis (Homals) and the categorical analysis (CatPCA), through the statistical package social science (SPSS 14.0). Analysis of the variables criminal behaviour, socio-demographic, family and psychological characteristics of individuals permitted the characterisation of the criminal profiles of the Portuguese arsonist population.

STANDARD ARSONIST CRIMINAL PROFILE CHARACTERISTICS

It is possible to identify a set of variables that define the most frequent behavioural aspects of

the individuals that make up the current sample and also to define the most frequent criminal behaviour as follows:

✔ related criminal acts: arson;

✔ offender Sex: male;

✔ marital status: single;

✔ age: 20–35 years;

✔ level of eEducation: illiteracy/first level;

✔ offence time: 6.00 p.m.– 4.00 p.m.; 8.00 p.m.;

✔ ignition tools: candles, matches, lighters;

✔ type of affected rural area: forest;

✔ offenders behaviour after the offence: quitted the crime scene;

✔ crime scene/offenders' residence proximity: near;

✔ offenders/victim (landowner) relationship: strangers;

✔ criminal history: without criminal records;

✔ offenders' profession: non-qualified worker.

CRIMINAL PROFILES

The statistical results show a typology defined by four different arsonist criminal profiles.

Profile A — Instrumental — Retaliatory

This profile includes individuals who committed the crime based on motivations such as anger and revenge or family problems (e.g. inheritances). In this profile it is also possible to find individuals who referred loneliness as a prime motivation. They used the crime to express their emotions targeting a victim or victims, who are usually family members and/or social acquaintances. They are usually individuals who have a clinical history of problems involving epilepsy and consumption of alcohol. The more representative age group is 46 years old or more and the individuals have in general a low level of education. The information about the criminal background shows that some of these arsonists

have criminal histories related to aggression. The crime is committed using simple ignition tools, such as matches, a lighter or candles and occurs between noon and 4 p.m. and 4 p.m. and 8 p.m. The type of rural area destroyed by the fire was forest and uncultivated fields. These individuals generally leave the crime scene immediately after committing the crime. During the police interrogation, suspects referred, as the main motivation for their behaviour, to hostility against the owner/victim and loneliness. For the crime investigation police, alcohol was the main source of motivation. This group of offenders is composed of men and women. This criminal profile accounts for 41.5 % of the cases of the population sample.

Profile B — Instrumental benefit

This profile includes arsonists who committed the crime motivated by several benefits, that is, to achieve tangible rewards (e.g. money) or other benefits related to the offender life style. They are generally male and some of the individuals have convictions for other types of crimes (e.g. driving without a licence). The arson can be associated with other types of crimes, including crimes related to property trespassing or robbery. This offender group can use a more sophisticated ignition tool to set the fire (e.g. inflammable bombs). Individuals had no sign of psychiatric history, nor of alcohol consumption at the time the crime was committed. The type of rural area destroyed by the fire was forest, uncultivated fields and agricultural land. The fire was set between noon and midnight. Most had no relations with the owners/victims. Normally they left the crime scene after starting the fire and economic factors and negligence was the most important motivation/explanation. For the criminal investigation police there was no evident motivation. This profile accounts for only 3 % of the population sample.

Profile C1 — Expressive — Clinical History

This profile includes individuals who have psychiatric problems, such as schizophrenia, dementia, resulting from the consumption of alcohol, and mental retardation. They have poor skills in terms of socialisation and are mostly single. The most representative age ranges are the 36- to 45-year and the 46- to 55-year-old groups. They are usually illiterate. These aspects also affect their professional status, which is generally low. They tend to commit the crime near the place where they live, and most commonly during working days. The crime is committed using simple ignition tools, such as matches, a lighter or candles and usually between midnight and 4 a.m. or 8 p.m. and midnight. The type of rural area destroyed by the fire was forest. These individuals generally stay at the crime scene after committing the crime. The motivation is based on reactions resulting from the impact of their mental disorders. They showed signs of alcohol consumption at the time of the crime. This profile accounts for 55 % of the population sample.

Profile C2 — Expressive — Fire Attraction

Individuals fitting into this profile are very rare and it is necessary to add more cases to better analyse the associated psychological and sociological variables. In this profile were included individuals who showed attraction to fire and actions such as helping fighting the fire. These individuals, male, single, university students, are the youngest of the sample. They are in the age group under 20 and in the group between 20 and 35 years old. Their main motivation for their criminal behaviour is an irresistible impulse to set fire to things. According to the crime investigators, lack of control (e.g. impulsivity) was the main cause. They do not have any sign of psychiatric history nor of alcohol consumption at the time of the crime. This was usually committed between 8 p.m. and midnight and the type of rural area destroyed by the fire was forest. Fire was usually started near the workplace and the offender usually returned afterwards to help the fire-fighters. A more detailed study with a higher number of cases is necessary to better define this profile.

LESSONS FOR INTERVENTION AND PREVENTION STRATEGIES

A criminal profile is a forensic tool that can help crime investigation by supplying guidelines on how to deal with specific types of offenders. The definition of interrogation strategies is one of the most important contributions of a criminal profile. A criminal profile is also an important tool for the judicial process as a whole, by helping to select better types of approaches (e.g. most adequate type of punishment, of restraint measures, of rehabilitation and social reintegration measures).

The figure below shows some suggestions for intervention and prevention within each criminal profile, taking into consideration causes, offenders and target characteristics.

Figure 1 — **Arsonists' criminal profiles and associated strategies for intervention and prevention**
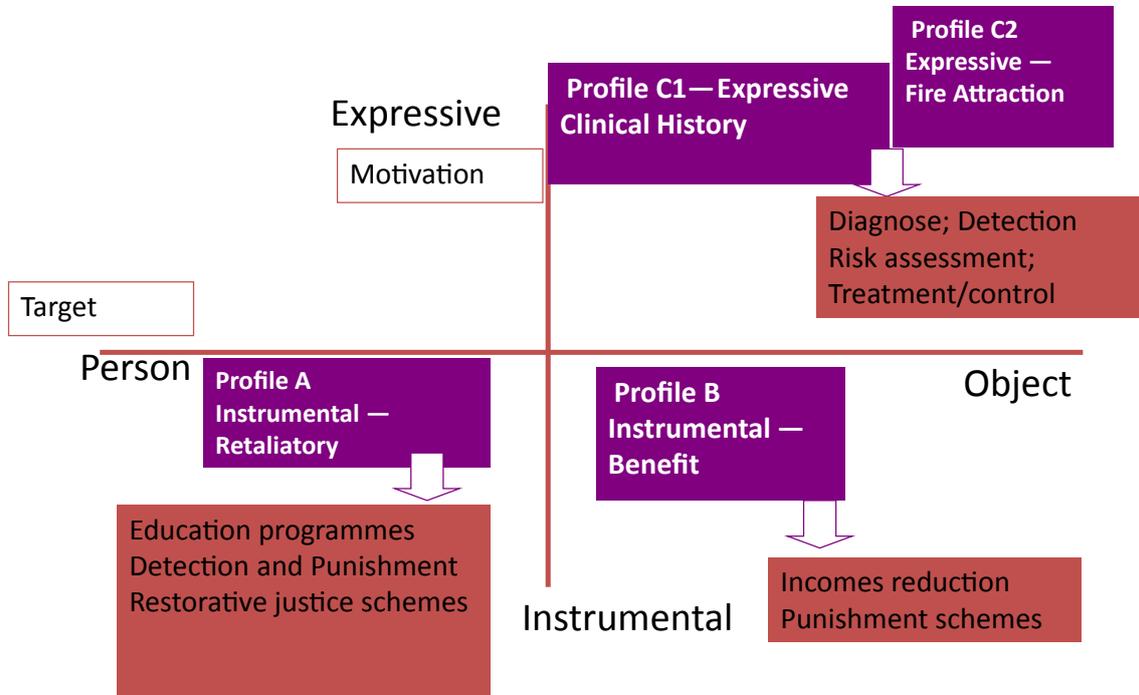
CONCLUDING REMARKS

Results show that most Portuguese forest arsonists are characterised by social maladjustment, psychological problems and specificities of their criminal behaviour. Four distinct profiles were found:

✔ Profile A includes individuals motivated by anger and hostility. Targets are generally family members and acquaintances. Alcohol consumption history is frequent.

✔ Profile B includes males having qualified professions and no psychiatric history. They can have a previous criminal history, but related to others crimes. The motivation is basically financial reward; victims are strangers.

✔ Profile C1 includes arsonists with a psychiatric history. In this group we can include offenders with alcohol consumption, schizophrenia and mental disorders.

✔ Profile C2 includes offenders with several behaviours that can be related to fire attraction (however, more cases are necessary for clarification).

Intervention and prevention of forest arsonists should therefore take into account these profiles in order to assure better efficacy. Still during 2014, the two research teams mentioned beforehand, from the Portuguese police (Polícia Judiciária) and Spanish police (Guardia Civil), will try to carry out a comparative data analysis, in order to better sustain prevention and intervention guidelines that can be shared by other southern European countries.
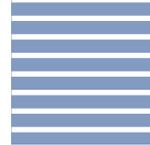
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THE CAUSES OF LATENCY OF PARTICULAR CRIMES AGAINST MORALITY ([15])

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Keywords: rape; sexual violence; sexual abuse; producing of child pornography; pimping; latency; causes of latency; detection; clarification.

Abstract: This article resumes the results of research on the latency of particular crimes against morality (rape, sexual violence, and sexual abuse, procuring and soliciting prostitution, manufacturing of child pornography). Among others, in order to collect data from the respondents (size of a sample — 153 male representatives and female representatives above 18 years old) an explorative method of questionnaire has been used. Main issues explored were the following: personal experience with these types of crimes (how, where, when, etc.); willingness to report these crimes to the police (why yes or no, when, under which circumstances, how to increase their willingness, etc.); motivation for cooperation with the police; effectiveness of crime detection and clarification (criminal police service, investigative service, national police organisation); main problems related to crime detection and clarification; estimations of the level of latency of particular crimes against morality and real criminal rate.

THE GROUNDS FOR RESEARCH

Taking into account the opinions of many experts in policing, a 'moral crime' is considered a latent crime. Having analysed the criminal situation, one may state that the causes of this phenomenon often come from a perpetrator who nearly always tries to avoid prosecution, but also from a victim who cannot, does not know, or does not want to report a crime to the police ([16]). Analogically, crime statistics do not provide enough information about this phenomenon. The abovementioned facts were indirect reasons to launch the research titled 'Problems during detection and clarification of particular moral crimes'. Moreover, any relevant information on research with the same or similar topic in the EU area has not been found by the research team.

The applied research focused on the detection and clarification respectively, investigation of particular crimes against morality (rape, sexual abuse, sexual violence, procuring and soliciting prostitution, manufacturing of child pornography) and more specifically on a police reality (processes, determinants and constructs of detection and clarification) (Lison, 2012). A prevailing intention to publish the results of the first research phase in this scientific study is to provoke a discussion on this issue and share information with EU researchers.

([15]) This designation for sexual and sex-related crimes follows the current Slovakian penal legislation (note from the editors).

([16]) It was found, for example, one case, in 10 investigation files, where a mother knew about the sexual abuse of her child but, due to several reasons (existential, emotional, etc.), did not report the abuse to the police..
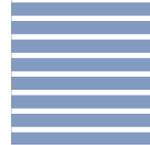
STUDY RESULTS

Data collection in the first phase of research was mainly provided through the questionnaire (from November 2013 to March 2014). The sample consisted of 153 respondents between the age of 18 and 50 (nearly 84 % of them were from the age group 18–30, 13 % from the age group 30–50 and 3 % above 50). In terms of gender, 63 % of male representatives and 37 % of female representatives participated in the survey [17].

First of all, a personal experience with these crimes was the main issue. Some 79 % of respondents denied personal experience, 20 % answered positively (1 % do not know or do not want to answer). Then, they were asked about the type of crime with personal experience (the most frequent type of crime was rape, sexual abuse and sexual violence).

Figure 1 — **Personal experience with particular crimes against morality**
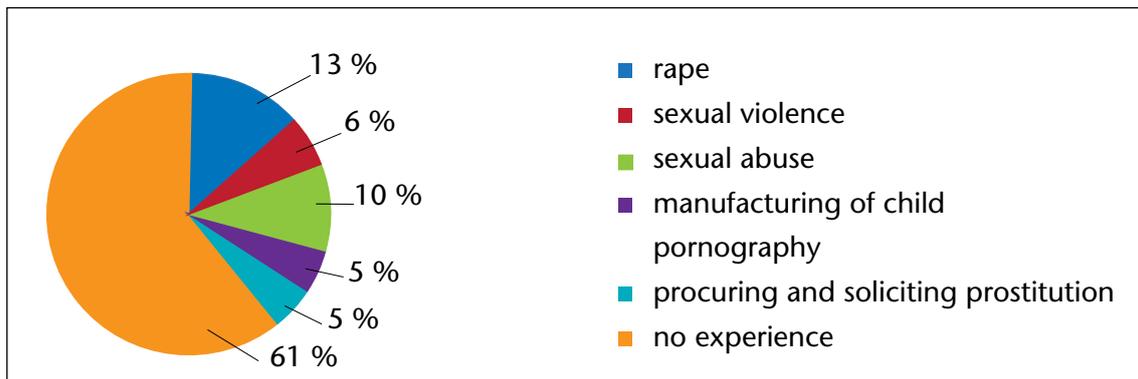
In addition to this, the circumstances under which they met with these types of crime were another issue. The survey results revealed that 24 % of respondents had indirect experience with particular crimes against morality from the mass media, an educational process; as members of the security services (17 %); from their relatives, friends, neighbours, acquaintances (12 %). Paradoxically, only two respondents claimed that they were victims of some of these crimes and four respondents were witnesses (nobody confessed to certain crimes).

It was also found that nearly three quarters of respondents reported a crime to the police (or eventually would report if they had an opportunity to do so). Less than 10 % claimed that they had not reported a crime or would have reported a crime and 13 % of them hesitated. Moreover, information on the decision-making process about reporting a crime (how long it took or would take) has been important. More than 70 % of respondents claimed that they had reported a crime just after it had been committed, 17 % after a certain period of time (finding the courage to do it, dealing with it, etc.) [18], more than 4 % denied the possibility to report a crime to the police, and more than 9 % hesitated.

Logically the reasons why they reported (would report) a crime to the police (respondents had a multiple choice) was another issue. The most frequent answers were: to ensure a fair and accurate trial (70 %); to help protect the victim from a criminal offender (60 %); angry that it was not ethical or correct, respectively nobody deserves to be treated like that (46 %). Nearly 31 % indicated that the reason for reporting a crime was their fear that the perpetrator could continue to commit crimes and cause harm to a potential victim. Less than 2 % presented other reasons for reporting a crime such as respecting legal duty, and more than 6 % did not find any reasons for reporting a crime.

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[17] Research also focused on other characteristics of respondents (besides the age and gender) e.g. on residential living, settlement size or population.

[18] It often took them more than 1 week and less than half the year.
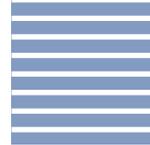
Figure 2 — **Reasons for reporting a crime**
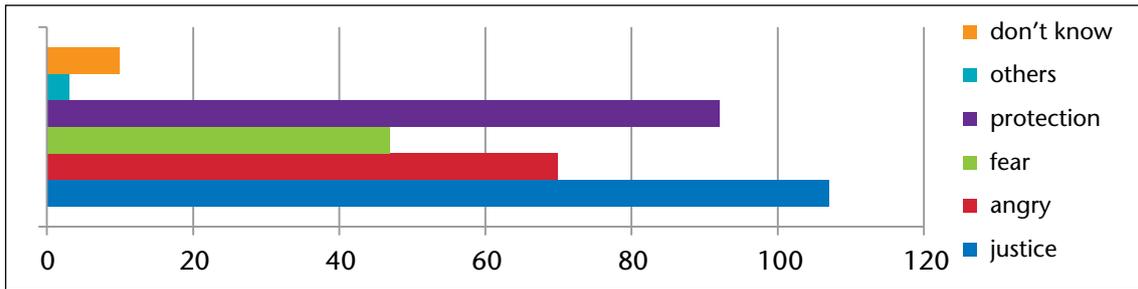
On the other hand, the reasons why they (would refuse) refused to report a crime to the police have belonged to the object of the research. The respondents could choose from various parallel alternatives or present their own opinions. Most than a half of them (51 %) claimed that they (would report) reported a crime under any circumstances ([19]). The most frequent reasons for not reporting the crime were: fear of revenge from the perpetrator; doubts (I was not sure what actually happened; whether a victim wanted to report it, etc.); worry about potential problems (confrontation with the perpetrator and his relatives; visiting law enforcement institutions, etc.); it was viewed as a private matter; ignorance; lack of confidence in the police; and so on.

Figure 3 — **Reasons for not reporting a crime**
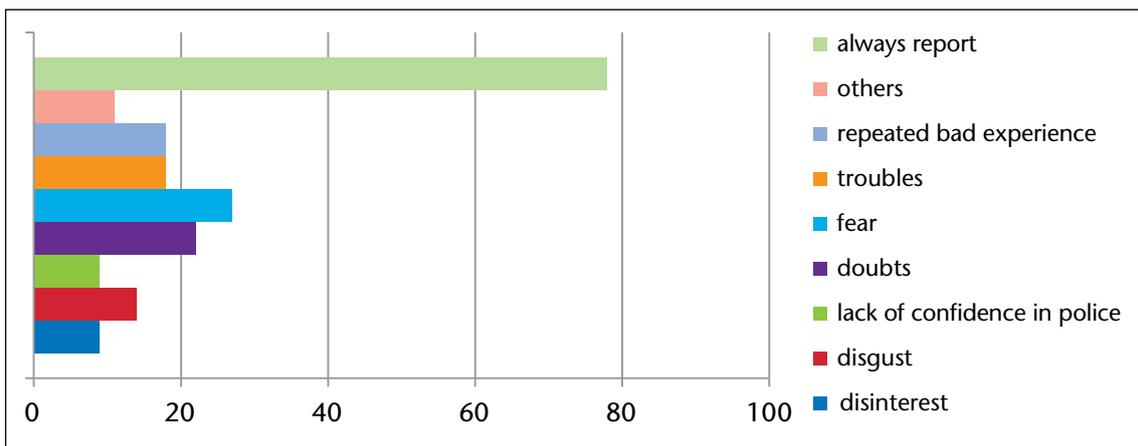
The task was to discover how to increase public participation in this field ([20]). Some 65 % of respondents believed that the police could improve the situation themselves (quick solution of the case, adequate punishment), 33 % stressed a positive influence on public opinion (the importance of mutual cooperation; giving publicity to successful police work, etc.), more than 20 % of them referred to the importance of public education oriented on youth, and 19 % underlined the increase of trustworthiness of the police through its *depoliticisation*, joint proceedings of the police and the trials, elimination of bureaucracy in the trials and prosecutors, increase of the effectiveness of crime investigation; change public opinion on the police as 'fine collectors'; focusing on crime prevention instead of repression; elimination of corruption in the police.

([19]) Slovak law makes it illegal not to report certain types of crime (felonies and corruption).

([20]) As it was mentioned before, respondents could choose from various parallel alternatives, or present own opinions.
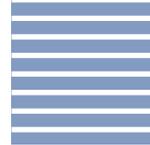
Figure 4 — **Motivation for cooperation with the police in this field**
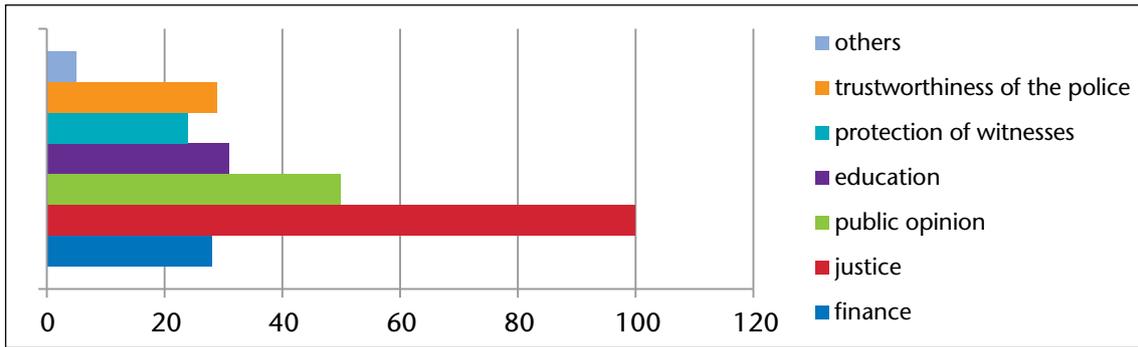
Working on the assumption that the effectiveness of the police activity during detection and investigation of these crimes could have a great impact on the level of their latency, it seemed to be useful to focus on it. In the survey, evaluation of police effectiveness (criminal police service, investigation service, and police in its entirety) was a partial task. As Figure 5 shows, there are still some imperfections in the police activity that should be eliminated.

Figure 5 — **Effectiveness of the police activity during detection and investigation of particular crimes against morality**
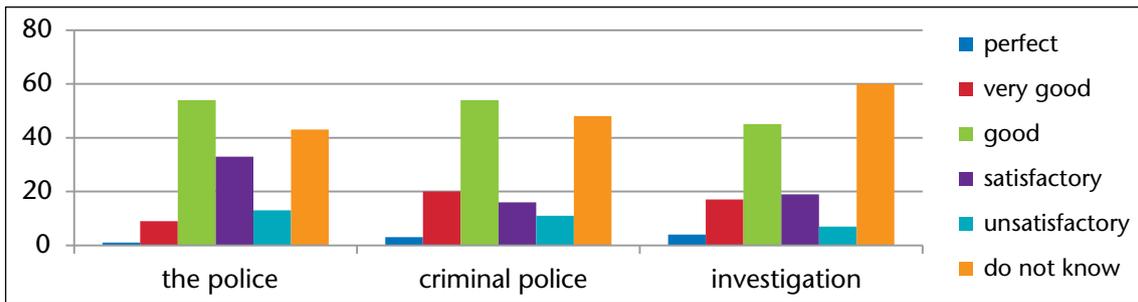
Thus, diagnosis of the most frequent problems during the detection and investigation of these crimes was the next ambition of the research team. As Figure 6 indicates, insufficient police management was considered the biggest issue during these processes (nearly 44 % of respondents) and it was followed by a low level of motivation that came from personal, financial, career or social reasons (41 %). Another relevant determinant (39 %) was a big workload (too many criminal cases, stressful time factor, responsibility, etc.).

Figure 6 — **Main problems during detection and investigation of particular crimes against morality**
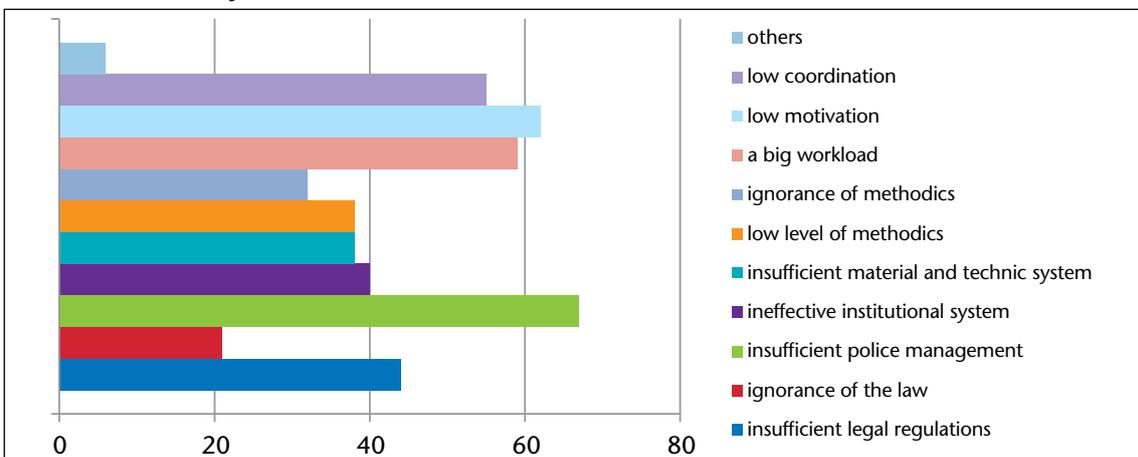
Figure 7 provides information about the estimate on latency of particular crimes against morality. The results from the survey show that the highest level of latency was linked to child pornography and pimping (1:21-50, it means that 1 revealed crime indicates more than 20 and less than 50 latent crimes). Such crimes as rape, sexual violence and sexual abuse reached significantly lower level of latency (1:6-10).

Figure 7 — **Estimate of the latency of particular crimes against morality**
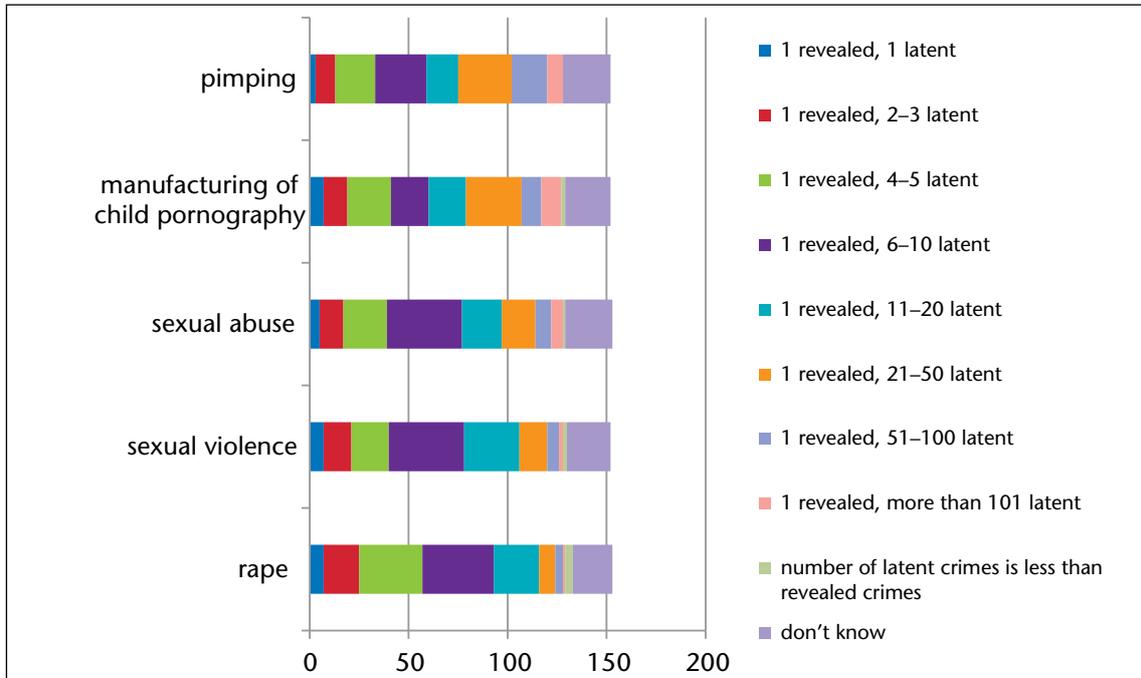
On the basis of these facts, it is possible to create a totally different concept of a real crime rate. For instance, in 2013 the police discovered 91 cases of rape and 45 of them were successfully clarified (investigated). Assuming that one revealed crime indicates more than 20 and less than 50 latent crimes (rape), the estimate of this crime would be 270–450 crimes (where 270 crimes is the lowest estimate and 450 is the highest estimate). Figure 8 provides information on an estimate of real (or potential) crime rates of particular crimes against morality; according to the results of the research (the latest crime figures with estimations have been compared).

Figure 8 — **Estimate of real (or potential) crime rates**
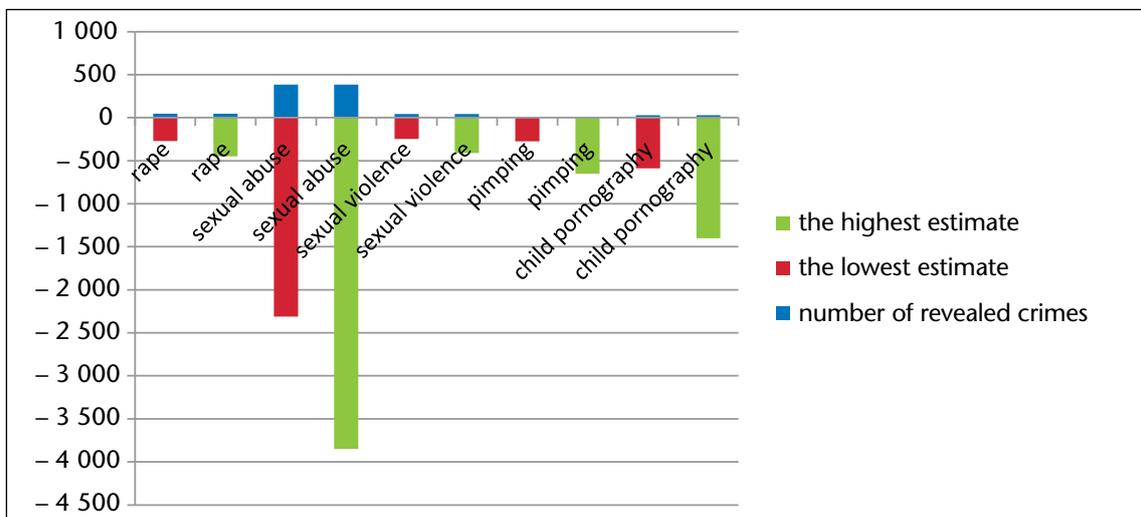
CONCLUSION

From the partial results of the survey, it follows that detection and investigation of particular crimes against morality is still ineffective and negatively influence the level of their latency. The goal of the research was to identify these problems and find some solutions. It is inevitable that an active approach of the police as well as mutual cooperation with the public were really functional. Moreover, cognition of the latency can bring undeniable benefits to competent bodies (legislative, executive and judicial).

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FORENSIGRAPHY: THE INTEGRATION OF IMAGING TECHNIQUES INTO THE CRIMINAL JUSTICE SYSTEM

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Abstract: this article defines imaging in the context of the criminal justice system, introduces the term 'forensigraphy' and presents relevant examples. Legal requirements for the implementation of forensigraphy are discussed.

INTRODUCTION

Through a combination of clinical forensic casework and research since 2008, a platform for exchanging medical, scientific and legal knowledge has been established at the Ludwig Boltzmann Institute for Clinical Forensic Imaging (LBI-CFI). The present overview presents a compilation of the essential elements of forensigraphy (Riener-Hofer, 2013), a promising tool in the investigation of physical assault, domestic violence and motor vehicle accidents, as well as the necessary considerations for its integration into judicial proceedings. Due to the interdisciplinary and emerging nature of this field, knowledge regarding forensigraphy is currently spread across a number of disciplines. Unfortunately, this advantage also acts as a hindrance to those involved in the administration of justice, as they are provided with very few opportunities to gain a succinct yet thorough understanding of the role of imaging in forensic science. By introducing the reader to the applied term 'forensigraphy' and its sub-offerings, the current work disseminates knowledge to key players involved in the evidence-based investigation of violent incidents.

DEFINING IMAGING

Imaging, in the broadest sense, constitutes the visualisation of real objects through the spatial resolution of brightness values and colour (Riener-Hofer, 2013). It allows the preservation of a situation or state of being. The nature of the elements captured varies and may include people, animals and equally items. Advances in technology, as well as the growing number of situations in which objects can be portrayed and immortalised, have given rise to the significant presence of imaging in modern society. On a daily basis, we encounter various applications of imaging techniques, including those used to record or explain situations as well as to visually preserve evidence. This comprehensive definition of imaging includes a variety of techniques ranging from modern imaging procedures such as those used in medicine, to photography, which has existed since the middle of the 19th century (Dirnhofer, Schick, & Ranner, 2010; Schwegler, 2004).
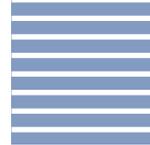
IMAGING IN MEDICINE

The term medical imaging refers to the specific application of imaging procedures in a medical context. In this context, imaging is considered a term which brings together various technical examination methods to provide 2D or 3D imaging data of organs and structures within the human body. Most notably, it is of particular relevance in diagnostic medicine where it is used to diagnose abnormalities due to illness (Levin, 2012). Specifically included here are high-resolution imaging procedures which map biochemical processes, including techniques ranging from conventional diagnostic radiology (native images, contrast agent enhanced images and conventional tomography) to modern imaging procedures such as ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), scintigraphy, subtraction angiography, endoscopy and optical photogrammetric supported 3D scanning (Lexikon-Redaktion, 1999; Püschel, 2007). With the help of these medical apparatuses, the internal structure of the human body can be visually registered, and precisely examined both immediately and in the future.

IMAGING IN THE INVESTIGATION OF CRIMINAL AFFAIRS (FORENSIGRAPHY)

Best defined by returning to the initial comprehensive definition of imaging, forensigraphy incorporates elements of both photography and medical imaging, to visually represent the properties of 'real objects'. However, in contrast to the general definition, forensigraphy is most arguably restricted by the specific character of the 'what' which it portrays. The term forensigraphy broadly encompasses all imaging techniques used to visualise information directly or indirectly associated with criminal affairs. This includes all imaging material which assists in the examination and analysis of criminal activity or which serves law enforcement purposes. Hence, this term can be applied to recordings of people (e.g. suspect mug shots, photographs of murder victims ante- and post-mortem), imaging techniques applied in the analysis of evidence, video recordings (e.g. surveillance cameras), X-ray scanned items (e.g. luggage) and also finally to forensic radiology. Imaging supported forensic biometry (or perhaps rather imaging-supported 'forensimetry') is also attributed to the domain of forensigraphy (Willersinn, 2011).

CLASSIFICATION OF FORENSIGRAPHY

Due to its interdisciplinary nature, forensigraphy finds itself spread across a number of scientific domains. In the following section, its classification will be examined and elaborated upon.

CRIMINAL SCIENCES

According to Schwind (2011), one should differentiate between judicial and non-judicial criminal sciences. Normative penology, extending only as far as the penal provisions themselves, as well as the study of criminal procedural law, which determines the playing rules for a legitimate and orderly criminal procedure, both belong in the first category. The second category, non-judicial criminal sciences, includes criminology and forensic science. Criminology, differentiated from penology due to its status as an empirical science, is considered an independent interdisciplinary sister-science of penal law. It represents an interdisciplinary research branch and examines the manifestations and causes of criminal activities through research in the fields of victimology, penology, criminal rehabilitation, forensic psychology and psychiatry, as well as criminal statistics (Schwind, 2011). In contrast to criminology, which positions the causes of criminal behaviour as the primary pillar in its research, the forensic scientist is mainly concerned with the resolution of a given offence, namely the detection of the crime followed by the apprehension and conviction of the perpetrator(s) (Schwind, 2011).

In order to be able to accurately classify forensigraphy within the system of criminal sciences, a closer examination of the field of forensic science and its sub-offerings is needed. Sub-offerings in this field include crime policy, anti-crime strategies and most substantially in the present context, criminalistics (Schwind, 2011). Crime policy is responsible for the development of methodological and well-reasoned courses of action to resolve and prevent crimes. Anti-crime strategies, although still involved in and influenced by casework, are more concerned with the totality of policing actions in relation to the objectives of crime policy. The third pillar of forensic science is criminalistics. This sub-offering involves the application of techniques from the

natural sciences to examine and analyse traces and evidence (Schwind, 2011).

CRIMINALISTICS

The term criminalistics corresponds to the scientific domain in which criminal operations are systematically identified, analysed and reconstructed (Siller, *no date*). Forensigraphy represents a sub-domain of criminalistics which, with the assistance of imaging and visualisation techniques, enables criminal activities and their consequences to be examined, analysed and reconstructed. In given cases it may also be possible to identify victims and offenders. From the current discussion, it emerges that the nature of forensigraphy positions it within the domain of criminalistics. In this domain, knowledge and methods from a number of scientific fields including biology, chemistry, physics, mathematics and medicine (Schwind, 2011), under which a differentiation between forensic medicine and forensic psychiatry should be made, are applied. These relevant and fit-for-purpose methods are utilised in cooperation, to mutually support and balance each other. Due to its character as a cross-sectional science, research in the domain of forensigraphy requires a multidisciplinary environment such as the one which has been established in the field of criminalistics.

FORENSIGRAPHY IN PRACTICE: EXAMPLES OF IMAGING IN THE PURSUIT OF CRIMINAL JUSTICE

Under the term forensigraphy, four examples of subcategories are identified and discussed:

1. forensic photography

2. forensic evidential imaging

3. live forensic imaging

4. forensic radiology (medical forensigraphy)

The criminal justice system, although arguably also civil and insurance legal procedures (e.g. indemnity claims due to bodily harm), have the potential to benefit greatly from the results of forensigraphy. The contribution of forensigraphy

in helping to ensure legal certainty is therefore immense (Krebs, Riener-Hofer, Scheurer, Schick, & Yen, 2011).

FORENSIC PHOTOGRAPHY

The term forensic photography applies to photographs taken to assist in the resolution of a criminal affair. This primarily involves visual documentation and preservation of the physical state of crime scenes, victims and suspects, for which photography is currently the method of choice (Martin, Delémont, Esseiva, & Jacquat, 2010). At the crime scene, overview photographs, or even a 3D registration, can assist in recording the positions of victims, objects and traces in a precise and faithful manner. Such photographs can be used to help respond to questions regarding the sequence of events or modus operandi (MO) of a particular event (Martin, et al., 2010). Detailed photographs of traces left at a crime scene (e.g. biological fluids, fingerprints, footwear marks or tool marks) preserve the state, dimensions and positions of such traces for later expert analysis (Martin, et al., 2010). Photographs of the victim's (or suspect's) physical state obtained close to the time of a crime are also a valuable form of evidence which can substantiate injuries or traces of violence in court. In addition to photographs taken using plain lighting, it is also possible to use various light sources which may enhance the visibility of findings that are otherwise hard to observe or document in plain light. For example, infrared (IR) photography uses an appropriate light source, sensors and filters to obtain images which have different optical properties, providing supplementary information (Farrar, Porter, & Renshaw, 2012).

In the context of clinical forensic medicine, photography of external injuries is of utmost importance. Although not considered imaging in the narrowest medical sense, as it does not involve the application of diagnostic imaging techniques to obtain internal human imaging data, clinical forensic photography is nevertheless an external registration of the human body which can assist in the resolution of questions related to criminal activities. A clinical forensic photograph can, although need not, be taken by a specialist in forensic medicine during the course of an examination (Österreichische Strafprozeßordnung (StPO), 1975) and should include a suitable scale beside the wound in order to accurately record distinctive characteristics

such as any patterning as well as the size and shape of wounds (McLay, 2009).

FORENSIC EVIDENTIAL IMAGING

Imaging techniques for forensic evidence differ from those used to assess living persons. Generally, evidential imaging techniques focus on the characterisation of various traces following an incident. For example, to respond to questions in hit-and-run cases, infrared (FTIR) imaging can be used to examine the chemical nature of automotive paint and provide images for the comparison of evidence found at a crime scene and samples from a suspect vehicle (Flynn, O'Leary, Lennard, Roux, & Reedy, 2005). Additionally, imaging techniques can also be employed to enhance the visibility of latent fingerprints in cases of sexual assault. For example, MALDI-MS imaging has the ability to detect the chemical components of condoms and lubricating agents, meaning it can target fingerprint traces from people having handled these materials (Francese et al., 2013). In the analysis of firearm evidence, imaging techniques focusing on surface topography can enable the 3D comparison of various traces present on evidential and suspect bullets (Riva, 2011).

LIVE FORENSIC IMAGING

Live forensic imaging refers to the real-time registration, and often analysis, of images, including video. Such techniques are useful not only in resolving illegal activities, but often also as a means of preventing such offences. Video surveillance serves both of these purposes. In addition to acting as a potential deterrent, surveillance devices can help identify suspects and victims through the registration of physical and non-conscious characteristics (race, build, facial features and gait) (Bouchrika, Goffredo, Carter, & Nixon, 2011; Nixon, Tan, & Chellappa, 2010). They are also useful in establishing the sequence of events at a crime scene. Other real-time forensic imaging techniques are present in various aspects of airport security. For example, X-ray scanners are often used to examine luggage for signs of criminal activity, including smuggled items, potential weapons and explosives (Wells & Bradley, 2012). In recent years, a number of airports have also implemented biometric measures, such as facial recognition and fingerprint scanning, to increase the efficiency

and security of processing arrivals (Malčík & Drahanský, 2012).

FORENSIC RADIOLOGY (MEDICAL FORENSIGRAPHY)

The term medical forensigraphy consolidates the performance and interpretation of diagnostic medical imaging procedures with the resolution of judicial affairs (Brogdon, 1998). Medical imaging techniques provide internal data from human bodies, which, in the context of medical forensigraphy can be used to investigate a criminal offence. In medical forensigraphy, the 'objects' being imaged are therefore always people examined for forensic purposes. Medical forensigraphy represents an important scientific interface which broadly belongs to the field of criminalistics but at the same time is also affiliated with medicine, within which it is uniquely assigned to the branch of forensic medicine. Forensic medicine addresses requirements concerning both medico-legal questions, as well as criminal proceedings and is essentially 'the application of medical knowledge to the administration of law and to the furthering of justice' (Camps, 1976). It is concerned not only with the examination of the dead, as is primarily portrayed to the public, but additionally with the diagnosis and assessment of injuries of surviving victims, and at times, offenders.

Radiological procedures, such as computed tomography (CT) and magnetic resonance imaging (MRI), have already demonstrated their utility in clinical therapeutic patient care. Their application in forensic medicine presents the opportunity to ascertain additional, objective and verifiable information in relation to injury findings, thereby improving the quality of appraisals offered in legal proceedings, especially those concerning the type and extent of violence exerted against a person. Here, without fail, a close collaboration between experts in forensic medicine and radiology is essential. Each of these experts, in addition to the knowledge of their own speciality, requires the input of the other, with an optimal result arguably reached by a combined, supplementary approach.

To date, this approach has shown a general utility in the investigation of both the living and deceased (Thali, Dirnhofer, & Vock, 2009), and a specific utility in assessing the extent of tissue damage in subcutaneous fat (Yen, et al., 2004),

in detecting and characterising traumatic scalp injuries (Malli, Ehammer, Yen, & Scheurer, 2013), in assessing cases of strangulation (Yen, et al., 2007) and in estimating the age of individuals for forensic purposes (Scheurer, Quehenberger, Mund, Merkens, & Yen, 2011). Furthermore, existing image visualisation and forensic reconstruction possibilities are constantly advancing in line with technology. Such advances have led to the combination of computer graphics and computer vision techniques to facilitate forensic case analysis workflow, resulting in an interactive framework which can prepare raw medical imaging data for presentation in a court of law (Urschler, et al., 2012). This ability to depict complex internal medical findings in a way which is understandable for laymen is an important advantage when presenting legal evidence (Sherman, 2006).

Medical forensigraphy is further internally differentiated, depending on whether imaging data are obtained during a post-mortem or *in vivo* investigation. According to whether the application of forensic radiology concerns a deceased or surviving victim, the terms post-mortem forensigraphy or clinical forensigraphy are employed respectively.

POST-MORTEM FORENSIGRAPHY

Post-mortem forensigraphy deals with the application of diagnostic medical imaging in cases of suspicious death and requires a forensic pathologist (Österreichische Strafprozeßordnung (StPO), 1975). A specific methodology relevant here is one developed at the Institute of Forensic Medicine at the University of Bern. The 'virtopsy' approach, where the term is compiled from the words 'virtual' and 'autopsy', serves to reconstruct and document bodily injuries with the help of imaging procedures (Thali, 2002; Thali, et al., 2009). Using modern imaging techniques, a virtual 3D model of the deceased, on which internal and external injuries can be recorded, is created. This method essentially preserves the integrity of the deceased body (Dirnhofer, et al., 2010) while allowing the collection of tissue and fluid samples using minimally invasive techniques. Additionally, all medical imaging material obtained can be permanently archived as evidence, for later analysis and review as required. The benefits of such imaging techniques in post-mortem examinations lie particularly in their minimally invasive character and consequentially

in the associated social and legal advantages. According to an international survey of users and providers of post-mortem forensigraphy, the use of cross-sectional imaging, compared to an invasive autopsy, would be preferred by the general public (National Health Service (NHS) Implementation Sub-Group of the Department of Health Post Mortem Forensic and Disaster Imaging Group (PMFDI), 2012). The tolerance threshold in relation to minimally invasive post-mortem examinations is quite low and as such, they enjoy a relatively high acceptance, especially in contrast to invasive techniques which can still today evoke religious and cultural conflicts (Segal, 2009).

CLINICAL FORENSIGRAPHY

The term clinical forensigraphy addresses the clinical application of medical imaging techniques, referring specifically to the use of such procedures on living persons for forensic purposes. Clinical forensigraphy falls within the domain of clinical forensic medicine, where medical knowledge and techniques are used to assess living persons in order to assist police and prosecution services in the investigation of offences (McLay, 1996). The examination of living persons requires the clinical forensic physician to apply their expert knowledge to preserve potential evidence and to accurately document (including photography) and interpret injuries (Santucci & Hsiao, 2003). In cases of suspected abuse, the recognition of factors which distinguish accidental and non-accidental injuries is especially important (McLay, 1996). Furthermore, a comprehensible objective presentation of medical findings and the eventual expression of an expert opinion as to how injuries may have been caused is often required to assist the judicial process (McLay, 2009).

Due to an increasing sensitivity and willingness of the public to expose cases of domestic and sexual assault (Minister of Justice of the Republic of Slovenia, 2009), as well as violence against children, the forensic appraisal of living persons is gaining more and more significance. The 'gold standard' for such forensic evaluations is currently still limited to an external physical examination of the body and minimally invasive procedures such as drawing blood samples. Although it is impossible to imagine modern diagnosis or therapeutic treatment without radiological imaging, such procedures are rarely undertaken in the absence of medical indication.

The integration of imaging techniques for forensic purposes, that is, to obtain information regarding internal injuries which could be useful in responding to judicial questions, including the type and degree of force exerted against a person, is relatively new. This integration, is the research focus of the LBI-CFI situated in Graz, Austria (Ludwig Boltzmann Institute for Clinical Forensic Imaging).

LEGAL CONSIDERATIONS

Clinical forensic physicians are confronted with many aspects of criminal and civil law as well as professional rights and obligations. When commissioned by the prosecution service, the expert is often additionally governed by national criminal procedural provisions for forensic examinations. Furthermore, since clinical forensigraphy involves the application of diagnostic medical imaging procedures to living persons, it also falls under legislation governing medical examinations of a person. The following specific considerations therefore arise when clinical forensigraphy is presented as an option in the investigation of judicial affairs:

(a) commission of clinical forensigraphy examinations;

(b) performance of clinical forensigraphy examinations;

(c) forensigraphy examinations; and

(d) admissibility of clinical forensigraphy material.

In addition to the specific regulations governing criminal proceedings and clinical forensigraphy material, (i.e. the use of imaging for forensic purposes), the more globally established protection against infringements on fundamental rights should not be disregarded. Forensigraphy can involve the visual preservation of a person's body or private possessions for evidential purposes in a judicial affair. This requires an intrusion into the private sphere, and in the case of clinical forensigraphy possibly an encroachment on physical integrity. The intensity of this intrusion can vary depending upon whether it involves naked full-body photographs, x-ray examinations, CT scans or radiation-free MRI. In addition to these fundamental infringements into the private sphere and on physical integrity, data protection obligations also need to be carefully considered.

CLINICAL FORENSIGRAPHY: AN AUSTRIAN LEGISLATIVE EXAMPLE

An analysis of Austrian law presents an opportunity to gain insight into the aforementioned legal considerations associated with clinical forensigraphy.

Commission of clinical forensigraphy material

Due to the emerging nature of clinical forensigraphy, legislation in Austria currently makes no direct reference to the inclusion of such material in legal proceedings. This means that obtaining clinical forensigraphy material is often achieved through direct communication between the prosecution service and the forensic medical expert to whom the mandate for an expert report is addressed. In such cases, expert competence and discretion play an extremely important role.

Performance of clinical forensigraphy examinations

According to legal provisions in Austria, an inspection of an undressed person may only be performed by a person of the same sex or a doctor ('Österreichische Strafprozeßordnung (StPO)', 1975). Forensic photography of a partially clothed person by law enforcement officers is additionally permitted (Österreichische Strafprozeßordnung (StPO), 1975). However, medical forensigraphy constitutes a medical examination of a person and therefore the presence of a physician is expressly required to undertake post-mortem ('Österreichische Strafprozeßordnung (StPO)', 1975) and clinical forensigraphy.

Consent requirements

According to national legal provisions governing medical practices ('Ärztegesetz', 1998), all medical examinations, including those stipulated by the penal code (Österreichisches Strafgesetzbuch (StGB), 1974), require the consent of the parties involved. Any person undergoing a clinical forensic examination must therefore partake of his/her own free will, and must also be informed and made aware of the risks associated with the radiological procedure.
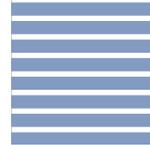
Their 'informed consent' is therefore required. In cases involving clinical forensigraphy, i.e. when medical imaging techniques are employed in addition to a traditional physical examination, the task of obtaining the informed consent of the person submitting to the examination is not a trivial matter. Primarily, the acceptance and understanding of radiological examinations as well as concerns regarding radiation exposure and examination duration come into play (Scheurer & Schoelzke, 2013). A relevant exception to the requirement for consent is for the examination of a suspect, whereby according to Austrian procedural law, an examination can be conducted when the accused is suspected of having committed an offence punishable by more than 5 years' imprisonment (Österreichische Strafprozeßordnung (StPO), 1975).

Admissibility

If the conditions for a clinical forensic examination are fulfilled and the examination is lawfully prescribed, the results are admissible as evidence in criminal proceedings (Österreichische Strafprozeßordnung (StPO), 1975). Furthermore, results of a medical examination not undertaken for forensic purposes, including any relevant medical imaging materials may also be admitted as means of evidence if they are considered essential in proving a criminal offence (Österreichische Strafprozeßordnung (StPO), 1975).

DISCUSSION

PRACTICE AND POLICY IMPLICATIONS

The multi-disciplinary nature of forensigraphy establishes it as a broad discipline in which diverse services are offered by a number of providers. A clarification of the technical and legal frameworks in play is therefore essential in facilitating a structured and effective implementation of forensigraphy in practice. Key players such as police officers, prosecution services, courts and policymakers should be made aware of the potential contribution of imaging methods in the investigation of judicial affairs. Additionally, these 'end-users' need to know where and from whom certain information can be obtained, and the processes involved in obtaining such material. Of utmost importance in the domain of medical forensigraphy, are the considerations surrounding imaging of living persons, for which certain medico-legal requirements need to be adhered to. Conditions governing the use and execution of such imaging procedures in law enforcement are enshrined, or will be enshrined in the future, in the relevant legislation. Enacting and modifying such legislation requires a terminological summary of forensigraphy, for which a clear definition, as well as a systematic workup and structuring of its content is essential.

CONCLUSIONS

Together with a formal definition, this overview introduces the reader to the term forensigraphy by clarifying imaging terminology and presenting the reasoning behind the inclusion of forensigraphy in the field of criminal sciences, specifically within the domain of criminalistics. Furthermore, examples of forensigraphy in practice and an expansion of the term 'medical forensigraphy' are presented. Recent developments in post-mortem and clinical forensigraphy highlight the dynamic and quickly evolving nature of this interdisciplinary domain and also indicate its rising significance in forensic investigations. The considerable amount of research and development in the realm of forensigraphy, especially regarding new uses and possible applications, requires an open-ended list of applications and further makes the presentation of conclusive research results difficult. Developments in forensigraphy are strongly dependant on technical progress and in certain domains, medical advances. For this reason, a constant revision of the research-related status quo is important. Given the opportunities presented by medical forensigraphy, and when looking to move towards a more structured and formalised integration of these techniques in routine case work, an in-depth consideration of the legal framework and the need to balance legally protected interests were found to be essential. Based on the existing literature, the recommendation emerges that future research in the field of forensigraphy should focus on both technical developments and their specific applications in forensic medicine, as well as on the legal considerations relevant to effectively implement forensigraphy methods into the justice system.

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THE OVERVIEW AND LEGAL BACKGROUND OF NEW PSYCHOACTIVE SUBSTANCES IN EUROPEAN COUNTRIES

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Keywords: designer drugs; new psychoactive substances; forensic laboratories; European Union.

Abstract: The analysis is based on European and national data of the last 5 years and aims at investigating the effectiveness of regulations. It aims at investigating whether legal intervention has substantive effects on the availability of these substances, whether it influences their supply, effects the appearance of new ones, or is able to confine the spread of designer drugs.

INTRODUCTION

Since the mid-1990s, the European Union has been proactive in its response to the new drug phenomenon — 'designer drugs' — with the introduction of a mechanism for information exchange (known as the early warning system — EWS) and control of new substances across Member States. With Council Decision 2005/387/JHA, the European Council established an EU-wide system for tackling problems connected to new psychoactive substances (synthetic and natural) which raise concerns at the EU level.

The supply of these psychoactive substances — which are legally not regarded as drugs and are mainly synthetic — has increased to an unprecedented size in the last 4 to 5 years. These substances cannot be found in drug registries of international agreements, hence, their production, commerce and even their advertising is unsupervised. These substances are mainly produced outside Europe (China, India) and are advertised through online retailers or in specialist shops. However, at times, they appear on the market together with 'classic' drugs but

they can also be produced in an illegal European laboratory and are directly sold on the market.

The spread of designer drugs can be explained with their easy availability, low black-market price and the limited and slow response of the legal system due to their legality. Therefore, an obvious shift can be seen in the markets from 'illegal drugs' to 'designer drugs'. Designer drugs are in many cases misleadingly labelled as 'chemicals' or 'plant nutrients' in order to avoid inspection. In these cases the label of 'not suitable for human consumption' is usually stated on the packaging. Because of their escalation, EU members have been trying to fight against them with various regulative tools. Establishing an adequate legal regulation by the European Parliament's and the Council's COM(2013) 619 proposal on new psychoactive substances is more difficult.

METHODS AND RESULTS

The research is based on the 2009–13 annual reports of the Hungarian National Drug Focal

Point, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), Europol's analyses and data of the Hungarian Institute for Forensic Science.

It can be said that the number of new psychoactive substances has been continuously increasing in Europe. The EU's early forecast system has registered more than 250 000 new substances; approximately one substance per week was reported in 2013. Furthermore, the appearance of substances belonging to less known chemical groups is getting bigger and bigger. The products for sale mostly contain a mixture of materials, and the lack of pharmacologic and toxicological data means that long-term consequences of their usage are not known. The data show that some of these substances can cause problems that need clinical intervention, moreover, cases of death have also happened. For instance, substance 5-IT, a substance which imitates amphetamine, reportedly killed 24 people in four EU countries in just 5 months between April and August 2012. This substance was associated with 21 deaths in four EU countries in 2010–12 alone.

The growing number of new drugs is now controlled in EU Member States. However, their availability, coupled with the fact that there are limited data on their effects and harm, continues to pose serious challenges to drug policy and practice in Europe. This is compounded by the speed at which they appear, as well as by differences in national drug laws. 'Controlling' systems operating in Europe vary between each other in many instances regarding their legal basis, sphere of competence and resources assigned to them.

Generally, countries list the chemical names of substances individually in their national legislation. Legal sanctions are only applied if the substance is chemically equivalent to the controlled list. Some Member States have opted to schedule families of substances on the basis of their chemical makeup. This is known as 'generic legislation'. The 'analogue system' addresses more general aspects of similarity in the chemical structure of a substance. This aspect might be supplemented by a requirement for similarity in pharmacological activity, attempting a more specific delineation of the analogue system's sphere of control.

According to a 2011 Union report, the current system is unable to keep track of the great number of new substances which appear on the market. Placing a single substance under measure takes approximately 2 years, during which time criminals may change the substance's chemical content to some extent, which does not decrease its seriously harmful effects but the substance gets out of the effect of legal investigation.

In Hungary, the regulation of new psychoactive substances entered into force in 2011. Substances that are reported by a formal notification will be rapidly assessed by experts, who will subsequently decide whether they should be listed, and, if so, whether they should be categorised as individual substances or as a family. Based on the analyses results of confiscated substances, the market share of new psychoactive substances (designer drugs) has been continually increasing since 2009. This tendency has not slowed down due to the 2011 legislative changes. In confiscated samples the ratio of classic drugs in the past 5 years has decreased from 95 % to 44 %, while the ratio of designer drugs has increased from 1 % to 49 %. The confiscation ratio of new substances overtook the ratio of classic drugs in 2013 (Figure 1).

Figure 1 — **Ratio of the new psychoactive substances in Hungary (2010–13)**
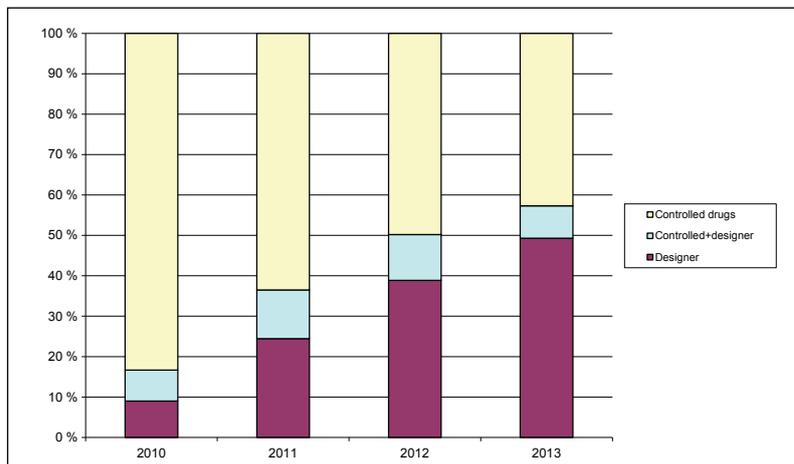
Regardless of regulation attempts, the number of new psychoactive substances has increased in other European countries, as well. The number of substances annually registered at the EMCDDA tripled between 2009 and 2012 (from 24 to 73).

CONCLUSION

There is no mechanism for effectively regulating new psychoactive substances before they reach the market. New psychoactive substances can be manufactured, imported and sold without restriction until they are proven to be harmful, and can be scheduled either as restricted substances or controlled drugs.

Criminalisation is not able to considerably confine these substances' supremacy. This statement can be supported with both European and national data. Based on the results, we can state that the continuous and dynamic spread of new substances not only keeps pace with legal regulations but the ban of a substance practically generates the appearance of a new one.

As a consequence of the abovementioned phenomenon, working out a system which enables Member States to hold back new substances before getting to the market with legal tools, hence, to hinder their spread, is a more urgent task.

Knowing this, the European Parliament and regulation plan COM(2013) 619 on new psychoactive substances is worthy of consideration, with the following declared aim: 'Proposal for a regulation aims at improving the functioning of the internal market regarding licit uses of new psychoactive substances, by reducing obstacles to trade, preventing the emergence of such obstacles and increasing legal certainty for economic operators, while reducing the availability of substances that pose risks through swifter, more effective and more proportionate EU action.'

In order to facilitate the functioning of the internal market while protecting consumers from harmful new psychoactive substances, EU-level action shall ensure the free movement of new psychoactive substances for commercial and industrial use, and for scientific research and development and provide a graduated set of restriction measures for substances posing risks, proportionate to their level of risk.

It may arise as a question whether establishing the wished balance could be realised or not, and whether they can hinder or decrease the appearance of dangerous substances on the market with adequate regulations.

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PAST EVENTS

OUTCOMES OF THE SECOND RESEARCH AND TECHNOLOGY — CONFERENCE HELD AT THE GERMAN POLICE UNIVERSITY

Knut Bültemeier
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Germany

On 4 and 5 June 2014, the German Police University in Münster hosted the Second Research and Technology Conference. Numerous departments of the university, as well as national and international experts from universities, think tanks, and industry and law enforcement agencies, contributed to the conference.

The conference was held to improve the international networking between law enforcement agencies and potential partners in different fields of technology. It was organised by the German Police University (Deutsche Hochschule der Polizei — DHPol) in cooperation with one of the German chapters of the Armed Forces Communications and Electronics Association (AFCEA). The German Police University in Münster is funded by the ministries

The Vice-President of the German Police University Gerd Thielmann, Friedrich W. Benz, AFCEA, Jörg Ziercke, President of the German Federal Office of Criminal Investigation (Bundeskriminalamt — BKA) and Erich Staudacher, AFCEA and a representative from industry at the exhibition

and senators of the interior of the German federal state and the 16 states of Germany. It was founded for the further training of senior police officers from all German police forces. The university unites academic researches with the expertise of experienced police officers. Research and teaching chairs at the university are manned by senior police officers and regular professors. The current president of the German Police University, since 1 July 2014, is Professor Dr Hans-Juergen Lange.

The AFCEA was founded in 1946 and serves government agencies, industry, and academia as a forum for advancing professional knowledge and networking in the fields of communications, information technology, intelligence, and security. The AFCEA is a non-profit, non-partisan organisation. The German chapter in Bonn is headed by Erich Staudacher who is supported by a board that consists of experienced professionals from government agencies as well as industry. The AFCEA was therefore an ideal partner for the Second Research and Technology Conference of the German Police University.
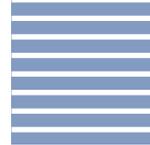
One of the aims of the conference was the transfer of technological solutions from other areas of application into the law enforcement sector. Solutions from different research and development projects are already operational in other fields and could therefore provide law enforcement agencies with valuable experience, expertise and equipment.

The conference began on the morning of 4 June 2014 in a conference centre near the German Police University in Münster. The 380 attendees were welcomed by Gerd Thielmann, Vice-President of the German Police University and by Erich Staudacher, chairman of the AFCEA, Bonn. After the welcome addresses, Joerg Ziercke, President of the German Federal Office of Criminal Investigation (Bundeskriminalamt — BKA) outlined current technological challenges and anticipated future developments in research and technology.

This was followed by three presentations by senior police officers, who outlined current technological challenges in fictitious scenarios, which gave detailed information about real issues that were encountered over the last years. The scenarios covered the areas of terrorism, security for visiting heads of state and highly mobile criminal organisations. These scenarios covered a wide range of issues in the fields of research and development which can also be transferred to other fields of law enforcement. These scenario presentations were intended to enhance the understanding of law enforcement issues among the scientific community and industry professionals and were warmly welcomed. The lack of understanding of law enforcement requirements frequently hinders research and development projects. This was successfully addressed with these presentations.

The second part of the conference took place at the German Police University. Presentations were given in seven technology fields. Researchers and industry professionals presented solutions and projects in the fields of:

✔ IT systems for command and control

✔ mobile computing for law enforcement agencies

✔ geographic information systems (GIS)

✔ sensor technology
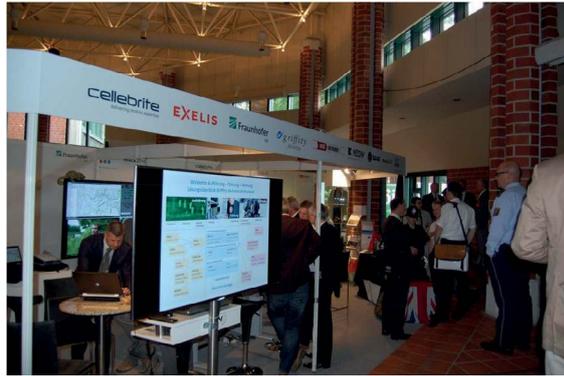
The exhibition was warmly welcomed by law enforcement professionals and other guests

✔ video systems and video analysis

✔ AIR

✔ terrorism, amok and related issues.

Additionally the EU Liaison Office of the German Research Organisations (KoWi), the Technology Centre of the Association of German Engineers (VDI) and the federally funded project fit4sec presented current research opportunities within the national research funding framework and within the EU Horizon 2020 framework. Especially the Horizon 2020 calls related to safety and security were of great interest for law enforcement agencies and could provide valuable opportunities over the coming years.

Research institutes, universities and industry also used the opportunity to exhibit current developments at stands within an exhibition that also took place at the German Police University. The exhibition facilitated a more personal exchange of ideas and concepts and allowed detailed explanations of existing technology.

This exchange was particularly fruitful because of the composition of the audience. Over 50 % of attendees were law enforcement officers, others researchers and scientists from universities, think tanks and industry. The German Police University welcomed a total of 380 attendees from 10 nations.

The internationalisation of the work of the German Police University is of great significance. It opens new doors for cooperation and exchange among the law enforcement community and facilitates academic excellence at the German Police University. Furthermore, especially the

International guests at the German Police University (Swiss Police Officers pictures)

Horizon 2020 programme requires international cooperation and projects within this research funding framework can only be successful if academic excellence is combined with broad support from the end user side.

The conference concept was developed by Dipl. Ing. Dietrich Laepke who also organised the First Research and Technology Conference in 2012. Dietrich Laepke is the head of the organisational unit 'Security Research Coordination at the German Police University' and organised the Second Research and Technology Conference in 2014.

Pictures: Silvia Herbold

UPCOMING EVENTS

EUROPEAN CONFERENCE 'ADMINISTRATIVE APPROACH TO ORGANISED CRIME'

19–21 January 2015
Genk, Belgium
Info: administrative.approach@genk.be

WORLD CONGRESS ON JUVENILE JUSTICE

26–30 January 2015
Geneva, Switzerland
Info: www.eda.admin.ch/eda/en/cmjj.html

IBA ANNUAL CONFERENCE ON INTERNATIONAL CRIMINAL LAW: INTERNATIONAL LEGAL CHALLENGES FOR 2015

31 January–1 February 2015
The Hague, Netherlands
Info: www.ibanet.org/Article/Detail.aspx?ArticleUid=c3133450-e4ad-450a-bac7-01d1ac4f9478

INTERNATIONAL CRIME AND INTELLIGENCE ANALYSIS CONFERENCE

26–27 February 2015
Manchester, England
Info: www.ucl.ac.uk/jdi/events/int-CIA-conf

20TH GERMAN CONGRESS ON CRIME PREVENTION (GCOCP)

8–9 June 2015
Frankfurt, Germany
Info: http://www.gcocp.org

THIRTEENTH UNITED NATIONS CONGRESS ON CRIME PREVENTION AND CRIMINAL JUSTICE

12–19 April 2015
Qatar
Info: www.unodc.org/unodc/en/crime-congress/13-crime-congress.html

XIII INTERNATIONAL CONFERENCE ON CRIMINAL LAW, CRIMINOLOGY AND POLICE SCIENCE

25–26 June 2015
Paris, France
Info: www.waset.org/conference/2015/06/paris/ICCLCPS

7TH ANNUAL INTERDISCIPLINARY ART CRIME CONFERENCE

26–28 June, 2015
Amelia, Italy
Info: www.artcrimeresearch.org/interdisciplinary-art-crime-conference-in-amelia

THE 6TH INTERNATIONAL CONFERENCE ON IMAGING FOR CRIME DETECTION AND PREVENTION (ICDP-15)

15–17 July 2015
Queen Mary University, London, United Kingdom
Info: www.icdp-conf.org

ANNUAL 2015 CEPOL EUROPEAN POLICE RESEARCH AND SCIENCE CONFERENCE

Date and venue - to be determined
Info: https://www.cepol.europa.eu/science-research/conferences

Please send announcements for events relevant to police science and research in Europe to
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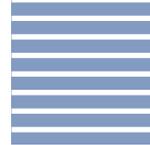
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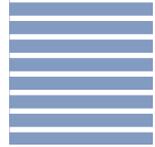
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