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Editorial

Four papers make up this issue of *Journal of Criminal Justice and Security*. The first deals with Slovenian police officers' ability to cope with trauma, two papers from Nigeria examine the factors relating to prison recidivism and how weather conditions influence the committing of criminal offences, while the last paper from Estonia describes the ways local governments can manage security issues in local environments.

Tinkara Pavšič Mrevlje analyses the issue of the *Trauma and Coping of Criminal Investigators in Homicide and Sexual Offences and Juvenile Crime Departments* within the Slovenian Police. The study seeks to expand the research field of trauma among police officers in two specific police groups: criminal investigators from the sections of Homicide and sexual offences and Juvenile crime. The results show that both groups are within the average range of posttraumatic symptomatology. Generally, most participant investigators demonstrate good resilience. The author concludes that resilient officers cope quite well with the emotional demands of their work tasks and therefore do not suffer from posttraumatic symptomatology. On the other hand, a low level of these symptoms might also be a result of underreporting due to the need to be seen as less vulnerable. The finding of police officers' infrequent use of the coping strategy "*seeking guidance and support*" tells a similar story. Participants in the two groups show the tendency of relying mostly on themselves and very rarely on others, which might also represent an effort to be viewed as strong and resilient. The results for both groups reveal low posttraumatic symptomatology that is linked to specific, mostly avoidance-coping mechanisms.

Gabriel Agboola Adetula examines in the paper *Procedural Justice and Fairness in Cases Adjudicated and Attitudes to Recidivism among Nigerian Prisoners* several factors that can influence the behavioural practice of recidivism within the Nigerian socio-cultural context. The author shows that imprisonment term and adjudicated case hold a significant negative relationship with recidivism attitude, while a significant positive relationship was discovered with the perception of procedural justice measure with the crime committed and the imprisonment term. Procedural fairness has no significant relationship with recidivism attitude, indicating the neutral impact of these variables on each other. It is concluded that it is a matter of national urgency that the administration of the judiciary encourages judges to make greater use of procedural justice and fairness when handling their cases. They should avail themselves with the non-custodial sanctions available in the penal statutes, especially for first-time offenders and those convicted of non-violent and minor crimes.

An interesting issue of the influence of *Weather Conditions and Crimes Prevalence in Ifako-Ijaye (Lagos State, Nigeria)* is considered by **Elisha Ademola Adeleke, Abiodun Daniel Olabode** and **Abimbola Emmanuel Oni**. The paper aims to analyse the influence of weather parameters on crimes with a view to understanding the varying degrees of crime prevalence. The study results reveal that rainfall is a major contributor to the occurrence of any criminal activities and that vegetation cover within the environment provides hideouts for criminals. It

was discovered that, although the climate affects all criminal activities, rape and criminal conspiracy are the most susceptible to the weather. The study shows the level of rainfall as the most dominant parameter that induced murder and kidnapping, while maximum high temperatures induced theft, false pretence and cheating. The authors also call for further research on other crime-induced factors.

In the article *Local Governments as Providers of Public Order: The Case of Estonia*, **Ero Liivik** deals with the legal regulation of Estonia's public order from the aspect of local governments. Based on an analysis of national legislation, the authors conclude the central task of local government is to provide public services and improve the living environment. The principal provider of internal security in Estonia is the Police and the Border Guard Board, a nationally based organisation. Local governments in Estonia do not have their own police structures, the only limited possibility the law gives is to establish a law enforcement unit. The municipal police department operating in the capital of Estonia, Tallinn, is an exceptional case. The law restricts the competencies and power of a law enforcement unit so, compared to the police, the tasks and legal power of local governments to be responsible for security issues remain limited. Nevertheless, local governments have the right to establish voluntary committees dealing with security and public order issues, while measures to maintain public order in local communities are usually regulated in a local government development plan, with the notion that preserving public order is performed in cooperation with state structures only. The Editorial Board hopes you find all the articles interesting and a good source of new ideas. And, since this is the last issue for 2017, we wish you very best in 2018!

Assoc. Prof. Branko Lobnikar, PhD
Editor of English Issues

Uvodnik

V tej številki revije *Varstvoslovje* objavljamo štiri prispevke. Avtorica prvega prispevka analizira načine soočanja slovenskih kriminalistov s travmo, prispevka avtorjev iz Nigerije sta namenjena analizi zaporskega povratništva ter vpliva vremena na storitev kaznivih dejanj, prispevek avtorja iz Estonije pa analizira vlogo lokalne samouprave pri zagotavljanju varnosti v tej skandinavski državi.

Tinkara Pavšič Mrevlje v prispevku z naslovom *Trauma in strategije spoprijemanja pri kriminalistih z Oddelka za krone in seksualne delikte ter Oddelka za mladoletniško kriminaliteto* analizira odzivanje policistov na travmatične dogodke. Rezultati analize kažejo nizko posttravmatsko simptomatiko, ki se veže predvsem na izogibajoče strategije spoprijemanja. Avtorica v prispevku opiše tudi nekatere specifične delovne situacije, ki se povezujejo z višjim posttravmatskim stresom. Na podlagi ugotovitev so predstavljene smernice za preventivne in nekatere kurativne programe za kriminaliste, ki bi lahko izboljšali dobro počutje zaposlenih in dopirnesli k učinkovitejšemu delu policije.

Gabriel Agboola Adetula v prispevku *Postopkovna pravičnost in poštenost ter stališča zapornikov v Nigeriji do povratništva* analizira vrsto dejavnikov, ki bi lahko vplivali na povratništvo v zaporski sistem v Nigeriji. Avtor v prispevku kritično obravnava postopkovno pravičnost in poštenost v sodnih postopkih, opisuje zaporniški sistem in stališča zapornikov do vplivov tretjaja na njihov odnos do povratništva. Rezultati analize so pokazali, da šest spremenljivk v različnih smereh in z različnimi stopnjami statistične značilnosti korelira med seboj in s predmetom proučevanja – odnosom do povratništva.

Zanimiv je prispevek avtorjev Elisha Ademola Adeleke, Abiodun Daniel Olabode in Abimbola Emmanuel Oni z naslovom *Vremenske razmere in razširjenost kaznivih dejanj v Ifako-Ijaye (država Lagos, Nigerija)*, kjer poskušajo pojasniti pojavnost kriminalitete z vremenskimi in okoljskimi vplivi. Avtorji trdijo, da lahko določeno pojavnost pojasnijo s temperaturo ozračja in poraščenostjo okolja; vremenski pojavi so se izkazali kot statistično značilno pomembno povezani s pojavnostjo več vrst kaznivih dejanj, pri čemer so avtorji še posebej izpostavili posilstvo. Avtorji opozarjajo tudi na povezavo med količino padavin in stopnjo umorov ter ugrabitvev, medtem ko poročajo o povezavi med visokimi temperaturami in tatvinami ter goljufijami. Pri tem poudarjajo, da pojavnosti kaznivih dejanj ne smemo pojasnjevati izključno z v analizo vključenimi dejavniki, vendar jih tudi ne smemo popolnoma izključevati iz pojasnjevalne matrike.

V prispevku *Lokalne oblasti kot subjekti zagotavljanja javnega reda in miru: primer Estonije* Ero Liivik opisuje zakonsko ureditev zagotavljanja varnosti v lokalnih okoljih z vidika občinskih oblasti. Avtor na podlagi analizirane zakonodaje ugotavlja, da ima policija v Estoniji primarno nalogo zagotavljanja varnosti tudi v lokalnih okoljih in da lokalnim oblastem zakon ne omogoča, da bi zagotavljale varnosti s pomočjo lokalnih policijskih organizacij, kot so na primer občinska redarstva. Izjema je zgolj Talin, glavno mesto Estonije. Ne glede na to omejitev avtor opozarja, da imajo lokalne oblasti pravico, da organizirajo prostovoljna združenja za krepitev varnosti v lokalnih skupnostih, prav tako pa lahko načrti

lokalnih skupnosti zajemajo na primer ukrepe za zagotavljanje javnega reda in miru. Izvajanje teh ukrepov je mogoče samo s tesnim sodelovanjem z državnimi institucijami, kot je na primer policija.

Uredniški odbor verjame, da so članki, ki smo jih po temeljitih recenzijskih postopkih izbrali za objavo v tej številki revije Varstvoslovje, zanimivi in bodo v pomoč bralcem pri njihovem delu. In ker je to zadnja številka revije v letu 2017, vsem skupaj želimo uspešno leto 2018.

Izr. prof. dr. Branko Lobnikar
Urednik števil v angleškem jeziku

The Trauma and Coping in Homicide and Sexual Offences and Juvenile Crime Criminal Investigators

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Tinkara Pavšič Mrevlje

Purpose:

The study aims to contribute to research on trauma among police officers. The paper presents selected results of a larger study about trauma and coping among two specific police groups: criminal investigators from the Homicide and Sexual Offences (HSO) section as well as the Juvenile Crime (JC) section. Findings for each group are presented and differences analysed.

Design/Methods/Approach:

All 56 criminal investigators from HSO and JC sections within the Republic of Slovenia were asked to participate. The response rate was high: 92.59% ($n = 25$) for the HSO and 82.14% ($n = 23$) for the JC groups. The participants signed an informed consent and completed the questionnaires in a group setting in work hours. They were later given information about the individual results if they wished.

Findings:

The results for both groups show a low level of posttraumatic symptomatology that is linked to specific, mostly avoidance coping mechanisms. Specific work situations related to higher posttraumatic symptoms were identified for each participant group.

Research Limitations/Implications:

While the response rate was high, the small size of the two groups limits possibilities of statistical analysis, especially since the data are mainly not normally distributed.

Practical Implication:

A cross-sectional assessment of potential posttraumatic symptomatology can suggest preventive and possibly curative programmes for criminal investigators able to improve and contribute to more effective police work.

Originality/Value:

This is the first study in Slovenia to address the narrow field of trauma and coping among specific police groups.

UDC: 159.9:351.74/.76

Keywords: police work, psychology, trauma, coping, criminal investigators

Travma in strategije spoprijemanja pri kriminalistih z Oddelka za krvne in seksualne delikte ter Oddelka za mladoletniško kriminaliteto

Namen prispevka:

Namen prispevka je razširitev raziskovalnega polja travme pri policistih. Prispevek predstavlja rezultate širše raziskave o travmi in spoprijemanju s problemskimi situacijami pri dveh specifičnih skupinah kriminalistov: z Oddelka za krvne in seksualne delikte (KSD) in Oddelka za mladoletniško kriminaliteto (MK). Predstavljene so ugotovitve za obe skupini. Kjer je bilo mogoče, so bile analizirane tudi morebitne razlike med njima.

Metode:

K sodelovanju je bilo povabljenih vseh 56 kriminalistov z oddelkov za KSD in MK v RS. Odzivnost je bila visoka: 92,59 % ($n = 25$) za KSD in 82,14 % ($n = 23$) za MK. Sodelujoči so podpisali informirano soglasje in vprašalnike izpolnili med delovnim časom. Kasneje so lahko na željo prejeli individualno povratno informacijo o rezultatih.

Ugotovitve:

Rezultati kažejo nizko posttravmatsko simptomatiko, ki se veže predvsem na izogibajoče strategije spoprijemanja. Ugotovljene so bile specifične delovne situacije, vezane na višji posttravmatski stres.

Omejitve/uporabnost raziskave:

Kljub visoki odzivnosti udeležencev sta obe skupini majhni, kar omejuje možnosti statistične analize. Obenem kompleksnejše analize tudi niso možne, ker se večina podatkov ne porazdeljuje normalno.

Praktična uporabnost:

Prečna ocena posttravmatske simptomatike da smernice za preventivne in morda kurativne programe za kriminaliste, kar lahko koristi in doprinese k učinkovitejšemu delu policije.

Izvirnost/pomembnost prispevka:

Gre za prvo slovensko raziskavo na ozkem področju travme in strategij spoprijemanja v specifičnih policijskih skupinah.

UDK: 159.9:351.74/.76

Ključne besede: policijsko delo, psihologija, travma, strategije spoprijemanja, kriminalisti

1 INTRODUCTION

Regular exposure to traumatic events with either a lower or higher impact can gradually weaken an individual's adaptive abilities and ultimately be reflected in

their subjective, interpersonal and professional life. Stress-related problems can become chronic and affect a person's functioning in key life roles.

Psychological reactions to traumatic experiences are subjective and in extreme cases can lead to anxiety, mood swings, substance abuse or eating disorders (Gros et al., 2006; Marmar et al., 2006; Yehuda, 1998). However, the most common reaction is Post-Traumatic Stress Disorder (PTSD; American Psychiatric Association [APA], 2013), characterised by four clusters of symptoms: intrusion (e.g. reliving the trauma over and over), avoidance of stimuli related to the trauma (e.g. avoiding trauma-related thoughts), negative alterations in cognitions and mood (e.g. inability to recall key features of the traumatic event) and alterations in arousal and reactivity (e.g. concentration problems, angry outbursts). It is important to add that exposure to a single traumatic event usually does not lead to PTSD (Kaltman & Bonanno, 2003; Mancini & Bonanno, 2006).

2 POLICE WORK AND TRAUMA

Police work clearly exposes law enforcement officers to a range of traumatic events and their consequences to a much greater extent in comparison to the general population (Edelmann, 2010), making posttraumatic symptomatology among police officers no surprise (Ballenger et al., 2010; Stephens & Long, 2000; van Patten & Burke, 2001). In fact, many studies show a higher prevalence of PTSD and depression among police personnel (Darensburg et al., 2006; Maia et al., 2007; Perez, Jones, Englert, & Sachau, 2010). Yet, other studies show the opposite – a low or average rate of PTSD (Marchand, Nadeau, Beaulieu-Prévost, Boyer, & Martin, 2015). The discrepancy might be due to various factors. One is certainly the participant police population, the nature of whose traumatic exposures can vary greatly. In addition, the instruments used for assessing PTSD may differ in sensitivity given that posttraumatic symptomatology sometimes does not cover all the diagnostic criteria for PTSD, but is nevertheless clinically significant (Ozer & Weiss, 2004). Maia et al. (2007) used the term *partial PTSD*, with their study showing that the occurrence of PTSD (8.9%) and partial PTSD (16%) was higher among police officers than in the general population. Van Patten and Burke (2001) noticed similar characteristics in a special police unit of homicide investigators: posttraumatic symptomatology was more pronounced than in the general population, but not to such a level that would significantly impair their functioning. Marshall (2006) warns against such unrecognised symptoms since they can slowly debilitate a police officer's psychological and emotional well-being through accumulated traumatic exposures. Namely, subsyndromal PTSD is linked to various comorbid psychiatric disorders, functional difficulties and somatic symptoms (Pietrzak et al. 2012).

Even though police officers are at a greater risk for traumatic exposure than the general population, studies show they are quite resilient to stress, possibly because of the selection criteria and trainings that facilitate their resilience (Marchand et al., 2015). On the other hand, an inclination to underreporting traumatic symptoms should not be disregarded as a possibility given the police culture discourages individuals from being vulnerable (Marchand et al., 2015),

and underreporting may be an effort to appear resilient (McCaslin et al., 2006). After all, an officer whose psychological functioning is compromised should not carry a firearm (Perrin et al., 2007). Moreover, a strong work commitment can limit a person's recognition and awareness of changes and impairment they are experiencing caused by traumatic stress (Bourke & Craun, 2014).

Even though posttraumatic symptomatology in police officers is the main interest of our study, traumatic experience in police work can also lead to other issues that should be mentioned. They include, for instance, low work effectiveness, higher accident frequency, marital problems, suicide, alcohol and substance abuse, family violence, ulcer and other digestive disorders and respiratory disorders (Marshall, 2006; Waters & Ussery, 2007), nausea, mood swings, sleep disorders, and cardio-vascular diseases (McCarthy, Zhao, & Garland, 2007).

3 TRAUMATIC EVENTS IN POLICE WORK

The most distressing critical incidents for officers involve duty-related life threats and violence (McCaslin et al., 2006). A study of specific police work situations with the greatest traumatic impact highlighted the following (Karlsson & Christianson, 2003): armed threats, traffic accidents, murders, threats, accidents, investigations, suicides, notifications, and taking children into custody. In a similar study, Brown, Fielding and Grover (1999) found three traumatic factors in operative stressors: 1) deaths and catastrophes; 2) routine police work; and 3) sexual crimes. The authors conclude that the first group occurs rarely, but has a strong impact, the second group is common and has low traumatic potential, while group three is relatively frequent with a mid-level impact. It is important to again stress that traumatic stress reactions may also occur after a long-lasting exposure to stressful situations that do not necessarily carry high potential for trauma (Herman, 1992).

A relevant characteristic of traumatic events for police officers is the age and role of the victim (Ferguson, 2004). When dealing with helpless children as victims of abuse and exploitation, police officers can become most profoundly affected (Marshall, 2006; van Patten & Burke, 2001). In addition, the traumatic nature of police tasks is more prominent if the police officer is new to the job and when they can identify with the victim or the victim's loved ones, when the offender acts 'nice' and 'normally' while he or she is the suspect of child abuse, and when crime scenes are especially gruesome (Ferguson, 2004). The finding that junior officers suffer more stress than their seniors was also found in a study by Husain (2014) in which newer police officers showed higher depression and anxiety levels.

Another traumatic element found in professions like police work is the *anticipation* of a possible traumatic exposure (van der Kolk, van der Hart, & Marmar, 1996). Generally speaking, this anticipatory stage of trauma leads to PTSD symptoms and difficult decision-making even in clear situations, although this has yet to be researched in the law enforcement field (Papazoglou, 2013).

4 COPING STRATEGIES AND PROTECTIVE FACTORS

The consequences of trauma not only relate to the nature of the event, but more importantly to the way the individual/police officer experiences and reacts to it. Risk factors (e.g. peritraumatic distress and perception of threat) inhibit while protective factors (e.g. social support and high self-esteem) facilitate working through a traumatic experience. These factors are more important than the frequency and intensity of the exposure when distinguishing resilient police officers from non-resilient ones (Prati & Pietrantonio, 2010). *Resilience* is a system's adaptation to hazards for the purpose of achieving and maintaining an acceptable level of functioning (Lanius, as cited in Wilkinson, 2010).

Coping strategies form a significant part of resilience. Based on research, Stanton and Franz (1999) distinguish the *approach* and *avoidance* coping strategies. *Avoidance-coping strategies* involve conscious attempts to withdraw from the source of stress while *approach-coping strategies* enable individuals to exploit those changes of the stressful situation that provide greater control (Anshel, 2000). Even though there is a strong tendency to use either approach- or avoidance-coping strategies, the use of the two strategies is not mutually exclusive (Roth & Cohen, 1986) and is determined by personality and situational characteristics (Wearing & Hart, 1996). In difficult-to-control situations and when the solution can be short term, avoidance-coping methods may be beneficial, while the opposite applies to approach-coping methods (Roth & Cohen, 1986). However, empirical studies show a correlation between avoidance-coping strategies and a more prominent posttraumatic symptomatology (Gershon, Barocas, Canton, Li, & Vlahov, 2009; Haisch & Meyers, 2004; Krause, Kaltman, Goodman, & Dutton, 2008; Ménard & Arter, 2013; Pacella et al., 2011; Pasillas, Follette, & Perumean-Chaney, 2006).

In the context of police work, we can recognise avoidance-coping strategies in police officers' strict reliance on police work and emotional blocking (Koch, 2010) that allows police officers to approach a situation in a logical way and maintain an objective perspective on their work (Henry, 1995). One study shows that specific strategies for coping with such events are developed through work experience (Garcia, Nesbary, & Gu, 2004), trainings and emotional preparedness. Therefore, older police officers use avoidance strategies less often (Marmar, Weiss, Metzler, & Delucchi, 1996).

A summary of the many studies in this field suggests a police officer's reaction not only depends on the traumatic situation itself, but also on their coping strategies and support that is available to work through the experience. Social support plays a protective role – support from one's family, friends, colleagues and supervisors (Bourke & Craun, 2014). Yet this kind of support is not always directly brought into play for work-related stress. A study showed that social support in highly stressful (work) situations can even intensify stress – as if by avoiding talking about it, a police officer protects his/her own support system (Hyman, 2004).

Organisational support especially from the leadership is important in police work, especially those experiencing posttraumatic symptomatology (Violanti et al., 2015). In fact, officers who do not discuss their traumatic experience show

greater psychological distress and traumatic stress (Davidson & Moos, 2008). Another important protective factor should be mentioned: recognition of the importance of police work. Where the efforts of the police go unrecognised and without public support, the psychological distress might increase (Perrin et al., 2007) as the exposure to the traumatic events becomes even more difficult to make sense of (Henry, 2004).

5 AIM AND PURPOSE OF THE STUDY

In Slovenia, studies about trauma and coping in law enforcement are scarce. More than two decades ago, a few similar studies were carried out (Selič, 1994; Selič & Umek, 1994), but their main purpose was to determine organisational stressors and job satisfaction. These concepts are close, yet quite different from the topic of traumatic stress. The latter has only recently been studied more closely on a specific group of police officers – crime scene investigators. The results show that the prevalence of posttraumatic stress disorder among Slovenian crime scene investigators is more frequent than in the general population, and that stress arises not only due to organisational factors like shift work, but operational factors as well (Pavšič Mrevlje, 2013). This group of police officers mainly uses avoidance-coping strategies that are often related to physical health problems, while approach strategies are used if officers are familiar with the nature of the task, have time to prepare for it, and feel that past situations have been resolved positively (Pavšič Mrevlje, 2016).

The study presented in this paper intends to expand the research field concerning trauma among police officers. The paper shows some of the results of a larger study that included two specific police groups: criminal investigators from the Homicide and Sexual Offences (HSO) section and Juvenile Crime (JC) section. These two groups of investigators were chosen because they regularly deal with work situations that entail the possibility of a traumatic impact; the HSO group mostly with murder and suicide cases, physical and sexual violence, while the JC group with child abuse, child sexual abuse and family violence.

6 METHOD

6.1 Participants

All 56 criminal investigators from HCO ($N = 27$) and JC ($N = 28$) sections in Slovenia were asked to participate in the research. Some were unable to participate due to work absence or sick leave, a few did not wish to participate, but the overall response rate was high: 93% for HSO and 82% for JC. The final sample is presented in Table 1. The average age of the two groups is slightly above 43 years, and both groups' average years of service slightly exceed 8. The differences are not statistically significant. One of the participants is single, and all have children.

	Male		Female		Sum		Age		Years of service as criminal investigator	
Section	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
HSO	21	91	4	100	25	93	43.16	7.11	8.15	4.98
JC	13	93	10	77	23	82	43.22	6.06	8.40	6.14

Table 1:
Demographic
data for the two
groups

6.2 Instruments

The *Coping Responses Inventory (CRI) questionnaire* (Moos, 1993) measures individuals' cognitive and behavioural responses to a stressful situation. It measures eight strategies: two cognitive (logical analysis, positive reappraisal) and two behavioural *approach strategies* (seeking guidance and support, problem solving), and two cognitive (cognitive avoidance, acceptance or resignation) and two behavioural *avoidance strategies* (seeking alternative rewards, emotional discharge). Each coping item is rated on a 4-point Likert scale. To ensure an adequate comparison of raw data, these need to be converted into standardised T-scores. The following interpretation of results is applied (Moos, 1993): T-scores between 46 and 54 are average, between 55 and 59 somewhat above average, between 60 and 65 well above average and over 66 considerably above average. T-scores between 41 and 45 are somewhat below average, between 35 and 40 well below average, and under 34 considerably below average.

The *Detailed Assessment of Posttraumatic Stress (DAPS) questionnaire* measures individuals' symptomatic responses to a traumatic event, dissociative conditions, proneness to suicide and substance abuse (Briere, 2001). To adequately compare data to clinically relevant measures, raw results need to be converted into standardised T-scores and are interpreted as follows: T-scores between 60 and 65 show elevated traumatic stress that may or may not be clinically meaningful, while T-scores above 65 are always clinically meaningful (Briere, 2001). For the purpose of this paper, only the main scale *posttraumatic stress* (showing the total posttraumatic symptomatology; PTS-T) was included.

For this research, a list of work situations was created – including specifics for each participant group. Each situation required an appraisal of the *frequency of occurrence* and *emotional burdening* of each situation on a 6-point Likert scale.

6.3 Procedure

The research was approved by the General Police Directorate within the Ministry of the Interior of the Republic of Slovenia.

Visits to each Police Directorate were individually arranged. The study's aim was presented to the criminal officers present and they were later invited to participate. There were no consequences for officers choosing not to participate, as taking part in the study was voluntary. Those deciding to participate signed an informed consent form. They filled in their questionnaires in a group setting in work hours. Participants subsequently received information about their

individual results if they wished. Feedback and the possibility of consultation were provided individually. The data collection started in spring 2014 and last feedbacks were given in spring 2017.

Data were analysed using IBM SPSS Statistics for Windows, version 24 (IBM Corp., Armonk, N.Y.).

7 RESULTS

7.1 Traumatic Symptomatology

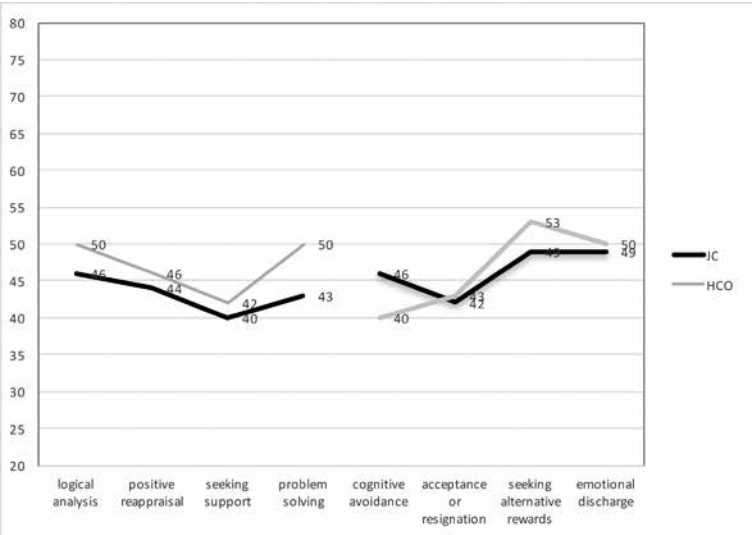
The DAPS questionnaire includes two validity scales (over-denying and overemphasising symptoms). After excluding participants with a negative validity scale, DAPS scores were calculated for 3 women and 16 men from the HSO section and 7 women and 11 men from the JC section. The T-score for the average result on the posttraumatic symptomatology scale for the HSO group is 52.05 and 55.83 for the JC group. Both are within the expected average range. A more detailed analysis shows one participant from the HSO group with a clinical PTST score, while the JC group includes 2 with mild and 3 participants with clinical posttraumatic symptomatology.

7.2 Coping Mechanisms

As seen in Figure 1, most scores for the coping strategies fall within the average range for both groups. A slightly below-average result in *seeking guidance and support* and *acceptance and resignation* is noted in the HSO and JC groups. The HCO group also has a somewhat below-average score in *cognitive avoidance*.

A statistically significant difference between groups was found only in *problem solving*, a strategy the JC group uses less frequently (Mann Whitney U test = 175; $p = 0.02$).

Figure 1:
T-scores
in coping
strategies scales
for HSO and JC
groups



An exploratory analysis was made for each group to look for any correlations between a coping strategy and posttraumatic symptomatology.

A moderate statistically significant correlation was found in the HSO group with *emotional discharge* (Spearman's $Rho = 0.45$; $p = 0.02$). In the JC group, a strong correlation was found in *seeking alternative rewards* (Spearman's $Rho = 0.63$; $p = 0.002$) and moderate correlations in *cognitive avoidance* (Spearman's $Rho = 0.52$; $p = 0.012$), *acceptance or resignation* (Spearman's $Rho = 0.43$; $p = 0.039$) and *seeking guidance and support* (Spearman's $Rho = 0.44$; $p = 0.037$).

7.3 Traumatic Work Situations

The correlations between posttraumatic symptomatology scale and specific work situations were analysed to define those working tasks that carry a potentially traumatic impact. The correlations for the HCO group are strongest with those situations requiring witnesses and people close to the victim to be interviewed (Table 2). On the other hand, the JC group mostly points out factors that are organisational (Table 3).

	Characteristic of the situation	Pearson's Rho	p
Interviewing the witnesses	intensity	0.68	0.000
Feeling responsible to solve the cases	frequency	0.66	0.001
Interviewing the parents of the victim	intensity	0.63	0.001
Working on-call	intensity	0.62	0.001
Uncooperative witnesses	intensity	0.62	0.001
Interviewing friends of the victim	intensity	0.59	0.002
Frequent strenuous and demanding contacts with people	intensity	0.59	0.002
Interviewing co-workers/school mates of the victim	intensity	0.58	0.002
Complaints and provocations at work	frequency	0.57	0.003
Meeting people in distress	frequency	0.56	0.004
Interviewing the partner of the victim	intensity	0.55	0.004
Lack of management care for criminal officers	frequency	0.54	0.005
Monotonous work	intensity	0.52	0.007
Frequent strenuous and demanding contacts with people	frequency	0.51	0.009

Table 2:
Strong and moderate correlations between posttraumatic stress and work situations for the HCO group

Table 3: Strong and moderate correlations between posttraumatic stress and work situations for the JC group

Work situation	Characteristic of the situation	Pearson's Rho	<i>p</i>
Monotonous work	intensity	0.61	0.002
Lack of rest	intensity	0.57	0.005
Lack of time for friends	intensity	0.54	0.008
Going to court as a witness	intensity	0.54	0.008
Physically demanding work	intensity	0.52	0.011
Public opinion about the police	intensity	0.52	0.011
Lack of management care for criminal officers	intensity	0.50	0.014

8 DISCUSSION

Posttraumatic symptomatology meeting the criteria for posttraumatic stress disorder (PTSD) develops through the complex inter-correlations between traumatic exposure, coping strategies, previous traumatic experiences and posttraumatic support. Some of these were assessed in this study by estimating the level of posttraumatic symptomatology, coping mechanisms, and identifying the most stressful work tasks in two sections of criminal investigators: Homicide and Sexual Offences (HSO) and Juvenile Crime (JC).

The results show that both groups are within the average range of posttraumatic symptomatology, although a closer look shows the JC group includes three investigators with clinical and two with mild posttraumatic symptomatology, while the HSO group has one investigator at the clinical level. At this point, considering the available data, the group difference may be attributed to their line of work – after all, working with child and minor victims brings the biggest emotional demands (Marshall, 2006; van Patten & Burke, 2001).

Generally, most of the participants reveal a good degree of resilience. This may be a consequence of a good (self)selection process that saw individuals with suitable personality characteristics being assigned to this job position. Further, training and experience is known to adjust a policemen's functioning and coping strategies (Marchand et al., 2015). We can infer that resilient officers cope quite well with the emotional demands of their work tasks and thus do not suffer from posttraumatic symptomatology. On the other hand, a low level of these symptoms might be the result of underreporting due to the need to be seen as less vulnerable (Marchand et al., 2015; McCaslin et al., 2006). The finding of their infrequent use of the coping strategy *seeking guidance and support* tells a similar story. Participants in both groups show a tendency to rely mostly on oneself and very rarely on others, which might also represent an effort to be seen as strong and resilient.

Another common characteristic regarding coping strategies shows that neither group can accept an emotionally difficult work situation as would be expected. A moment in working on a case is sometimes reached when nothing else can be done. However, the strong feelings of responsibility the investigators experience to solve cases might hinder their acceptance of this situation.

Members of the HSO and JC groups do not differ significantly in any of the coping strategies they use, except *problem solving*¹, an approach strategy the JC group uses less often. Moreover, although not significantly different, the JC group uses *cognitive avoidance* more often than the HSO group. As working on child abuse cases is emotionally one of the most overwhelming police tasks (Marshall, 2006; van Patten & Burke, 2001), and since it is not easy to organise good subsequent care for the (minor) victim, perhaps the JC investigators feel somewhat incapacitated and powerless with respect to taking more concrete and direct steps to address the situation (problem solving) and need to dissociate themselves more (cognitive avoidance).

The correlation between avoidance-coping strategies and a more prominent posttraumatic symptomatology has been proven many times (e.g., Gershon et al., 2009; Ménard & Arter, 2013; Pacella et al., 2011) and was also shown in the present study, especially in the JC group where three out of four avoidance strategies measured were found to be significantly linked to higher posttraumatic symptoms: *seeking alternative rewards*, *cognitive avoidance* and *acceptance or resignation*. A similar correlation was found in the HSO group, but for the *emotional discharge* mechanism only. It seems that JC investigators' posttraumatic symptoms persist when they try to ease and decrease their work-related tension with activities that are not a source of stress (alternative rewards), deliberately choose to avoid the emotional consequences (cognitive avoidance), and 'give in' as if nothing can be done about it (resignation). Something similar happens to the HSO investigators when they vent their emotional tension in other activities that might be risky in nature. On the other hand, interestingly, the JC group's symptomatology also rises when they try to share their burden with others. This might be a mechanism the investigators use to protect their support system by not traumatising it with narrations of a horrifying work experience. Similar was found in crime scene technicians (Hyman, 2004).

Another study aim was to identify work tasks the investigators find emotionally demanding and are thus potentially traumatic. The HCO group primarily points to interviews with witnesses and people close to the victim. Work with distressed people constitutes the most intense work situations. This is not surprising as PTSD criteria include *indirect* exposure to a traumatic situation – prior to DSM V (APA, 2013) this used to be called *secondary* or *vicarious* trauma (Figley, 1995; Pearlman & Saakvitne, 1995). The feeling of not being cared for by the management has also been shown to be an important factor in police traumatic stress. When support is felt and investigators' work is acknowledged as being important, this may represent a protective agent because in such circumstances an officer can find meaning in their (unnatural) exposure to traumatic elements (Henry, 2004; Perrin et al., 2007). Among the organisational factors, *working on-call* was also found to hold traumatic potential for the HCO group members. Even being at home or in a calm environment, knowing that at any time there might be a call not only disrupting one's sleep or weekend activities, but also and foremost

¹ It should be noted that *problem solving* does not mean resolving concrete police cases, but coping with an emotionally difficult situation.

expose the investigator on duty to possible traumatic experience, can in itself carry a traumatic impact. The trauma exposure begins before the actual traumatic event takes place (van der Kolk et al., 1996).

In the JC group, work situations that are traumatic practically do not include operational elements. The most stressful factors are physical in nature. It is almost as if the horrifying cases that they have to work on are blocked out and denied. If this is the case, it is likely due to avoidance strategies mentioned before. The content of their work is not as 'innocent' as might seem from this since the most traumatic situation is *monotonous work* and *going to court as a witness*. In court, one needs to talk about stressful situations and hence re-experience them. Moreover, what is told might be challenged by the defence, and may be perceived as mocking and undermining the quality of police work. As mentioned, these are factors that make working through the trauma very difficult, such as the frequent negative public opinion of police work and lack of leadership's care for criminal officers, which were also found to be linked to posttraumatic symptomatology. Monotony, on the other hand, may seem to be simply dull and boring work. Yet, in police work, it is often described as calm days punctuated by intense and adrenaline fuelled events, with the discrepancy sometimes making the monotonous office work frustrating and tense in anticipation of such events.

9 CONCLUSIONS

The results presented in the paper offer important insights into the trauma symptoms of two groups of criminal investigators. The high response rate makes the conclusions more robust, but there are some important limitations. First, the samples are small and most data are not normally distributed, limiting possibilities for statistical analysis. Second, the conclusions need to be carefully interpreted because the instruments used are not standardised on a Slovenian sample and trauma is multifaceted, whereas in this paper only certain factors were analysed.

Being exposed to traumatic events can lead to PTSD and posttraumatic symptomatology, but many other disorders and problems as well. Therefore, it is vital to recognise the factors that contribute to negative consequences to ensure better prevention and action. What can be deduced from our data is that differences exist between the two groups of investigators, which may be due to their exposure to different kinds of trauma. Investigators from the Juvenile Crime group show slightly greater impairment, which is expected given their line of work (Marshall, 2006; van Patten & Burke, 2001). In addition, the Homicide group might receive more informal support from their colleagues and management, mitigating the traumatic factors.

Both groups rely more on avoidance-coping strategies, which might be understandable considering the difficult work issues they encounter such as physical injury, violent death and the abuse of minors. More active and approach-oriented coping in such cases is difficult. Consequently, the avoidance coping enables them to work effectively on their cases because they are not overwhelmed and held back by emotions. Moreover, even though avoidance coping has been shown not to be beneficial in the long run (e.g. Krause et al., 2008;

Ménard & Arter, 2013), our data reveal most HSO and JC criminal investigators do not suffer from traumatic symptoms, meaning their coping strategies are efficient.

The differences identified between the groups not only give us insight into the current status of the criminal investigators, but provide important orientations for preventive and curative work in the area of police trauma, which should be group-specific.

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Procedural Justice and Fairness in Cases Adjudicated and Attitudes to Recidivism among Nigerian Prisoners

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Gabriel Agboola Adetula

Purpose:

The study critically examines procedural justice and fairness in court processes, the Nigerian prison system, term of imprisonment, and prisoners' perception of treatment effects on their attitude to recidivism behaviour practice in the Nigerian socio-cultural context. The aim is to measure the relationship between cases adjudicated, imprisonment term, length of sentence, crime committed, court fairness and recidivism attitude.

Design/Methods/Approach:

The study adopts an ex-post facto design approach for the survey. Three hundred prisoners from the Olokuta and Owo prisons in Ondo State, Nigeria were randomly selected as participants. Questionnaires and oral interview questions were adapted to elicit data. Pearson product moment correlation statistical analysis was used to process the data.

Findings:

The results show that the six measurement variables correlated at different levels of significance and directions with the object being measured – recidivism attitude.

Research Limitations/Implications:

Access to prison and soliciting the data from the required number of prisoners was difficult due to restrictions. Nigerian courts are classified as 'sacred', and criminal records are untouchable, unreadable and inaccessible. These hindrances posed limits on research efforts to obtain sufficient data for the analysis.

Practical Implications:

The correlation results of the analysis not only show the directions of the variables' usefulness to each other, but also provide an emerging information resource that may serve as a primary data source or be of use in future investigations.

Originality/Value:

Given the nature of psychometric properties, a new idea concerning the measurement of attitudes has emerged – the scale may be used to measure the treatment of a prisoner's attitude to recidivism. It might hold the potential to be used as a method to help scholars and experts better define the concept of recidivism.

UDC: 343.8(669.1)

Keywords: recidivism, recidivism, crime, prisons, rehabilitation

Postopkovna pravičnost in poštenost ter stališča zapornikov v Nigeriji do povratništva

Namen:

Prispevek kritično obravnava postopkovno pravičnost in poštenost v sodnih postopkih, zaporniški sistem, zaporno kazen in stališča zapornikov do vplivov tretmaja na njihov odnos do povratništva v družbeno-kulturnem kontekstu Nigerije. Cilj prispevka je ugotavljanje razmerij med sodnimi postopki, zaporno kaznijo, dolžino kazni, storjenim kaznivim dejanjem, pravičnostjo sodišča in povratništvom.

Metode:

V študiji je uporabljen *ex-post facto* pristop k raziskovanju. V vzorec je bilo naključno izbranih tristo zapornikov iz zaporov Olokuta in Owo v nigerijski državi Ondo, ki so sodelovali v anketiranju in intervjujih. Za statistično analizo podatkov je bil uporabljen Pearsonov koeficient korelacije.

Ugotovitve:

Rezultati so pokazali, da šest spremenljivk v različnih smereh in z različnimi stopnjami statistične značilnosti korelira med seboj in s predmetom proučevanja – odnosom do povratništva.

Omejitve/uporabnost raziskave:

Dostop do zaporniške populacije in zbiranje podatkov sta bila zaradi sistemskih omejitev otežena. Nigerijska sodišča so pojmovana kot »sveta«, kazenske evidence so nedotakljive, neberljive in nedostopne. Vse naštetu predstavlja omejitve pri raziskovanju, še posebej pri pridobivanju podatkov za analizo.

Praktična uporabnost:

Rezultati korelacije usmerjajo pozornost k spremenljivkam in njihovim medsebojnim povezavam, poleg tega pa predstavljajo nov vir primarnih podatkov, ki jih lahko uporabimo za nadaljnje raziskovanje.

Izvirnost/pomembnost prispevka:

Glede na naravo psihometričnih lastnosti se je pojavila nova ideja o merjenju – lestvica, ki se lahko uporabi za namene ugotavljanja zapornikovega odnosa do povratništva in hkrati kot znanstvena in strokovna metoda za definiranje pojma povratništva.

UDK: 343.8(669.1)

Ključne besede: povratništvo, kriminaliteta, zapor, rehabilitacija

1 INTRODUCTION

In Nigeria today there is a lack of clarity about recidivism and the objectives of prisoner rehabilitation; similarly, there has been no alternative treatment programme for ensuring a prisoner's incarceration soberness and societal sanity processes. Progress in a criminal investigation, judgement and treatment direction is hindered because things are working at cross purposes and contradictions can be found in the operations of the Nigerian legal and penal sector, particularly the Nigeria Prison Service (NPS). Placing the correctional institutions under closer scrutiny with regard to how effective they are in managing recidivism (the rate at which prisoners return to prison) has become a popular measure of unquestionable validity for evaluating the programmes provided by correctional agencies for offenders. Unlike advanced countries, Nigeria's problem with recidivism has not been adequately addressed with the proper interest it deserves. This has worsened criminality and, by extension, accelerated the rate at which ex-prisoners return to incarceration.

2 THEORETICAL FRAMEWORK

2.1 Procedural Justice and Fairness

The concept of procedural justice relates to discussions on the administration of justice and legal proceedings. Aspects of procedural justice are connected to due process in the United States of America (USA), fundamental justice (Canada), procedural fairness (Australia) and natural justice (other common law jurisdictions) and Nigeria's legislation (Criminal Procedure Act or Code). The idea of procedural justice also applies to non-legal contexts in which a certain process is employed to resolve conflict or divide benefits or burdens among organisations and industries.

Theoretically, the application of procedural justice to cases adjudicated and imprisonment terms, either long or short, can bring both positive and negative consequences for the prisoner in this study case.

There are various theoretical rationales for anticipating increasing, decreasing or curvilinear effects of time served on recidivism and they depend on assumptions made about the timing of causal mechanisms, their intensity and number. For example, deterrent effects are most likely in the initial months of incarceration; at that point, the 'pain of imprisonment' may be felt most acutely and criminogenic experiences that reduce social bonds or increase strain may be nominal. In addition, the marginal specific deterrent effect may decline with time due to "the general tendency of individuals to place relatively less value on experiences that occur more distantly in time" (Orsagh & Chen, as cited in Mears, Cochran, Bales, & Bhati, 2016, pp. 94–95). Viewed in this light, the initial months of incarceration may be associated with deterrent effects that offset the countervailing criminogenic effects (Nagin, Cullen, & Jonson, 2009). However, criminogenic experiences, including greater difficulty in finding legitimate work, may accumulate and increasingly offset the deterrent effects of lengthier stays. Mears et al. (2016) interpret these results as indicating a U-shaped effect.

The identified regression models, however, had a largely linear, positive relationship between time served and recidivism (Clemmer, as cited in Bondeson, 1990). It is equally plausible that criminogenic effects begin immediately and escalate. Clemmer (as cited in Bondeson, 1990) long ago argued that short incarceration stays decrease the likelihood that individuals will acculturate to the "prison community" and that longer stays greatly increase the possibility of being acculturated.

Procedural justice theory started with an experiment by Thibaut and Walker (1975). Their study demonstrated that people's assessments of the fairness of third-party decision-making procedures shape their satisfaction with their outcomes. The concepts behind procedural justice showed that the manner in which disputes are handled by the courts has an important influence on people's evaluations of their experiences of the court system (Lind & Tyler, 1988). Judgements about how cases are handled are generally referred to as assessments of procedural justice to distinguish them from assessments of the favourability or fairness of the outcomes that people received. Studies suggest first that procedural justice has an impact on whether people accept and abide by the decision made by the courts, both immediately and overtime. Second, procedural justice influences how people evaluate the judges and other court personnel they deal with as well as the court system and the law. When adopted in child custody cases between father and mother, procedural justice is not based on punitive measures rather the application of effective procedures that encourage faith in the court's fairness and justice, which bring about a positive climate between the parties that is more likely to promote both a long-term relationship and adherence to the agreements reached (Emery, Matthews, & Kitzmann, 1994).

In relation to communication, procedural justice deals with the perception of the fairness of outcomes. It reflects the extent to which an individual perceives that decisions concerning the outcome (whether the judge rules in favour of one party or the other, they will accept the verdict provided justice is seen to have been done) have been made fairly. The use of fair procedures helps communicate that employees are valued members of the group, for instance, in evaluating and structuring workers' salary (Adetula, 2005). Procedural justice can be examined by focusing on the formal procedures used in making decisions. If workers are aware or see the process used in determining their salary is fair, they will accept its use as an authentic structure (Adetula, 2005). Procedural justice, a subcomponent of organisational justice, is important in both communication and the workplace because it involves fair procedures; it allows employees to have a say in the decision process, it ensures employees' fair treatment and allows them to have greater input in the appraisal process. Tyler, Degoe and Smith (1996) found that giving disgruntled group members a voice, regardless of whether it is instrumental (i.e. a voice that affects the decision-making process) or non-instrumental (i.e. a voice that will have no influence in the decision-making process) is sometimes enough for a process to be viewed as fair (Lind, 1988; Tyler et al., 1996).

There are two levels at which we can address the question of which types of procedures people think are fair. One is to focus on possible legal procedures and discuss whether people see them as fair. When we do so, it becomes clear that

informal legal procedures are viewed as particularly fair. In fact, in civil cases, defendants rate mediation as being fairer than a formal trial and typically rate it as more satisfactory (Tyler, 1997). In criminal cases, defendants regard plea bargaining as being fairer than a formal trial (Tyler, 1997). In terms of procedural fairness, the act of giving people fair procedures means putting greater emphasis on informal dispute resolution. Which characteristics lead people to associate informal justice with procedural fairness? Studies have typically rated more than seven elements that contribute to assessments of fairness (Lissak & Sheppard, 1983; Sheppard & Lewicki, 1987; Tyler, 1988). However, four elements of procedures are the primary factors contributing to judgements about their fairness: opportunities for participation (voice), the neutrality of the forum, the trustworthiness of the authorities, and the degree to which people are treated with dignity and respect. In this study, these elements were assumed bestowed on the prisoners during trials before verdict, judgement or sentence.

The argument so far has presented strong viewpoints and a review of this theory in terms of adjudicating legal and criminal cases. Another idea contained in procedural justice theory relates to fairness in the processes of resolving disputes and allocating resources.

People feel they are more fairly treated if allowed to participate in the resolution of their problems, and so too are prisoners if they are able to present their own suggestions on what should be done (the ability and right to a voice are linked with feelings of respect and value, thus stressing the importance of the interpersonal factors of procedural justice (Thibaut & Walker, 1975)).

The criminal justice at the outset of a trial might not give consideration to these problems. In fact, knowledge of procedural justice might have been missing from this period, which then gave way to restitution. However, in 1975 researchers discovered the usefulness of procedural justice (Thibaut & Walker, 1975) and it is therefore imperative to look at the important role of fairness in how our courts adjudicate cases.

A few theorists like Lind and van den Bos (2002) and Wemmers and Cyr (2006), who support the notion that the length of sentences reflect the crime committed, argue that punishment or incarceration reduce recidivism by causing an emotional response like fear, anxiety or guilt, thus compelling the individual to avoid future punishment and thereby discouraging reoffending. Lind and van den Bos (2002) claim that longer sentences may cause offenders to conclude that a new offence would be too costly in terms of time lost, earnings and other advantages associated with freedom. Lind and van den Bos (2002) in evaluating one determinant of procedural justice considered the quantity of time invested in participants. Lind and van den Bos (2002) submitted that fair procedures will cost more than fair outcomes due to the extra time and effort people need to listen and provide information to others in the process. Hence, they claim that time is a restraint that may jeopardise a fair procedure.

In their study of victims, consideration was given priority over the process of fairness in a procedure used by a judge in settling a case between warring parties, that is absence of partiality on the part of judges, for instance, playing a neutral role and not taking sides, this is important for the litigant and the defendant, in terms

of whether the quality and quantity of time spent in mediation for information was a waste of time. Lind and van den Bos (2002) and Wemmers and Cyr (2006) discovered that victims who had several contacts with project workers were adequately informed. They concluded that the lack of a relationship between the number of contacts and the judgement of procedural justice suggests that criminal justice professionals can invest in fairness at a relatively little cost in terms of human resources and thus time constraints should not impede procedural justice (Wemmers & Cyr, 2006).

Procedural justice within the idea of fairness is the processes that resolve disputes and allocate resources equitably. Theoretically, procedural justice concerns itself with the fairness and transparency of processes by which decisions are made, and may be contrasted with distributive justice (fairness in the distribution of rights or resources), and retributive justice (fairness in the punishment of wrongs). Hearing all parties before a decision is made is one step which would be considered appropriate for ensuring a process may be characterised as procedurally fair. Some theories of procedural justice hold that a fair procedure leads to equitable outcomes even if the requirements of distributive or restorative justice are not met (Tyler, Rasinski, & Spodick, 1985). It has been suggested that this is the outcome of the higher quality interpersonal interactions often found in the procedural justice process, which has been shown to be stronger in affecting the perception of fairness during conflict resolution. Distributive and restorative justices are also relevant, but this paper mainly chose to examine procedural justice and fairness principally as part of understanding the basis of recidivism.

2.2 Perceived Court Fairness in Cases Adjudicated

Procedural justice refers to the fairness of judicial procedures and the interpersonal treatment of defendants or other litigants. Procedural justice is commonly contrasted with 'distributive justice', which concerns the fairness of the final outcome (e.g. whether a litigant 'won' or 'lost' the case). Interestingly, some researchers indicate that litigant perceptions of procedural justice can actually play a greater role in their overall assessment of their court experience than whether or not they like the case outcome. In plain terms, litigants prefer to win their case but tend to accept losing if they consider the court procedures and their interpersonal treatment to have been fair and respectful (Temibiaje, 2013; Tyler, 1990; Tyler & Huo, 2002).

Procedure fairness matters to every litigant who appears before a judge, but what is striking about procedural justice judgements is that they also shape the reactions of those who are on the losing side. People are namely more willing to accept a negative outcome in their case if they feel the decision was arrived at through a fair method. Significantly, even a judge who scrupulously respects the rights of litigants may nonetheless be perceived as unfair if they do not meet these expectations regarding procedural fairness. Of course, this does not mean that people are content when they lose their case and fail to obtain the desired

outcomes. Yet it does mean that they are more willing to accept and abide by the decisions of judges when those decisions seem to have been made fairly (Tyler, 2000; Wemmers & Cyr, 2006).

Early experimental research on trials by John Thibaut (a psychologist) and Laurens Walker (a lawyer) demonstrated that, irrespective of the outcome of a trial, the participants were more willing to accept the decisions of the judge if the trial procedure was fair (Thibaut & Walker, 1975). In particular, they argued that disputants viewed adversary procedures as fair because they allowed people the opportunity to tell their sides of the story before decisions were made by the authority managing the trial. Such an opportunity is often described as having a voice in the proceedings. This early experimental research has since been supported by several laboratory and field studies of trials and other legal procedures (Lind & Tyler, 1988).

People often suggest that procedures do not matter when the stakes are high. In fact, studies suggest that people continue to care about the fairness of procedures when the outcomes involved are substantial and important to them. This includes when the monetary stakes are high, as occurs in civil cases. Lind, Kulik, Ambrose and De Vera Park (1993) argued that this includes when people are strongly interested in the issue and have invested (financially or physically) in it, for example in child custody hearings; Bryan (2006) when their liberty is at stake, like in felony cases; Casper, Tyler and Fisher (1988) when people are incarcerated; Sparks, Bottoms and Hay (1996) when important public policy issues are being decided. In advocating the application of procedural fairness as part of a court reform agenda, Rottman (2005) researched public opinion of the state of courts' adjudication improvement strategies. According to him, the expected payoff of greater public trust and support for the courts' research was never really manifested in the reform programmes. He stated: "Courts became more business-like and efficient, and more adaptable, but reform failed to address the core concerns of litigants, jurors, and others who enter the courthouse". In contrast and in support of procedural fairness, he said that procedural fairness offers the judiciary a reform programme that strengthens the connection between the judiciary and the public. The premise of that programme is that it will organise the work of the courts in a way that generates satisfaction, trust, and compliance with court orders. That goal takes on particular importance as efforts are made to politicise the state judiciary. This is the point where this research gains its impetus.

2.3 Recidivism

Recidivism can simply be defined as a process of reoffending and finding oneself back in prison. In broad terms, it is defined as re-engaging in criminal behaviour after having been punished or rehabilitated for a previous crime (Elderbroon & King, 2014). According to Payne (2007), recidivism refers to repetitive criminal activity and is synonymous with terms like "repeat offending" and "re-offending". It is normally determined as a rate or percentage of prisoners released in a particular jurisdiction in a given year who meet certain criteria like becoming newly convicted within a specified amount of time (Ruggero, Dougherty, & Klofas, 2015).

It remains a paradox that recidivism is one of the least understood and elusive measures considered in criminal justice research (Ahmed & Ahmad 2015). This shows that throughout history human beings have grappled with the unending problems of criminality and how to treat (punish or correct) a recidivist to bring their criminal acts to an end and integrate them into society. Therefore, this study examined factors that influence recidivism as a concept, with special reference to procedural justice on the crime committed, cases adjudicated, imprisonment term, perceived fairness and length of sentence as functions of prisoners' recidivism attitude. This is necessary because recidivists still exist in Nigeria even though the criminal justice system (judges, lawyers, the police, forensic experts, correctional institutions, prisons), have made efforts to rehabilitate and reform prisoners. According to Ahmed and Ahmad (2015), the re-integration of released prisoners into society poses a challenge because almost all societies have these continuous in-and-out movements of prisoners, which naturally constitute the phenomenon of recidivism.

The rate of recidivism in a particular jurisdiction can be a measure of the effectiveness of the prison rehabilitation model. That is, a high rate of recidivism may indicate the rehabilitation model is not very efficient; conversely, a low rate points to the rehabilitation model's high level of efficiency. The question is whether this means that our criminal justice system and penal institutions are failing in their tasks to sanitise the socio-cultural life of the nation? If that is the case, one would want to know more about the causative agents and their impact.

Recidivism can be measured in diverse ways as there is no specific instrument available to measure it. The various methods of measuring recidivism have different criteria for labelling a person as recidivist. Scholars in Nigeria, Ugwuoke (2010), Osayi (2013) and Soyombo (2009) showed there is an increase in the rate of reoffending, and that male offenders have a greater propensity to offend. Studies by other researchers also offer explanations of factors that might be responsible for the rising rate of recidivism. For instance, some factors suggested as capable of increasing the rate of recidivism among male ex-prisoners were harsh prison conditions and the public's negative attitude to ex-prisoners. Others include the stigmatisation of incarceration, the defective prison system which promotes the dissemination and exchange of criminal influences and ideas (Ugwuoke, 2010), as well as alcohol and substance abuse (Chenube, 2011), poor educational attainment and peer group influence (Temibiaje, 2013). Mention can also be made of predisposing factors which increase recidivism among male recidivists in Nigeria such as marital status, a large number of siblings/children, socioeconomic status, ethnicity, family background, imprisonment terms and type of crime (Abrifor, Atere, & Muoghalu, 2012). Studies on recidivism have linked its high prevalence to factors such as gender difference (Abrifor et al., 2012), poor resettlement of ex-prisoners after release (Ugwuoke, 2003, 2013), lack of jobs after discharge (Meyers, 1984), low educational attainment and unstable work history (Eisenberg, 1985), and the discharge environment (Abrifor et al., 2012). Studies have also equally indicated that post-release job training positively influences the prevalence rate of recidivism (Jengeleski, 1981).

A widely used measure for labelling someone as recidivist is if the person returns to prison within a given span of time – usually, two or three years (Ruggero et al., 2015) after the first incarceration. Reconviction, re-incarceration, imprisonment, re-arrest and re-arraignment are other measures used in labelling a person as recidivist. Reconviction can be defined as a situation where a court determines that an individual has committed a new crime, with or without imprisonment (Ruggero et al., 2015). Re-incarceration can be defined as an arrest that resulted in a person being sent to prison or jail. Imprisonment is defined as an arrest resulting in a prison sentence (Cooper, Durose, & Snyder, 2014). Finally, re-arraignment is defined as any court appearances within the criminal court system (Lyman & LoBuglio, 2006).

The criteria for recidivism in Nigeria include others beyond what is explained above, but there are some practical problems in obtaining correct information on recidivism in Nigeria. However, it has been stated that someone being incarcerated more than once satisfies a criterion to be given the identity and label of a recidivist, as explained above. In the Nigerian case, it is not enough to substantiate a claim with mere knowledge of it since sufficient data and up-to-date information on this phenomenon as presently available in developed countries are not available.

3 CRIMINAL JUSTICE SYSTEMS IN NIGERIA

3.1 Legal System

At this point, apart from the constitutional provisions (the majority of which were put together by government nominees who were not legal practitioners), the Nigerian legal system is divided into sub-systems which comprise various laws at both federal and state levels. There is no uniformity of the laws governing the criminal law procedure in the country, although the criminal justice systems in all states of the federation are similar, but include some differences in certain northern and southern states (Adetula, 2013). In respect of substantive law, the Criminal Code applies to the southern states and the Penal Code to the northern states. In procedural matters, the law that applies in the southern states is the Criminal Procedure Act, whilst the Criminal Procedure Code applies in the northern states. Despite these differences, almost nothing distinguishes the states in terms of development and challenges, particularly when considering fairness in justice delivered, imprisonment and reduction of recidivism attitudes.

However, various institutions are involved in administering criminal justice in Nigeria with regard to various crime and criminal problems, particularly the issue of recidivism. These institutions, apart from the prison yard services system, include the Judiciary and Law, Police, other law enforcement and legal practitioners' chambers and security agencies. Criminal justice entails different phases or stages of adjudication, which commences when a police officer has reasonable grounds to suspects that a person has either committed a crime or is about to commit a crime, which warrants them making an arrest and filing criminal charges against that person, the process of granting bail and bailing, a preliminary trial or hearing, a proper court trial and arraignment before judges,

magistrates etc., and to mount a defence to the proceedings proper through court sittings, adjournments and, finally, the lawyers' submissions or addresses to the court. The procedures accompanying these are the processes of judgement and conviction, incarceration, imprisonment, along with treatment, parole, freedom and release. In the case of a conviction (where the guilty are convicted) or release (where those not guilty are freed), this may entail either a sentence for a term of imprisonment or a release with a fine option, or both imprisonment and a fine. The judgement and all that follows binds the accused upon completion of the case hearings – in which they are either sentenced or freed.

The vice president of the Federal Republic of Nigeria Professor Yemi Osinbajo recently commented that the 'importance of criminal justice to the smooth running of any society cannot be overemphasized, indeed, an effective criminal justice system is regarded by many as fundamental to the maintenance of law and order'. According to Osinbajo, the Nigerian criminal justice system is not only dysfunctional but outdated, and absolutely not fit for its intended purpose (Daka, 2016). This was highlighted while addressing the charges within the Nigerian criminal justice system in 2016. He asserted that many provisions are outdated and in some cases anachronistic. Besides, loopholes in both the law and procedure have become so obvious that lawyers, especially defence lawyers, have become masters of delay tactics. Consequently, "it thus becomes increasingly difficult to reach closure of any kind in many criminal cases" and "convictions and acquittals have become exceedingly rare" since 2010 (as seen in Table 1). While the foregoing assertions are quite instructive, it is pertinent to note these views are held widely by many Nigerian legal practitioners, and eminent jurists have also called for a fundamental reform of the Nigerian criminal justice system. This call is germane for a study between 2010 and 2017 (the time of writing this paper), especially as the Nigerian nation is experiencing a series of terror attacks and other sophisticated crimes.

This review has been exhaustively discussed. It shows the importance of procedural justice in relation to the prisoners' perception of imprisonment. It also shows that the recidivism attitude might not be unconnected with the kind of crime committed, the case adjudicated, and the fairness of the procedure, the imprisonment term, and length of sentence. These relationships among these six variables are still contestable from the point of view of this study. Considering such relationships enable us to look into the reason recidivism thrives, at least from Nigerian prisoners' perception of imprisonment. Based on the theoretical framework and the literature reviewed, six hypotheses were established to examine attitudes to recidivism among Nigerian prisoners.

4 THE NIGERIAN PRISON SYSTEM

4.1 Prison System in Nigeria

The penal institution given the task of managing prisoners and prison yards in Nigeria by the federal government on behalf of the Ministry of Internal Affairs is the Nigerian Prisons Services (NPS). The main activity of this institution is to

keep in prison custody crime suspects and accused individuals awaiting trials and sentenced prisoners. They are to limit the movements of sentenced criminals and offenders yet to be tried by locking them up within prison cells, legally out of public reach or view. Apart from securing and effecting the implementation of imprisonment terms, NPS operatives strictly adhere to the institution's policy found in the mission statement to ensure that those awaiting trial are presented for court proceedings on a daily basis until they are committed or set free by a court of law.

4.2 Imprisonment Terms in Nigeria

The imprisonment terms in Nigeria are defined by the gravity of an offence or crime committed in relation to the treatment phase in a cell or prison. The prison system is graduated as maximum, medium or minimum according to the notoriety of a criminal offense. Prison cells are made to provide accommodation for a group of prisoners according to how a prisoner's crime they committed is classified. For example, a felony, a misdemeanour, and simple offences as defined by section 3 of the Nigerian Criminal Code Act (1990) are described hence:

- A felony is an offence declared by law to be a criminal offence that attracts punishment without proof of previous conviction, ranging from 3 years to the death penalty.
- A misdemeanour is a criminal offence punishable by imprisonment, ranging from less than 3 years and not less than 6 months.
- Simple offences are those offences other than felony and misdemeanour classified as a civil offence. They are often punished with imprisonment of less than 6 months (Olamide, 2016).

This very classification was the biggest point of interest when considering procedural justice and fairness in adjudication in this study because these three classes actually demonstrate the true picture of the risk assessment of a prisoner and the danger they might constitute for society. For example, a consideration of the procedural justice afforded a notorious, abnormal, drug addict, first-time fresh young adult offender versus an offender with multiple prison visits (serial killer, armed robber, arsonist, murderer etc.) differs for offenders engaged in politics, hit and run accidents, libel, fraud, and drug trafficking. The classification also underscores the level of notoriousness and profile of an accused person. The gravity of an offence will determine the classification of cell to which a prisoner is allocated. The aspect of procedural justice is shaped by the impression that fairness should be perceived or the conviction should leave an impression on a prisoner's perception that the procedures used by the judges in handling the case of judgement were fair. Again, the content of the verdict handed down, the length of the sentence, and the considered consequential effects or implications for the prisoner's well-being matter in comparison to the prisoner's lifestyle before their arrest and standing for trial in the free community.

The direction of the relationship between time served and recidivism then becomes very important when deciding what constitutes reoffending. Studies by Orsagh and Chen (1988), Nagin et al. (2009) and Gendreau, Goggin

and Cullen (2005) employed credible methodological assessments to estimate the relationship between time served and recidivism in imprisonment and reoffending. Orsagh and Chen (1988) identified only 2 experimental studies and 17 non-experimental studies of this relationship: time served and others, suggesting a potential recidivism-reducing effect with others suggesting that time served slightly increased recidivism. Their assessments echoed those of prior reviews, which collectively suggest that time served may exert mixed effects and most likely a minimal effect on recidivism. For example, recent studies that employ methodologically rigorous analyses found little effect of time served on reoffending among juveniles or adults (Nagin et al., 2009).

According to Ugwuoke and Otodo (2015), a prison is a total institution and a place for reforming and rehabilitating those who have committed a crime. The aims of imprisonment are enormous; one of them is deterrence, from the deliberate deprivation of leisure time (Ugwuoke & Otodo, 2015). By so doing, the offender is kept away from general society so that they have no leverage to commit a crime. This involves the use of counselling, psychotherapy and other psychological techniques of behaviour modification (Ugwuoke & Otodo, 2015). After imprisonment, the former prisoner is expected to stay away from crime and lead a law-abiding life.

Another explanation given for imprisonment is for retribution. Retribution is punishment for a crime committed. The general notion is that any crime that is committed is an aberration for society. This means that society suffers in one way or another when a crime is committed. Hence, the person who committed a crime should pay for their bad behaviour through imprisonment, which includes punishment with hard labour (Adetula, 2013). When criminals are so punished, it is believed that society strikes equilibrium and gets a pound of flesh for the damage done to it.

A further explanation is applying a rehabilitation process as a strategy to correct bad behaviour. It means the creation of situations where social learning occurs. This is a process seen as offering treatment or corrective tactics that should lead to greater maturity, better self-control, a lower inclination to steal or cheat or to become violent. Finally, another emerging aim is that the state has no choice than imprisonment, having looked at the criminal records of a habitual offender, especially one who has been offered opportunities for rehabilitation in the past but continues to offend. The decision to imprison this person, therefore, becomes paramount because there is nothing else the court can do for them than to send them back to prison (Ugwuoke & Otodo, 2015).

Research on incarceration effects is increasingly relying on more methodologically rigorous approaches, and several counterparts that focus on time served also exist. In general, however, the bulk of prior work has not, as Nagin et al. (2009) claimed, systematically addressed the confusion associated with different “dose” levels of time served. According to them, in a situation where relatively short prison stays decrease recidivism and longer stays increase it, such a linear estimate one that allows no variation in the functional form of the time served and recidivism relationship –might well yield a null finding as a result of the two effects counteracting each other (Nagin et al., 2009). Indeed, Orsagh and

Chen (1988) suggested that such a U-shaped association exists. Yet, recent studies suggest –but do not find statistically significant evidence in support –that instead an upside-down U-shaped association exists (Gendreau et al., 2005). This issue assumes considerable importance given that conflicting linear estimates may stem from averaging the negative and positive effects of time served. The Gendreau et al. (2005) study found that studies which compared “more” incarceration (30 months on average) versus “less” incarceration (13 months on average) identified estimated recidivism rates that were approximately 3% higher for the “more” incarceration groups.

4.2.1 The Nigerian Prisoner Population 2008–2010

Prisoner	2008	2009	2010	Observed Population change	Remark
1 st timer	47,697	56,981	59,713	164,391	Reduction witnessed (in) in popula- tion of all prisoners 7.31
Increase	-	9,284	2,732	12,016	
Decrease	-	-	-	-	
% change	-	16.30	4.6	7.31	
Multiple timer					Reduction wit- nessed (in %) in population of all prisoners 16.85
Increase	83,087	99,370	44,719	227,176	
Decrease	-	16,283	-	-	
% change	-	-	54,651	38,278	
	-	16.4	122.21	16.85	
Total no. prisoners	130,774	156,351	104,432	391,567	Reduction witnessed (in) in popu- lation of all prisoners 6.71
Increase	35,390	25,567	-	-	
Decrease	-	-	51,919	26,262	
% Total	33.4	39.93	26.67	100	
% Change	27.06	16.4	49.72	6.71	

Table 1:
Population
table of
Nigerian
prisoners*

**Population table of Nigerian prisoners between 2008 and 2010 showing the rate of first-time and multiple-time prisoner incarcerations (Source: Current Research Analysis on Nigerian Prisoners Population Reports from 2008–2010)*

The Standard Minimum Rules (SMR) prescribes that prisoners should be locked up according to the category in which they are placed. However, the congestion seen in most Nigerian prisons means that all prisoner categories are lumped together in the same cells. This prison overpopulation may be caused by problems with delayed justice in awaiting trials. Corruption such as partiality exists in the criminal justice system and injustice is done to the innocent who are incarcerated without the proper process of procedural justice, turning penitentiaries into breeding places for criminals and, by extension, recidivists. Thus, Adetula, Adetula and Fatusin (2010) reiterated that the penal institutions and subsystems of administering justice in Nigeria are believed to bring about a crime-breeding environment for criminals, especially first-time prisoners.

However, analysis of Table 1 gives an insight into what we can say about the rate of recidivism (i.e. first-time prisoners compared to multiple-time prisoners) in

Nigeria. This example refers to the state of Nigerian prison yard inmates between 2008 and 2010. Although the information is generally insufficient, it shows what Nigeria is undergoing presently in terms of recidivism.

Table 1 above shows that prison records of recidivism cases were unacceptably high in 2009 (156,351). This relates to the figure of 42,399 which reflect prisons' inability to significantly actualise the reform and rehabilitate objectives. This is seen in the perspective of the percentage change of 0.2% between recidivists and first-time prisoners in 2008. We also see percentage changes in the population of first-timers between 2008 (16.3%), 2009 (4.6%) and 2010 (7.31%) as clear evidence of an increase in crime despite reduction rates as against recidivism rates of 16.4%, 122.21% and 16.85% respectively for the years in focus. However, measuring recidivism entails several factors such as return after a short or long interval, whether for the same or another crime or for first or multiple returns. The genesis or contributing factors or predicting what happened in the result just analysed above were not clearly indicated, nor were they indicated by the authority of the penal institution or its experts' advice. Yet, an undisputable concept of recidivism is the return of released offenders to custody.

Concern grows when the recidivism rate is high. Therefore, attention should be given to the treatment processes of offenders in terms of whether they are effective or not. In the preceding table, we observed a reduction of 3 years (7.31% for first-timers, 16.85% for multiple-timers and an overall average of 6.71%) but the act of recidivism was still occurring and pronounced in number counts or recorded on a roll (104,432 in 2010).

5 METHODS

The research method we adopted was a survey with an ex-post factor design. This was to ensure no variable was manipulated. The prisoners' knowledge was elicited through an oral interview without any manipulation of their experiences. The dependent variable of measure was recidivism at two levels; since multiple-timers have undergone several rehabilitation processes earlier on in their incarceration without character changes (even though they remain reformable) they can have a bad influence on the first-timers who are (with greater chances of being habituated and reformable) who are early on in their prison sentence, hence it is believed it is not beneficial if both types share the same cell(s). The second dependent variable was the crime committed (CC). This entailed three levels: felony, a misdemeanour, and simple offences. Crimes committed are rated based on the gravity of the offence; a felony is rated highest with grave consequences and attracting the strongest punishment, a misdemeanour is rated second in gravity, the punishment handed out is closer to a felony, mostly imprisonment, while the third level is a simple offence, simply charged as civil, domestic cases. It attracts short-term imprisonment, warnings, fines and out-of-court settlements. The third dependent variable was the length of the sentence (LS) measured in terms of time or duration measured in days, months and years in incarceration.

The first independent variable of the measure was the imprisonment term (IT). This also has three levels (maximum, medium and minimum) in terms of

duration; these are synonymous with the prison, jail, and cell allocated. Maximum refers to criminals serving the longest periods, e.g. for serial killers. Medium term refers to a long period of prison incarceration for criminals in the misdemeanour category, e.g. arsonists, thieves, rapists etc., while those in the minimum category are street fighters, fraudsters, barterers, swindlers, and civil or domestic crimes or cases etc. The second independent variable was the procedural fairness (PF) perceived in the judgement, which was also measured on three levels (not fair, fair, and very fair). The third independent variable was cases adjudicated (CA), measuring a construct in procedural justice application in processing cases by court judges or judicial authorities.

RA: Recidivism Attitude (dependent variable), prisoners who support living a prison incarceration lifestyle

PF: Perceived Fairness in Judgement (independent variable), a measure of judge's good conduct in handling cases with good countenance, which is respectful and considerate in their work performance, for example being neutral in judgement.

CA: Perceived Case Adjudicated (independent variable), the way a prisoner understands and felt their case was handled.

IT: Perceived Imprisonment Term (independent variable), the court order concerning how a prisoner should spend their incarceration period, e.g. life imprisonment, hard labour etc.

LS: Length of the sentence (independent variable), which is time-/duration-specific and indicated in years, months and days.

CC: Crime Committed (independent variable) categories of crimes and the extent to which a criminal belongs to e.g. a felony profile is the highest degree, misdemeanor is the second degree in gravity with grave imprisonment consequences. The lowest level of crime is the simple offence e.g. in relation to salary, tax, payment of rent, wife barterer, electricity bill, slander, impersonation and so on.

5.1 Study Sample

The total number of inmates in the Owo and Akure prison yards in Ondo State chosen for the study was around 1,000. This is an overblown population. However, a total of 300 prisoners was selected as a representative sample for the survey from the combined population of the two prison yards, but recognisance was taken of their differences in population size and type of offence committed while selecting the sample. A random sampling technique was applied in making the selection from each cell. In Owo, 66 males and 38 females were selected, while in Akure 132 males and 64 females were chosen. This study used questionnaire and interview methods for the data collection. The questionnaire adopted was cross-culturally validated and found reliable and valid for measuring the construct with the six variables as of the time of using it. Items of each of the six variables were first sorted out, organised and subjected to total item correlation in order to develop the questionnaire for use in this study for the Nigerian sampled population. It was adapted for use in measuring the prisoners' perceived constructs on

every variable of measure in the judgement relating to the recidivism outcome as negative attitudes of a prisoner. In doing this, a pilot study was conducted among 100 separate prisoners to react to the questionnaire contents as a scale of dependent and independent variables. Question items were written on a 5-point Likert scale and scored as: strongly agree=5 through to strongly disagree=1. The reliability obtained for the adjudicated cases (CA) variable scale relating to recidivism attitude consisting of 21 items which include, for example, questions like, "going to prison was the last thing I ever wanted in life", "I like prison visits the most", "definitely, imprisonment serves as an attitude change agent because it creates a sense of remorse and deterrence" etc., Cronbach's alpha was 0.82, the perception of imprisonment terms (IT) variable scale with 14 items like "imposition of pains upon the offenders exceeds the pleasures derived from the criminality", "imprisonment helps to perfect the human spirit by changing criminals into productive citizens", "corporal punishment is enough torture for the crime committed instead of the penitentiary system of confinement and hard labour" etc., Cronbach's alpha was 0.81 and for the fairness (PF) in judgement scale consisting of 11 items including, "the police presented the case as it should have been", "the judge or magistrate was not friendly as they forbid me expressing my feelings on the case during the trial", "my own witness was treated unfavourably", "I was not expecting the punishment that was imposed on me", the judgement provided me with more knowledge about my crime" and so on, where Cronbach's alpha was 0.73.

However, the final questionnaire which was developed from these, along with the biodata level of measurements, the crime committed (CC) and length of sentence (LS) variables that altogether represented the recidivism attitude scale, has a Cronbach alpha reliability of 0.80. A letter of introduction from the researcher's department was given by the research assistant to the prison authorities at the Akure administrative headquarters and permission was granted by the higher prison authorities, having ascertained the protection of ethics behind the survey technique, in particular the protection of the NPS' integrity and the promise to ensure the participants' confidentiality. Rapport was established with the sample representatives and copies of the questionnaire were administered one by one to willing respondents. The researcher explained the questions and shed more light on items to ensure appropriate response. The respondents were also instructed to read and respond to the questionnaires completely; bearing in mind they were free to select any answer without limit since there were no correct or wrong answers. This reassured the respondents regarding the confidentiality of the information they divulged. A total of 300 copies of the questionnaire were distributed, of which 289 were returned completely filled in. However, the remaining defaced 11 questionnaires were rejected. The researcher accepted this as representative since a separate 100 who were not participants in the follow-up study had earlier on helped validate the scale. Hence, we reached 40% of the population. The statistical analysis used to test the relationships was Pearson's Product Moment Correlation (PPMC) for all correlation analyses. PPMC was used since all tests sought to obtain or know the correlation coefficient or the relationships between and among the variables of measure.

6 RESULTS

6.2 Table of Results

VARIABLES	CA	RA	IT	PF	LS	CC
CA Pearson (<i>r</i>)	1	-.467**	.281**	.415**	-.223**	.044
Significance	.997	.997	.000	.017	.003	.060
N	289	289	289	289	289	289
RA Pearson (<i>r</i>)	-.467**	1	-.305**	.000	.162**	.026
Significance	.997	.997	.000	.000	.006	.660
N	289	289	289	289	289	289
IT Pearson (<i>r</i>)	.281**	-.305**	1	.140*	.216**	.245**
Significance	.000	.000	.000	.000	.000	.455
N	289	289	289	289	289	289
PF Pearson (<i>r</i>)	.415**	.000	.140*	1	-.175**	.111
Significance	.000	.000	.000	.000	.000	.000
N	289	289	289	289	289	289
LS Pearson (<i>r</i>)	-.223**	.162**	.216**	-.175**	1	.200**
Significance	.003	.006	.000	.000	.000	.001
N	289	289	289	289	289	289
CC Pearson (<i>r</i>)	.044	.026	.245**	.111	.200**	1
Significance	.060	.660	.455	.000	.001	.001
N	289	289	289	289	289	289

Table 2:
PPMC analysis
showing the
relationships
between
and among
Recidivism
Attitude and
correlated
variables

** Correlation significant at the 0.01 level (2-tailed)

* Correlation significant at the 0.05 level (2-tailed)

Table 2 above presents the following PPMC findings:

1. Correlation with other variables presents Case Adjudicated (CA) as having the following relationships:
 - i. it has a significant positive relationship of $r = .415^{**}$ with Procedural Fairness (PF);
 - ii. it has a significant positive relationship of $r = .281^{**}$ with Imprisonment Term (IT);
 - iii. it has a significant negative relationship of $r = -.467^{**}$ with Recidivism Attitude (RA);
 - iv. it has a significant negative relationship of $r = -.223^{**}$ with Length of the sentence (LS);
 - vi. it has a non-significant $r = .044$ with Crime Committed (CC).
2. Correlation Coefficient of Recidivism Attitude (RA) with other variables presents the following relationships:
 - i. it has a significant positive relationship of $r = .162^{**}$ with the Length of Sentence (LS);
 - ii. it has a significant negative relationship of $r = -.467^{**}$ with Case Adjudicated (CA);
 - iii. it has a significant negative relationship of $r = -.305^{**}$ with Imprisonment Term (IT);
 - iv. it has a non-significant relationship $r = .000$ with Procedural Fairness (PF);
 - v. it has a non-significant relationship $r = .026$ with Crime Committed (CC).

3. Correlation with other variables presents Imprisonment Term (IT) as having the following relationships:
 - i. it has a significant positive relationship of $r = .245^{**}$ with Crime Committed (CC);
 - ii. it has a significant positive relationship of $r = .281^{**}$ with Case Adjudicated (CA);
 - iii. it has a significant positive relationship of $r = .216^{**}$ with Length of Sentence (LS);
 - iv. it has a significant positive relationship of $r = .140^{*}$ with Procedural Fairness (PF)
 - v. it has a significant negative relationship of $r = -.305^{*}$ with Recidivism Attitude (RA).
4. Correlation Coefficient of Procedural Fairness (PF) with other variables presents the following relationships:
 - i. it has a significant positive relationship of $r = .415^{**}$ with Case Adjudicated (CA);
 - ii. it has a significant positive relationship of $r = .140^{**}$ with Imprisonment Term (IT);
 - iii. it has a significant negative relationship of $r = -.175^{**}$ with Length of Sentence (LS);
 - iv. it has a non-significant relationship $r = .000$ with Recidivism Attitude (RA);
 - v. it has a non-significant relationship $r = .111$ with Crime Committed (CC).
5. Correlation with other variables presents Length of Sentence (LS) as having the following relationships:
 - i. it has a significant positive relationship of $r = .216^{**}$ with Imprisonment Term (IT);
 - ii. it has a significant positive relationship of $r = .200^{**}$ with Crime Committed (CC);
 - iii. it has a significant positive relationship of $r = .162^{**}$ with Recidivism Attitude (RA);
 - iv. it has a significant negative relationship of $r = -.175^{**}$ with Procedural Fairness (PF);
 - v. it has a significant negative relationship of $r = -.223^{**}$ with Case Adjudicated (CA).
6. Correlation Coefficient of Crime Committed (CC) with other variables presents the following relationships:
 - i. it has a significant positive relationship of $r = .245^{**}$ with Imprisonment Term (IT);
 - ii. it has a significant positive relationship of $r = .200^{**}$ with Length of Sentence (LS);
 - iii. it has a non-significant relationship $r = .111$ with Procedural Fairness (PF);
 - iv. it has a non-significant relationship of $r = .044$ with Case Adjudicated (CA);
 - v. it has a non-significant relationship $r = .026$ with Recidivism Attitude (RA).

7 DISCUSSION AND CONCLUSION

In general, the study reviewed procedural justice theory to help identify issues of importance for those operating the Nigerian justice system and penal institutions. They include the judiciary, court judges, and those running the prison service. The discussion was centred on prisoners' concern for judicial processes and abiding by the law, their lifestyle and life events in free society and in incarceration and their perceptions of recidivism as an attribute or identity. The study examined the perceived fairness of court operators in terms of the judgements they gave based on the types of crimes committed, cases adjudicated, imprisonment terms, length of sentence, as relates to adherence to the law. The foregoing is similarly countenanced by the behaviour that follows, in particular, the implications of a recidivism attitude. The findings of the analysis appear below.

All of the correlation statistical tests among the six variables of measure on the perception of procedural justice and fairness were significant (see Table 2). Observation showed that Imprisonment Term (IT) has a significant negative relationship ($r = -.305^{**}$) with Recidivism Attitude (RA). This suggests the term of imprisonment influences prisoners' recidivism attitude. For prisoners, this may substantially explain why they re-offend despite being given the maximum prison term, even in their first-time prison experience. This result confirms the findings of Orsagh and Chen (1988) which suggest that a U-shaped linear association exists between the term of imprisonment and recidivism. The study is supported by the findings of Simourd and Olver (2002) showing that a criminal attitude is widely accepted when punished as an indispensable element in an effort to reduce offenders' further criminal behaviour.

The prisoners' perception of procedural justice being used in advocacy by the court in adjudicated cases (AC) and its relationship with recidivism attitude (RA) was also tested, where the following was found: Adjudicated Case (AC) has a significant negative relationship ($r = -.467^{**}$) with Recidivism Attitude (RA). This implies that cases adjudicated have a strong influence on a prisoner's recidivism attitude. In support of this finding, Adetula et al. (2010) previously observed that the penal institutions and subsystems (that is the justice department, the police, and prisons) and their operations and the ways they administer justice were believed to bring about the breeding and enhancement of criminal behaviour vis-à-vis a recidivism attitude rather than serving deterrence, repentance, reform and reconciliatory purposes (when adjudged in a manner that was unacceptable). Hence, by holding such grievances in mind, prisoners react negatively among themselves and ex-prisoners react negatively to people in free society, which does not enhance confidence in physical and conceptual society (Adetula et al., 2010). The third finding was the perception of procedural justice measure with the crime committed (CC) and the imprisonment term (IT), where a significant positive relationship of ($r = .245^{**}$) was recorded. The fourth finding shows that Procedural Fairness (PF) has a non-significant relationship ($r = .000$) with recidivism attitude (RA). This result indicates the neutral impact of these variables on each other. Although the test result could not confirm the relationship between procedural fairness (PF) and recidivism attitude (RA), the direction of this relationship

suggested that the lower the perceived fairness in a court case judgement, the higher the risk of adopting a recidivism attitude, the lower the perpetration of crimes, the more likely a prisoner would hold on to the view the court had applied procedural justice fairness and the more likely they would not hold the court responsible for their woes. This result is supported by the views of Tyler (1990) and Tyler and Huo (2002), to the effect that an important factor influencing the development of prisoners "views about legitimacy are their judgments about the fairness of the manner in which the police and the courts exercise their authority. Such procedural justice judgments are found to both shape reactions to personal experiences with legal authorities" (Tyler, 1990; Tyler & Huo, 2002).

Length of the sentence (LS) in relation to recidivism attitude (RA) was also considered. A relationship of ($r = .162^{**}$) was established between them, i.e. Length of sentence and recidivism attitude (RA). This result indirectly supports Thibaut and Walker (1975) contention that, irrespective of the outcome of a trial, the participants would be more willing to accept the judge's decisions if the trial procedure was seen as fair; also when their liberty is at stake, as is true in felony cases (Casper et al., 1988) and when people are incarcerated (Sparks et al., 1996).

Finally, crime committed (CC) has a significant positive relationship of ($r = .200^{**}$) with the length of the prison sentence (LS). Nagin et al. (2009) support this finding, reiterating that imprisonment term was significant and anchored to the duration of time (short, medium or long). This implies that crime committed, term of imprisonment, cases adjudicated and length of the sentence were subject matters contained in prisoners' recidivism attitude.

In conclusion, the results given in Table 2 succinctly portray the following:

All variables were shown to be significantly related, except for a few ones that were tied to affect and emotions like crime committed, case adjudication and procedural fairness. This means that a scale can be developed on this basis to serve as a measure of a court procedure and to address the prisoners' concept of recidivism attitude.

Despite the limitation on the reach of the research sample and obtaining enough information from them for reasons of key points' security vulnerability, the officer in charge who served as the link resource person was very cooperative in getting necessary and just enough data for the research, there was no language barrier in the oral interview and useful suggestions and advice were given by both the prisoners and prison operatives.

Second, the study only focused on the relationship between the variables, not the actual problems of the prison yards, criminal justice or the prisoners themselves. The fact the research was limited to the south west of Nigeria is also seen as a limitation because it might not allow the researcher to generalise the result to all Nigerian prisoners. Hence, future researchers have a variety of options to choose from in their quest for knowledge on recidivism problems. For example, they could widen the scope of the research and use a larger sample.

It is obvious that the study result was able to identify a social context to define the object of study – recidivism attitude – and that the procedures can be used as treatment measures. By definition, recidivism is a stigma used to describe the identity of a prisoner who accepts imprisonment as a way of life and an escape

route to achieve one's lifestyle and life event expectations in the cover of the prison yard, without obeying the rules of maintaining public orderliness. Taken as a model of treatment, recidivism is identifiable as measures in case adjudication, procedural justice, court fairness, the imprisonment term, crime committed and length of sentence and vice versa.

As a matter of national urgency, the judiciary should encourage judges to make greater use of procedural justice and fairness in handling their cases. They should take advantage of the available non-custodial sanctions in the penal statutes, especially for first-time offenders and those convicted of non-violent and minor crimes.

A penal policy that holistically addresses the treatment of offenders at each stage along the justice hallway should be clearly spelled out.

Nigerian authorities should urgently consider establishing separate detention facilities for Awaiting Trial Persons (ATPs), especially first-time prisoners.

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Weather Conditions and Crimes Prevalence in Ifako-Ijaye (Lagos State, Nigeria)

VARSTVOSLOVJE,
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Elisha Ademola Adeleke, Abiodun Daniel Olabode,
Abimbola Emmanuel Oni

Purpose:

This paper aims to establish how weather parameters influence crimes with a view to understanding the varying levels of crime in the study area.

Design/Methods/Approach:

Data referring to maximum and minimum temperature, relative humidity, rainfall amount and wind speed, murder, assault, rape, armed robbery, breach of public peace, criminal conspiracy, theft, kidnapping, slave dealings, cultism and burglary were collected from the Nigerian Meteorological Agency, the Oshodi and Nigerian Police Force, Divisional Headquarters, Ifako-Ijaiye, Lagos State.

Findings:

Results of regression analysis revealed a relationship exists between weather parameters and the prevalence of crimes at a magnitude of 91%; multiple correlation analysis results showed that a relationship exists between rape and weather at a magnitude of 90%.

Research Limitations/Implications:

This research focused on the role played by the observed weather elements on crime activity in the study area. However, the study suggests further studies on other factors capable of inducing crimes.

Originality/Value:

The paper deals with an issue not given much attention in the area under study. In Nigeria, criminal activities are typically viewed in terms of peer group influence rather than the weather. Generally, the study has the potential to help realign security measures and inform people of the possibility of being morally influenced by the prevailing weather conditions.

UDC: 343.3/.7+551.515(669.1)

Keywords: climate, weather, crime, trend, environment, relationship

Vremenske razmere in razširjenost kaznivih dejanj v Ifako-Ijaye (država Lagos, Nigerija)

Namen:

Cilj prispevka je ugotoviti vpliv vremenskih razmer na pojavnost kaznivih dejanj, z namenom razumeti razlike v stopnjah razširjenosti kriminalitete na obravnavanem območju.

Metode:

Podatke, ki vključujejo najvišjo in najnižjo temperaturo, relativno vlažnost, količino padavin in hitrost vetra ter število umorov, napadov, posilstev, oboroženih ropov, kršitev javnega reda in miru, hudodelskega združevanja, kraj, vlomov, ugrabitev in primerov trgovanja s sužnji, sta priskrbeli nigerijska meteorološka agencija in nigerijska policija.

Ugotovitve:

Rezultati regresijske analize so pokazali, da vremenske razmere vplivajo na razširjenost kaznivih dejanj. Rezultati večkratne korelacijske analize pa so pokazali, da obstaja močna povezava med pojavnostjo posilstev in vremenom.

Omejitve/uporabnost raziskave:

Raziskava se osredotoča na vpliv vremenskih razmer na razširjenost kriminalitete na obravnavanem območju. Avtorji predlagajo nadaljnje študije o drugih dejavnikih, ki lahko vplivajo na pojavnost kriminalitete.

Izvirnost/pomembnost prispevka:

Prispevek obravnava vprašanje, ki na obravnavanem območju še ni bilo deležno veliko pozornosti. Pretekle študije v Nigeriji so obravnavale predvsem vpliv vrstniških skupin na kriminalno aktivnost, ne pa vpliv vremenskih razmer. Na splošno ima raziskava potencial za vpeljavo varnostnih ukrepov in tudi informiranje ljudi o možnostih, kako lahko na njihovo življenje vplivajo vremenske razmere.

UDK: 343.3/.7+551.515(669.1)

Ključne besede: podnebje, vreme, kriminaliteta, trend, okolje, razmerje

1 INTRODUCTION

Weather is dynamic and contains elements such as rainfall, temperature, pressure, cloud, wind and humidity. The weather at a certain point in time can be observed through its main elements; for instance, everyone can see if it is raining, windy, sunny or cloudy and can also find out how hot it is by checking a thermometer or simply feeling it. Climate is therefore the accumulation of daily and seasonal weather events at a given location over a period of 30–35 years (Ayoade, 2004). Climate also includes statistics other than the average, such as the magnitudes of day-to-day or year-to-year variations. The Intergovernmental Panel on Climate Change (2007) defined climate as the “average weather” or, more rigorously, as a statistical description in terms of the mean and variability of relevant quantities

over a period ranging from months to thousands or millions of years. The notion that acts like murder, rape and theft are prohibited is found across the world. What precisely is a criminal offence is defined by the criminal law of each country. While many have a catalogue of crimes called a criminal code, in some common-law countries no such comprehensive statute exists (Law & Martin, 2003).

According to Gottfredson and Travis (1990), crimes are legally defined as acts or omissions forbidden by law that can be punished by imprisonment and/or a fine. Murder, robbery, burglary, rape, drunk driving, child neglect, and failure to pay taxes all are common examples. There are different types of crime, ranging from common-law crime, cybercrime, crimes of passion, and crimes of violence among others. Many reasons explain why murder is criminalised, including its costs for society as well as being considered intrinsically wrong. For example, murder may be regarded as intrinsically wrong because it violates the right to life or is oppressive; murder may be costly for society by undermining law and order, squandering the potential accomplishments of the victims, risking the escalation of violence, or by spreading fear and grief.

In modern societies, investigations and trials must follow certain procedures. If found guilty, an offender may be sentenced to a form of reparation such as a community sentence or, depending on the nature of their offence, to undergo imprisonment, life imprisonment or, in some jurisdictions, execution. This theory about the causes of crime focuses on the idea that the physical body, through inherited genes, evolutionary factors, brain structures, or the role of hormones, has an influence on an individual's involvement in criminal behaviour.

Criminal activities continue to be a major concern of contemporary society. Most developing nations, including Nigeria, face unacceptable levels of delinquency and crime. The discomfort index, which is a combined measure of temperature and humidity, is a tool used for analysing the relationship between heat and violence. This was applied in Dallas, Texas, USA over an eight-month period in 1980 and provided evidence in favour of the notion that heat influences assaults (Cohn, 1990). Cohn (1993) also analysed the relationship between heat and robbery, homicide, domestic violence, and rape. He provided evidence that heat does affect crime entailing aggression and violence, thus establishing a correlation between heat and crimes involving aggression.

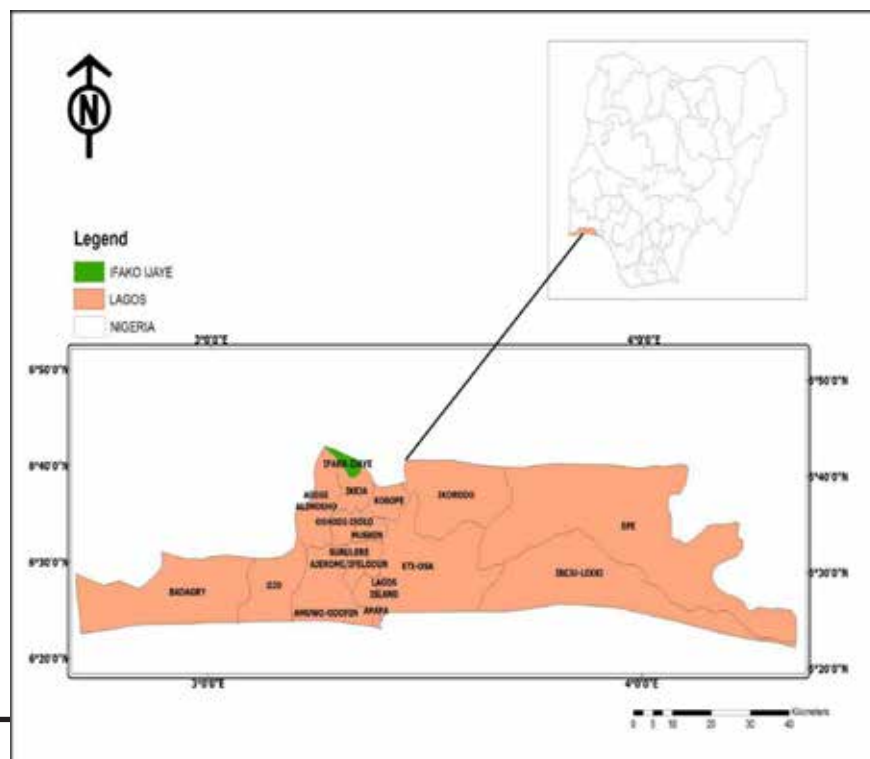
In an article entitled the "Effects of Temperature on Crime" published in the British Journal of Criminology, Field (1992) discusses his research findings. His research focused on locations in England and Wales. The weather variables used in his research study included: rainfall, hours of sunlight, and temperature. He found a positive relationship between higher temperatures and property crime. When temperatures rose, people spent more time outside their home, and this also increased the rate of property crime such as car theft and burglary (Field, 1992). The study is significant for the locations covered by the study. England and Wales are located in Europe; the results confirmed a positive relationship exists between weather and crime. This evidence enhances the probability that weather affects crime is true because the location is in another country with different cultural aspects and yet the weather still seems to affect the levels of crime.

Jacob, Lefgren and Moretti (2007) recently worked on the dynamics of criminal behaviour in relation to evidence from weather shocks. The focus of their study was the correlation between weather and crime in order to examine the short-run dynamics of criminal behaviour. Their methodology consisted of gathering data from the FBI's Uniform Crime Reports. They analysed weekly crime data from 116 jurisdictions around the USA. Their quantitative data showed a 10 per cent increase in violent crime in one week and a reduction of crime by 2.6 per cent the following week. The weather between these two weeks did not change (Jacob et al., 2007). The remaining study results showed a negative relationship between crime and weather. The overall findings of this research suggest the long-run impact of weather on crime is less correlated than the short-term impact of weather on crime. This study shows that short-term weather changes impact weekly or daily rates of criminal activity but, in the long run, the correlation is not linear (Jacob et al., 2007).

2 STUDY AREA

Ifako-Ijaiye is located at a latitude of 6° 52'0" N and longitude of 2° 53'60" E in the northern part of Lagos (Figure 1). This location covers a total area of 43 square kilometres. It has a tropical wet and dry climate with precipitation in the form of rain, as well as relatively high temperatures and humidity. Annual rainfall ranges from 203 millimetres to 1,524 millimetres. Temperature levels are high, with a mean annual maximum of about 30° Celsius and a mean annual minimum of around 23.8° Celsius.

Figure 1:
Map of the
study area



A substantial part of its landmass is found in a relatively flat and flood-prone swamp and creek environment. The shallow foundation soils within such geomorphic units are recent sediments composed of soft clays and loose sands that are generally unable to support heavy structures. Ifako-Ijaiye has a river that flows from Ogun State through the Ladoke Olaniyan Area and creates a natural gorge. It flows southward till it finally drains into the Atlantic Ocean (Figure 1).

The coastal plain sands predominantly cover the areas around Ikeja towards Agege, Alagbado, Magodo and Iju. It is situated on a series of stratified sedimentary rocks in the Dahomey Miogeosynclinal Basin of Southwestern Nigeria. Ifako-Ijaiye is a fast-growing area of Lagos State with a population of 427,878 (Nigerian Muse, 2007).

3 LITERATURE REVIEW

Cohn, Rotton, Peterson and Tarr (2004) developed the Social Escape/Avoidance Theory, which is closely related to Routine Activity Theory and the Negative Affect Escape Model. It suggests that people will attempt to avoid conditions that could bring negative effects. Therefore, days with extreme temperatures (both hot and cold) should lead to less social interaction, which produces smaller amounts of violent crime.

Four main theories on violent crime can be applied to the relationship between heat and violence. The Negative Affect Escape Model (Baron, 1972; Baron & Bell, 1976; Bell & Baron, 1976) concluded that negative effects (feelings of irritation, annoyance or discomfort) and violent acts increase as temperature rises up to a certain inflection point. After exceeding this inflection point, the model predicts a drop in violence as the temperature increases because a person's escape motives (to avoid the heat) will override their aggressive motives.

In contrast, Anderson, Deuser and DeNeve (1995) developed the General Affective Aggression Model. This is a complex model that takes many factors into account, including temperature. This model asserts there are input factors, such as personal and situational variables, which determine a person's arousal, state of affect, and cognitions. Unlike the Negative Affect Escape model, this model predicts a steady linear relationship between temperature and violence without any inflection point (Rotton & Cohn, 2001). Cohen and Felson (1979) developed the Routine Activity Theory to explain why crimes occur.

This theory postulates that for a crime to take place a suitable target must be available, there must be a lack of a suitable guardian to prevent the crime from happening, and a motivated offender must be present. When the weather is warmer, people are more likely to travel away from their homes to public places; this increase in social contact leads to more people being victimised, and thus predicts that an increase in violence is a linear function of the increase in temperature (Rotton & Cohn, 2001).

A large number of studies have evaluated the heat-aggression relationship statistically using state- and national-level data. Rotton and Cohn (2003) compared U.S. annual national totals for assaults with the mean temperature from 1950 to 1999, along with annual state totals from 1960 to 1999. At both levels, assaults are significantly correlated with temperature.

A previous study (Anderson, Bushman, & Groom, 1997) concluded that “serious and deadly assaults” (i.e. assaults and homicide) are correlated with temperature. This conclusion was reached by using average annual temperature and crime data for the 50 largest U.S. Standard Metropolitan Statistical Areas (SMSAs) from 1950 to 1995. They concluded that with every increase in temperature by 18°C, serious and deadly assaults rise by 6.6 per 100,000 people.

Several other studies sought to aggregate these results to correlate a location’s climate with violent behaviour. Anderson (1989) looked at violent and nonviolent crimes annually across the entire U.S.A. from 1971 to 1980 and concluded that a year with 10 more “hot days” (maximum temperature $\geq 32^{\circ}\text{C}$) than in an average year would result in 7% more violent crimes. A second study used 260 SMSAs across the U.S.A. for 1980 using the number of “hot days” and the number of “cold days” (maximum temperature $\leq 0^{\circ}\text{C}$) to see whether hotter cities had higher violent crime rates. Hot days positively correlated with violent crime, while cold days had the opposite relation with violent crime. He postulated that one could use the difference in temperature between U.S. cities to predict the most violent crimes.

However, although one can evaluate the relationship between weather and crime via numerous variables, DeFronzo (1984) suggested that the “inhabitants of an SMSA ‘adapt’ to their city’s particular climatic milieu such that their annual level of criminal behaviour is relatively unaffected by the fact that their SMSA is subject to more or less cold or hot weather or days of precipitation than other American cities”.

On the smaller scale, the relationship between assaults and temperature across a particular city has been studied. Many researchers such as Anderson and Anderson (1984), Harries, Stadler and Zdorkowski (1984), Harries and Stadler (1988), Perry and Simpson (1987), Anderson et al. (1997), Cohn and Rotton (1997) conducted various analyses using temporal and spatial characteristics that led to differing conclusions, although nearly all research shows that, as the temperature increases, the number of assaults generally go up as well.

In the U.S.A., Cotton (1986) used daily violent and nonviolent crime aggregates for Des Moines, Iowa, during the summer of 1979 and Indianapolis, Indiana, for the summers of 1978–80. Both cities showed a significant correlation between violent crimes and both maximum daily temperature and average daily temperature. Similar results were found by Anderson and Anderson (1984) who analysed daily aggregates of aggressive and nonaggressive crimes in Houston, Texas, from 1980 to 1982. In both studies, nonviolent crime was also analysed, and it had no significant relationship with temperature.

In more recent times, maximum temperature and sunshine hours were shown to be statistically significant predictors of sexual assaults in Manchester, U.K. (McLean, 2007); sunny days were associated with increases in murder and hit-and-run deaths in Tokyo, Japan (Ikegaya & Suganami, 2008); and monthly temperatures positively correlate with murder and attempted murders across several cities in Pakistan (Simister & Van de Vliert, 2005). Cohn and Rotton (1997) thoroughly researched sub-daily-level crime in several separate studies. They analysed the relationship between assaults and temperature aggregated into 3-h

intervals in Minneapolis, Minnesota, for 1987–88 and in Dallas, Texas, for 1994–95. They observed an inflection point (24°C in Minneapolis and 30°C in Dallas) where aggravated assaults decrease as temperatures rise when using 3-h time intervals. When using 24-h aggregates of assaults and temperature in Dallas, this inflection point was not present.

Harries et al. (1984) chose Dallas as a case study during the summer of 1980 (March–October). They divided Dallas into 12 regions or “neighbourhoods” based on measures of residents’ economic well-being. They found there is an interaction between socioeconomic status and assault rates. Assaults were higher in low-status neighbourhoods compared to medium- and high-status neighbourhoods (defined using an urban pathology index). Harries and Stadler (1988) replicated this study using daily assault data for Dallas from 1980 to 1981.

4 MATERIALS AND METHODS

This study employed secondary data that include both climatic parameters and reported cases of criminal activities within the study area. A sample of data covering the period 2005 and 2015 was selected and obtained from the Nigeria Meteorological Agency and Nigeria Police Force, respectively. The periods under consideration fall within the period of the return of civil rule in Nigeria. At this time, it is believed that crimes are at an alarming level due to reduced military intervention and insufficient police mobilisation in the country. Second, the periods suggest when most developing countries, including Nigeria, begin to be aware of the major impact of climate in general. Finally, data availability and accessibility prompted the choice of the period for collecting data. Both descriptive and inferential statistics were employed for data analysis. The descriptive statistics include Mean and Standard Deviation, and coefficient of variation, while regression analysis, Correlation Analysis, Student T-test, and time series analysis form the inferential statistics used. Tables and graphs were generally used to present the data.

5 RESULTS

5.1 Weather Parameter

In Table 1, the minimum temperature recorded over the years shows it is relatively even, with the lowest of 22.8°C recorded in 2013 and the highest of 26°C in 2011. The mean is 24.1°C and its standard deviation from the mean is 0.8°C. The maximum temperature over the years ranges within 2.4°C, showing that temperature changes in the study area are relatively consistent.

Table 1:
Weather
variables
distribution
(Source:
Nigerian
Meteorological
Agency, 2016)

Year	Min. T	Max. T	R.H.	Wind	Rainfall
2005	24.2	31.6	84.3	6.7	135
2006	24.2	29.7	84.3	6	124.9
2007	24.1	29.5	83.6	4.9	137.4
2008	23.9	29.2	82.3	4.9	151.3
2009	24	29.6	82.1	5.3	116
2010	23.9	30.7	83.3	5.9	189.4
2011	26	30.9	77.6	4.6	174.9
2012	24.2	31.2	78.7	4.8	135.2
2013	22.8	30.03	82.3	5.2	118.4
2014	23.6	30.6	83.9	5.2	128.5
2015	24.03	31.6	81.3	5.4	131.6
Mean	24.08455	30.42091	82.15455	5.354545	140.2364
S.D.	0.753145	0.860935	2.216016	0.621874	23.0513
C.V.	3.127088	2.830077	2.697375	11.61395	16.43746

Relative humidity, which is the amount of water vapour present in air expressed as a percentage, shows the study area is a very humid state with the lowest RH being over 70%, which implies that rainfall occurs almost year-round. The lowest wind speed value of 4.6m/s was recorded in 2011 while the highest value of 6.7m/s was recorded in 2005. The mean wind speed is 5.4m/s with a standard deviation of 0.62; this indicates a deviation from the mean. The lowest rainfall value of 116 mm was recorded in 2009 while the highest value of 189.4 mm was recorded in 2010. The mean rainfall is 140.2 mm with a standard deviation of 23.

5.2 Criminal Activities in Ifako-Ijaiye

As presented in Table 2, there was no reported case of murder in the first two consecutive years (2005–2006), yet the greatest prevalence of murder was reported in 2010 with 6 cases. Cases of assault were rampant in 2010 when 28 cases were reported with fewer cases reported in subsequent years. The lowest incidence of rape was recorded in 2005 and 2013, one case respectively, while the highest incidence of 19 came in 2010. The mean number of rape cases is 4.91, with a standard deviation of 5.11. Cases of theft were prominent and reached their highest level in 2014 with 32 cases, and the lowest level of 10 in 2007. On average, there were 20 cases of theft, with a standard deviation of 6.8.

Armed robbery was at its peak in 2013 with 9 cases reported, and fewer reported cases subsequently. The mean number of armed robbery cases is 5.3 with a standard deviation of 2.15, meaning armed robbery was at a fairly consistent level throughout the period of study. Breach of public peace has a range of 11,

with a mean of 11.5 cases and a standard deviation of 3.1. The lowest recorded number of burglary cases is 3 in 2009, and the highest was in 2015 with 13 cases reported. There were 5 cases of kidnapping reported in 2010 and there were 2 years without any report in 2005 and 2013. The mean kidnapping incidence was 1.7, with a standard deviation of 1.5.

The study also observed there was no case of slave dealing in 2005, although the highest numbers of 9 cases was recorded in 2011. The mean of slave dealing cases is 4.1, with a standard deviation of 2.8. Criminal conspiracy reached its peak in 2010 with 5 cases, with a mean of 1.9 and a standard deviation of 1.6 cases, respectively. The lowest value for cultism was recorded in 2006, 2008 and 2011, respectively, when no cases of cultism were reported while the highest value was seen in 2009 with 4 cases. The mean for cultism is 1.2 with a standard deviation of 1.3. In 2009, there was a drop in a number of cases of false pretence and cheating reported, with the highest value of 31 cases recorded in 2015, while the mean for incidences of false pretence was 15.5 cases reported and a standard deviation of 6.5.

Year	Murder	Assault	Rape/ I.A.	Theft & O.S.	A.R.	B.P.P.	Burglary	KDNP	Dealing			C.C.	Cultism	F.P.C.
2005	0	18	1	19	3	11	10	0	0	1	2	18		
2006	0	11	2	14	3	11	7	1	2	0	0	10		
2007	1	9	4	10	5	7	4	1	4	2	1	13		
2008	3	15	7	18	8	9	5	3	6	4	0	11		
2009	2	17	2	13	4	12	3	1	6	1	4	9		
2010	6	28	19	21	3	15	4	5	3	5	2	17		
2011	1	7	4	18	4	11	9	2	9	3	0	12		
2012	2	9	7	25	7	9	6	2	4	1	1	15		
2013	0	11	1	21	9	14	5	0	0	2	0	12		
2014	3	18	3	32	5	10	7	1	7	0	1	23		
2015	1	12	4	29	7	18	13	3	5	2	3	31		
Mean	1.727273	14.09091	4.909091	20	5.272727	11.54545	6.636364	1.727273	4.181818	1.909091	1.272727	15.54545		
S.D.	1.793929	5.990902	5.107926	6.678323	2.148996	3.110101	3.009077	1.489356	2.821992	1.578261	1.3484	6.547727		
C.V.	103.8591	42.51608	104.0503	33.39162	40.75681	26.93788	45.34226	86.22588	67.48241	82.67084	105.9457	42.11988		

Table 2: Criminal activities in Ifako-Ijaiye (Source: Nigerian Police Force, 2016)

Key: Rape/I.A.: Rape/Indecent Assault; Theft & O.S.: Theft and Other Stealing; A.R.: Armed Robbery; B.P.P.: Breach of Public Peace; KDNP: Kidnapping; Slave Dealing; C.C.: Criminal Conspiracy; F.P.C.: False Pretence and Cheating

5.3 Criminal Activity Patterns in Ifako-Ijaye

Figure 2 shows that 2010 was the year seeing the highest incidence of assault (28 recorded cases) which was then followed by sudden decline over time. Murder was less prevalent due to the relative peace among those living in the area but, in contrast, the number of reported rape cases reached its peak of 19 in 2010. Theft and stealing were the most prevalent and kept on increasing, where this might be due to the inadequacy of the law enforcement agency, the low levels of contentment, the country's poor economic situation, the lack of equity, poor resource management by the leaders and poor weather conditions that hinder high agricultural yields, as well as the low fish catch in the ocean and lagoons.

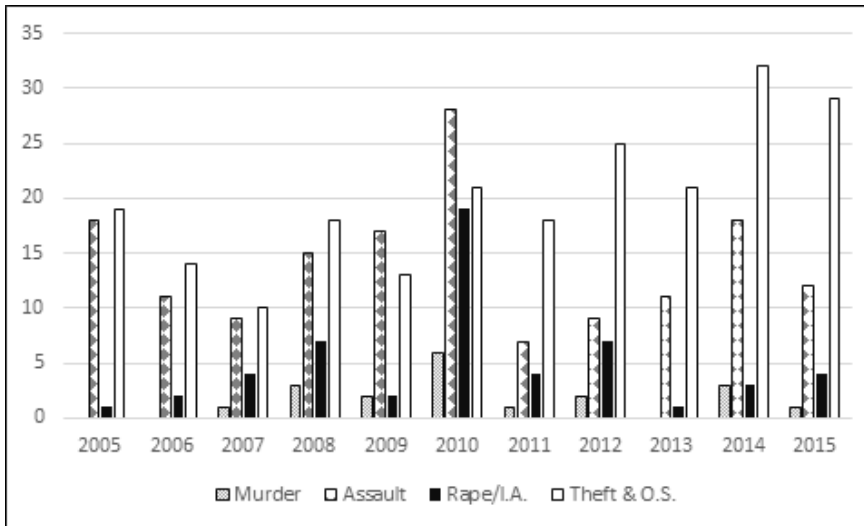


Figure 2:
Trend of
criminal
activities
between 2005
and 2015

As shown in Figure 3, several criminal activities had a conical rise and fall pattern. That is, there was an abrupt increase and decrease in certain cases reported. Armed robbery was rampant having had the fewest cases in 2007 with 7 instances reported; this activity mostly dominates at night during the peak of cool weather and in secluded areas probably covered

Figure 3:
Trend of
other criminal
activities
between 2005
and 2015

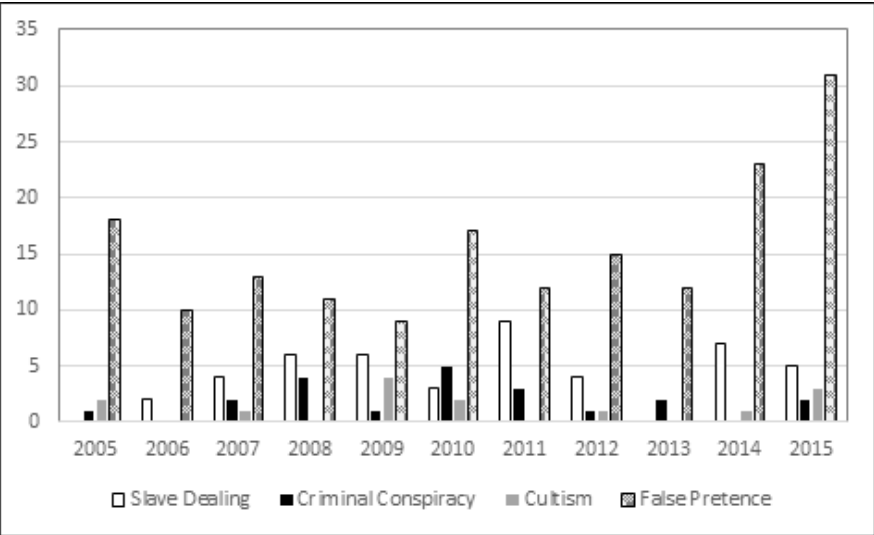
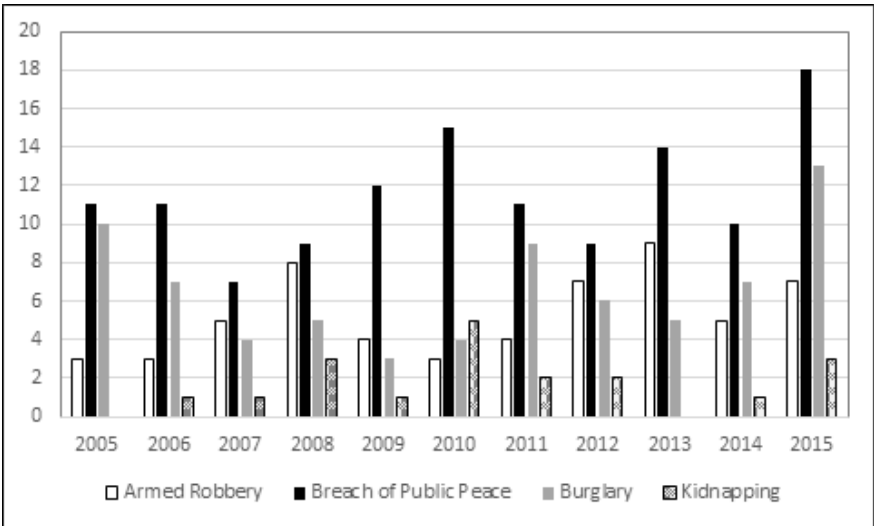


Figure 4:
Trend
of criminal
activities
between 2005
and 2015



with vegetation. Kidnapping is the lowest on this trend line, possibly due to people being alert or security conscious. The most incidences of breach of public peace came in 2015 with 18 cases reported due to offenders' high temper.

People expressed their grievances in many ways, leading to the disturbance of peace in the area. Figure 4 shows that low criminal activities, such as "false pretence" and "cheating", which entail people being defrauded of properties and other valuable items, were on the high side.

5.4 Inter-relationship of weather variables and criminality in the study area

Table 3 reveals the result for the degree of relationship between climate and various criminal activities in the area under study. The strength of the relationship varies for each criminal act.

Murder ($R = 0.798$, $R^2 = 0.637$, Adjusted $R^2 = 0.273$ and Standard Error = 1.52915). This implies there is a positive linear relationship of about 80% between murder and climate in the study area. Assault ($R = 0.837$, $R^2 = 0.700$, Adjusted $R^2 = 0.400$ and Standard Error = 4.64021) shows that a relationship at a magnitude of 83% exists between assault and climate. As may be seen, there is a strong positive relationship between the parameters; hence, assault is a more weather-dependent crime. Rape ($R = 0.905$, $R^2 = 0.819$, Adjusted $R^2 = 0.639$ and Standard Error = 3.06903) is only about 10% short of having a perfect relationship with climatic variables. It shows that any slight change in the climate causes rape to fluctuate due to the proportional relationship between climate and rape. For instance, when the weather is hot, there were more cases of rape, meaning that people were more sexually aroused, leading to illegal sexual activity by those who take the law into their own hands.

Theft ($R = 0.855$, $R^2 = 0.732$, Adjusted $R^2 = 0.464$ and Standard Error = 4.89075) indicates a strong positive relationship of 85% with climate. Unlike theft, robbery ($R = 0.877$, $R^2 = 0.769$, Adjusted $R^2 = 0.538$ and Standard Error = 1.46110) is more susceptible to the climate as a relationship of a magnitude of 87% exists between them. Breach of Public Peace ($R = 0.639$, $R^2 = 0.409$, Adjusted $R^2 = -0.183$ and Standard Error = 3.38227) shows there is a positive relationship between Breach of Public Peace and the climate, but it is not strong. It has a 63% chance of occurring with the aid of the climate, unlike rape, for which the figure is 90%. Burglary ($R = 0.822$, $R^2 = 0.676$, Adjusted $R^2 = 0.352$ and Standard Error = 2.42176) shows a strong linear relationship between climate and burglary. Kidnapping ($R = 0.805$, $R^2 = 0.648$, Adjusted $R^2 = 0.296$ and Standard Error = 1.25000); the chances of kidnapping being influence by climate is 80%, 5% less than the relationship between theft and climate.

Table 3:
Relationship
between
climatic
variables and
crime

Crimes	R	R ²	Adjusted R ²	Standard error of estimate
Murder	0.798	0.637	0.273	1.52915
Assault	0.837	0.700	0.400	4.64021
Rape	0.905	0.819	0.639	3.06903
Theft	0.855	0.732	0.464	4.89075
Robbery	0.877	0.769	0.538	1.46110
BPP	0.639	0.409	-0.183	3.38227
Burglary	0.822	0.676	0.352	2.42176
Kidnapping	0.805	0.648	0.296	1.25000
Slave Dealing	0.841	0.707	0.414	2.15990
C.C.	0.917	0.842	0.683	0.88847
Cultism	0.413	0.170	-0.659	1.73699
False Pretence	0.895	0.802	0.603	4.12515

Predictors: (Constant), Rainfall, Wind Speed, Minimum Temperature, Maximum Temperature, Humidity

Dependent Variables: Criminal Variables

Slave Dealing ($R = 0.841$, $R^2 = 0.707$, Adjusted $R^2 = 0.414$ and Standard Error = 2.15990); slave dealing and climate have a strong positive relationship which is 21% higher than that of breach of public peace. Criminal Conspiracy ($R = 0.917$, $R^2 = 0.843$, Adjusted $R^2 = 0.683$ and Standard Error = 0.88847) is 9% short of having a perfect positive linear relationship with climate. Criminal Conspiracy here depends strongly on climatic variables. Cultism ($R = 0.413$, $R^2 = 0.170$, Adjusted $R^2 = -0.659$ and Standard Error = 1.73699) shows that a weak positive relationship exists between climate and cultism.

Pretence and Cheating ($R = 0.895$, $R^2 = 0.802$, Adjusted $R^2 = 0.603$ and Standard Error = 4.12515) holds a strong positive relationship with climate. The results of analysing the relationship between climate and crime reveal that climate plays a dominant role in criminal activities. Although the strength of the dependence varies with different climatic elements, still other environmental factors influence crime such as human factors and unfavourable government policies that allow some people to take the law into their own hands by perpetrating all sorts of crimes in the area. For instance, Rotton and Cohn (2001) observed that when the weather is warmer people are more likely to travel away from their homes to public places; this increase in social contact leads to more people becoming victimised, and thus predicts an increase in violence has a linear relationship with a temperature increase.

The result of analysis of variance on the climate's impact on criminal activities in Ifako-Ijaiye, Lagos State is shown in Table 4. The computed test statistic for all tests was found to exceed the probability values, i.e. murder ($1.7 > 0.2$), assault

(2.3 > 0.2), with the exception of cultism (0.2 < 0.9). This means that a significant relationship exists between the climatic conditions and various crimes. During intensive heat, cold weather, windy atmosphere, cloudy skies, among others, unlawful people in the study area tend to take the law into their own hands in order to disrupt the peace and good coexistence of people in the area. They commit all sorts of evil acts to divest people of their property. However, other environmental factors had a small influence on such evil practices where factors like Sunshine hours, Cloud cover, Elevation and Psychological state of mind either directly or indirectly influence criminal acts. This shows that climatic variables are crucial determinants of criminal activities. Criminality in Ifako-Ijaiye is a product of climatic variables.

Crimes	S.S.	D.F.	M.S.	F - calculated	P - value
Murder	32.182	10	4.098	1.753	0.276
Assault	358.909	10	50.250	2.334	0.187
Rape	260.909	10	42.763	4.450	0.061
Theft	446.000	10	65.281	2.729	0.147
Robbery	46.182	10	7.102	3.327	0.107
BPP	96.727	10	7.906	0.691	0.652
Burglary	90.545	10	12.244	2.088	0.219
Kidnapping	22.182	10	2.874	1.839	0.260
Slave Dealing	79.636	10	11.262	2.414	0.178
C.C.	24.909	10	4.192	5.311	0.045
Cultism	18.182	10	0.619	0.205	0.946
False Pretence	428.727	10	68.729	4.039	0.076

Table 4:
Impact of
climate on
criminal
activities

Predictors: (Constant), Rainfall, Wind Speed, Minimum Temperature, Maximum Temperature, Relative Humidity

Dependent Variables: Criminal Variables

5.5 Regression Modelling for the Climate-Crimes Relationship

(a) Murder = $9.291 - 1.208_{\min T} + 0.98_{\max T} + 0.155_{RH} - 0.770_{\text{wind}} + 0.71_{\text{rain}}$ (see Table 5)

The regression explains that minimum temperature and wind are inversely proportional to murder. An increase in these two will positively cause a drop in the incidence of murder. Other climatic variables in a certain proportion would enhance murder.

(b) Assault = $24.569 - 3.985_{\min T} + 0.129_{\max T} + 0.455_{RH} + 3.626_{\text{wind}} + 0.18_{\text{rain}}$

All variables are directly proportional to assault, except minimum temperature. Wind has the strongest level, showing that windy days lead to more assaults. This implies that high-temperature days will see greater assaults. Therefore, people need to be more vigilant on such days. As observed in this

study, Rotton and Cohn (2003) compared annual U.S. national totals for assaults with the mean temperature from 1950 to 1999, along with annual state totals from 1960 to 1999. At both levels, assaults are significantly correlated with temperature. In another study, Anderson et al. (1997) concluded that "serious and deadly assaults" (i.e. assaults and homicide) are correlated with temperature. This conclusion was reached by using average annual temperature and crime data for the 50 largest U.S. Standard Metropolitan Statistical Areas (SMSAs) from 1950 to 1995. They concluded that with every increase in temperature by 18°C produces an increase of 6.6 per 100,000 people in serious and deadly assaults.

$$\text{I Rape} = 105.704 - 3.921_{\text{minT}} - 0.329_{\text{maxT}} - 0.410_{\text{RH}} + 0.881_{\text{wind}} + 0.233_{\text{rain}}$$

When the relative humidity is very low, the circulation oxygen in the brain is minimal, making space for an unstable psychological state, which might enhance rape. Rape is rampant during a rainy season that is accompanied with wind since there a positive relationship exists between rape and climate.

$$\text{(d) Theft} = -196.357 - 4.003_{\text{minT}} + 8.234_{\text{maxT}} + 1.217_{\text{RH}} - 7.700_{\text{wind}} + 0.025_{\text{rain}}$$

When the maximum temperature, rain and relative humidity increase, so does theft. For instance, a rainy day facilitates the snatching of property. Since Lagos State is a coastal city with rain occurring nearly all year-round, theft will keep on growing.

$$\text{(e) Robbery} = 107.986 - 2.388_{\text{minT}} + 0.136_{\text{maxT}} - 0.500_{\text{RH}} - 1.397_{\text{wind}} - 0.006_{\text{rain}}$$

Robbery is inversely proportional to minimum temperature, relative humidity, wind and rain, i.e. robbery occurs on days with a higher maximum temperature, low minimum temperature, relative humidity, wind and rainfall. The mean maximum temperature in Ifako-Ijaiye is 30°C, implying that an temperature increase in the area will also cause robbery to rise, thereby putting lives at risk.

$$\text{(f) BPP} = 104.794 - 2.485_{\text{minT}} + 0.694_{\text{maxT}} - 0.896_{\text{RH}} + 2.813_{\text{wind}} + 0.029_{\text{rain}}$$

When the maximum temperature is high and the day is windy and coupled with positive relative humidity, people tend to express their grievances through protest of a violent nature. Breach of public peace will trigger the forced migration of people to other areas since they no longer enjoy a serene environment.

$$\text{(g) Burglary} = -158.787 + 1.825_{\text{minT}} + 2.977_{\text{maxT}} + 0.505_{\text{RH}} - 0.886_{\text{wind}} - 0.41_{\text{rain}}$$

The study revealed houses are hardly burgled on rainy days but especially in the dry season when people tend to move out due to the heat. Increases in the maximum and minimum temperatures will ensure this occurs. People must be alert during the dry season as burglary numbers will be high. These findings agree with the work of Field (1992) who observed a positive relationship between higher temperatures and property crime. He posited that when the temperatures increased people spent more time outside their home, and this also led to a higher rate of property crime such as car theft and burglary.

$$\text{(h) Kidnapping} = 21.028 - 0.766_{\text{minT}} + 0.016_{\text{maxT}} - 0.110_{\text{RH}} - 0.074_{\text{wind}} + 0.058_{\text{rain}}$$

This is inversely proportional to minimum temperature, relative humidity and wind. Slightly rainy days with a moderate temperature attract more kidnapping. Kidnapping causes insecurity, meaning people need to move en masse rather than alone.

$$\text{(i) Slave Dealing} = -110.541 + 2.343_{\text{minT}} + 0.721_{\text{maxT}} + 0.727_{\text{RH}} - 4.448_{\text{wind}} + 0.003_{\text{rain}}$$

Child trafficking is greater in the presence of moderate temperatures, about 70% relative humidity, as well as slight rainfall. Humidity is high year-round in Ifako-Ijaiye, meaning slave dealing will always be reported except when measures are taken to combat this menace.

$$(j) \text{ Criminal Conspiracy} = 61.201 - 1.107_{\min T} - 0.610_{\max T} - 0.321_{RH} + 0.469_{\text{wind}} + 0.070_{\text{rain}}$$

This will occur when the temperature is negative and it is relatively humid, and slight rainfall and a breezy day encourage this. Criminals tend to conspire and execute their evil plans more on windy days.

$$(k) \text{ Cultism} = -7.480 - 0.055_{\min T} + 0.368_{\max T} - 0.28_{RH} + 0.524_{\text{wind}} - 0.012_{\text{rain}}$$

This behaviour occurs when there is no rainfall, a moderate maximum temperature and the day has a gentle breeze. The implication is that cultism is a greater threat to people in the dry season.

$$(l) \text{ False Pretence and Cheating} = -465.884 - 0.421_{\min T} + 9.727_{\max T} + 2.987_{RH} - 9.342_{\text{wind}} + 0.002_{\text{rain}}$$

This is directly proportional to maximum temperature, relative humidity and rainfall. More of these variables or an increase in them causes a higher incidence of false pretence. People tend to cheat each other more on hot days.

Table 6 shows that rape ($r = 0.025$) is directly related to minimum temperature, while murder ($r = -0.087$), assault ($r = -0.331$), theft ($r = -0.219$), robbery ($r = -0.463$) and BPP ($r = -0.192$) are inversely related to minimum temperature (significant at $\alpha = 0.5$). It can be said that a rise in minimum temperature causes a rise in the incidence of rape while, at a minimum temperature, the numbers of murder, assault, theft, robbery and BPP increase.

Crimes	R	R ²	Adjusted R ²	Standard error of estimate
Murder	0.798	0.637	0.273	1.52915
Assault	0.837	0.700	0.400	4.64021
Rape	0.905	0.819	0.639	3.06903
Theft	0.855	0.732	0.464	4.89075
Robbery	0.877	0.769	0.538	1.46110
BPP	0.639	0.409	-0.183	3.38227
Burglary	0.822	0.676	0.352	2.42176
Kidnapping	0.805	0.648	0.296	1.25000
Slave Dealing	0.841	0.707	0.414	2.15990
C.C.	0.917	0.842	0.683	0.88847
Cultism	0.413	0.170	-0.659	1.73699
False Pretence	0.895	0.802	0.603	4.12515

Table 5:
Relationship
between
climatic
variables and
crime

Predictors: (Constant), Rainfall, Wind Speed, Minimum Temperature, Maximum Temperature, Relative Humidity

Dependent Variables: Criminal Variables

Further, assault ($r = 0.077$), rape ($r = 0.077$), theft ($r = 0.628$) and BPP ($r = 0.439$) are directly related to maximum temperature while murder ($r = -0.052$) and robbery ($r = -0.132$) work inversely to the maximum temperature. This implies robbery and murder will only prevail when the maximum temperature is low or is falling.

However, a rise in RH fosters an increase in murder ($r = 0.039$) and assault ($r = 0.515$), meaning they are directly proportional. Rape ($r = -0.049$), theft ($r = -0.155$), robbery ($r = -0.291$) and BPP ($r = -0.028$) are inversely related to RH. Namely, these activities will be reduced during the Harmattan when the humidity is high and will increase in the rainy season when the humidity is low.

Wind speed works to keep a lid on murder ($r = -0.084$), theft ($r = -0.041$) and robbery ($r = -0.544$) since high wind turbulence does not enable these crimes to grow. Assault ($r = 0.551$), rape ($r = 0.017$) and BPP ($r = 0.309$) are rampant. Conversely, rainfall is directly proportional to murder ($r = 0.623$), assault ($r = 0.351$), rape ($r = 0.788$) and BPP ($r = 0.080$), and inversely proportional to theft ($r = -0.008$) and robbery ($r = -0.301$). This implies that rainfall has a negative impact on the occurrence of theft and robbery and encourages a higher incidence of murder, assault, rape and BPP.

Table 6:
Correlation
between
climatic
variables and
criminality

Weather Elements	MinT	MaxT	RH	Wind	Rain	Murder	Assault	Rape	Theft	Robbery	BPP
minT	1										
maxT	0.235	1									
RH	-0.589	-0.303	1								
Wind	-0.219	0.296	0.667	1							
Rain	0.510	0.184	-0.285	-0.078	1						
Murder	-0.087	-0.052	0.039	-0.084	0.623	1					
Assault	-0.331	0.077	0.515	0.551	0.351	0.738	1				
Rape	0.025	0.077	-0.049	0.017	0.788	0.881	0.621	1			
Theft	-0.219	0.628	-0.155	-0.041	-0.008	0.242	0.177	0.111	1		
Robbery	-0.463	-0.132	-0.291	-0.544	-0.301	-0.134	-0.383	-0.161	0.327	1	
BPP	-0.192	0.439	-0.028	0.309	0.080	0.101	0.319	0.205	0.409	0.080	1

Significant at $\alpha = 0.50$

With respect to the findings in the level of association between climate and crimes, the respondents' opinion shows that rainy seasons recorded higher levels of criminal activities than dry seasons. About 84% of respondents believed that during the rainy season people were harsh, sensitive and aggressive towards each other, especially on highways and streets. They find it difficult to tolerate one another, thereby leading to different incidences of criminal acts, with 24% agreeing that criminal acts prevail in summer and 19% of the respondents agreeing that kidnapping is prevalent in the rainy season.

Minimum temperature is directly proportional to burglary ($r = 0.332$), kidnapping ($r = 0.177$), slavery ($r = 0.572$) and criminal conspiracy ($r = 0.133$). Increases in minimum temperature cause a rise in burglary, kidnapping, slavery

and criminal conspiracy. Cultism ($r = -0.098$) and false pretence ($r = -0.122$) are inversely proportional to minimum temperature (Table 6).

Maximum temperature negatively correlates with slavery ($r = -0.081$) and criminal conspiracy ($r = -0.087$), meaning an increase in the maximum temperature causes a decrease in slavery and criminal conspiracy. On the other hand, burglary ($r = 0.742$), kidnapping ($r = 0.177$), cultism ($r = 0.276$) and false pretence ($r = 0.699$) are directly related to the maximum temperature. A rise in maximum temperature causes an increase in burglary, kidnapping, cultism and false pretence.

	MinT	maxT	RH	Wind	Rain	Burglary	KDNPP	Slavery	C.C.	Cultism	F.P.
minT	1										
maxT	0.235	1									
RH	-0.589	-0.303	1								
Wind	-0.219	0.296	0.667	1							
Rain	0.510	0.184	-0.285	-0.078	1						
Burglary	0.332	0.742	-0.187	0.241	-0.020	1					
KDNPP	0.177	0.177	-0.216	-0.123	0.752	-0.024	1				
Slavery	0.572	-0.081	-0.525	-0.673	0.297	0.044	0.322	1			
C.C.	0.133	-0.087	-0.207	-0.178	0.805	-0.197	0.754	0.139	1		
Cultism	-0.098	0.276	0.118	0.302	-0.176	0.076	0.140	0.038	-0.081	1	
F.P.	-0.122	0.699	0.058	0.176	-0.003	0.076	0.253	0.064	-0.072	0.367	1

Significant at $\alpha = 0.50$

Table 7:
Correlation
between
climatic
variables and
crime

A humid environment or season sees more cultism ($r = 0.118$) and false pretence ($r = 0.058$) since RH is directly proportional to them. Burglary ($r = -0.187$), kidnapping ($r = -0.216$), slavery ($r = -0.525$) and criminal conspiracy ($r = -0.207$) will keep decreasing provided that RH keeps rising.

Wind speed has a negative correlation with kidnapping (KDNPP) ($r = -0.123$), slavery ($r = -0.673$) and criminal conspiracy ($r = -0.178$). For instance, on days of very turbulent wind people mostly remain indoors, reducing kidnapping in these periods. Burglary ($r = 0.241$), cultism ($r = 0.302$) and false pretence ($r = 0.176$) go up as the wind speed increases.

All criminal activities are sensitive to rainfall, except burglary ($r = -0.020$), cultism ($r = -0.176$) and false pretence ($r = -0.003$) that are indirectly related to rainfall. A decrease in rainfall will increase incidences of burglary, cultism and false pretence. Conversely, kidnapping ($r = 0.752$), slavery ($r = 0.297$) and criminal conspiracy ($r = 0.805$) rise as rainfall increases since they are directly related (Table 7).

6 CONCLUSIONS

This research examined the impact of climate on criminal activities in Ifako-Ijaiye LGA, Lagos State. The study reveals that rainfall was a major contributor to the occurrence of any criminal activities and that the vegetation cover found in the

environment serves as a hideout for criminals. It was discovered that, although the climate affects all criminal activities, rape and criminal conspiracy are the most susceptible to climate parameters. Although there are variations in climatic parameters over the years, these variations have considerably different impacts on criminal activities. For instance, this study revealed rainfall is the strongest parameter inducing murder and kidnapping, while maximum temperature induces theft, false pretence and cheating. The study suggests further research on other crime-induced factors, such as particular genes, neurological deficits, malnutrition and environmental pollutants as observed by Akers and Sellers (2008). It is equally essential to note that strategic patrols and supplies of new detective gadgets could serve as crime-control measures in this area and other similar environments.

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Local Governments as Providers of Public Order: The Case of Estonia

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Purpose:

This paper deals with the legal regulation of Estonia's public order from the aspect of local governments. The purpose of the article is to analyse relevant Estonian legislation to help identify problems and make suggestions for improvement. Proposals are intended for the institutions involved in developing legislation in Estonia. Local governments in the country act according to the Constitution of the Republic of Estonia (1992), but still retain enough legal autonomy to decide on local affairs independently of the state government.

Methods:

The paper is based on an analysis of national legislation. In the legal research, the author pays attention to written sources of law, e.g. the Constitution of the Republic of Estonia (1992), and subsequent legal acts regulating public order.

Findings:

The main task of local government is to provide public services and improve the quality of the living environment. In Estonia, the principal provider of internal security is the Police and Border Guard Board. It is the responsibility of local government to assist the national structures in fulfilling their duties. On the other hand, the municipalities are required to ensure public order within their territories. The legal power given by parliament to local governments to carry out such activities is insufficient to ensure the law is enforced.

Practical Implications:

The findings in this paper highlight areas in which the legal regulation could be improved.

Originality/Value:

Although the legal basis for Estonian municipalities' operations has been studied carefully, it is necessary to examine issues concerning the links between local governments and public order in detail. The continually changing legislation makes the situation complex to handle. It also provides an opportunity for international comparative analysis with other European Union member states.

UDC: 351.78(474.2)

Keywords: local government, internal security, public order, policing, Estonia

Lokalne oblasti kot subjekti zagotavljanja javnega reda in miru: primer Estonije

Namen prispevka:

Prispevek prikazuje estonsko pravno podlago zagotavljanja javnega reda in miru z vidika lokalnih oblasti. Namen prispevka je analizirati veljavno zakonodajo, identificirati težave in pripraviti predloge za izboljšave. Predlogi izboljšav so namenjeni institucijam, zadolženim za pripravo estonske zakonodaje. Lokalne oblasti sicer delujejo v skladu z estonsko ustavo, vendar imajo tudi določeno mero pravne avtonomije.

Metode:

Prispevek temelji na analizi nacionalne zakonodaje, predvsem ustave in zakonskih predpisov, ki urejajo področje javnega reda in miru.

Ugotovitve:

Glavna naloga lokalnih oblasti je zagotavljanje javnih storitev in čim večje kakovosti bivalnega okolja. Notranjo varnost v Estoniji zagotavlja policija (angl. *Police and Border Guard Board*), lokalne oblasti pa sodelujejo pri izpolnjevanju varnostnih nalog državnih organov ter hkrati zagotavljajo javni red in mir na svojem območju. Pooblastila lokalnih oblasti za izvajanje teh dejavnosti niso zadostna.

Praktična uporabnost:

Ugotovitve prispevka lahko pripomorejo k izboljšanju pravne ureditve.

Izvirnost/pomembnost prispevka:

V prispevku je predstavljena pravna podlaga za delovanje lokalnih oblasti na področju zagotavljanja javnega reda in miru, ki je zaradi nenehnih sprememb zakonodaje na tem področju precej zapletena. Prispevek predstavlja tudi osnovo za nadaljnjo primerjalno analizo z drugimi članicami Evropske unije.

UDK: 351.78(474.2)

Ključne besede: lokalne oblasti, notranja varnost, javni red in mir, policijska dejavnost, Estonija

1 INTRODUCTION

Since Estonia declared its independence in 1991, the country's legislation has changed a lot. The main purpose of all the reforms was to overcome the Soviet era and create a new legal system harmonised with common European principles. European Union member states have the sole authority to decide on the structure of municipalities and their tasks. According to the 1992 Constitution of the Republic of Estonia (hereinafter: the Constitution), the local government (hereinafter: LG) as an administrative level is independent of the central government (Merusk & Narits, 1998). LG is based on the principles of decentralisation, subsidiarity and democratic legitimation. In addition to the classical principle of the horizontal

separation of powers, there is a vertical dimension: as a manifestation of this vertical separation LG is a kind of ‘bulwark’ that protects against the hyper-centralised and concentrated state power. The decision-making process that is guided exclusively by the central authority limits the vitality of democracy as a whole (Olle, 2002). According to Schöber (2003), LG is meant to provide the key conditions for the development of society. Similarly, the Constitution (1992) states the purpose of an LG is to make decisions relevant to local life. LG is the public power that is closest to a single person. Subsection 1 of section 154 of the Constitution (1992) provides that all local matters are determined and administered by local authorities, who discharge their duties autonomously in accordance with the law. Since 1993, a one-tier local government system has been in place in Estonia (Ratto Trabucco, 2015; Mäeltsemees, 2012). In total, in 2017 there were 213 LGs (30 towns and 183 rural municipalities) in Estonia. Most LGs are small, with fewer than 2,000 inhabitants. Estonia is currently (2016–2017) undergoing an administrative-territorial reform that will strongly reduce the number of municipalities. Regardless of their size, all LGs in Estonia have equal responsibilities and must be able to offer their residents the same benefits. In Estonia, LGs administer about two-thirds of all public services. The growing urbanisation creates many problems because vast areas are sparsely populated, and the cross-border commuting that is becoming more prevalent makes it harder to ensure equal services for all regions. What is more, LGs possess very different administrative capacities (Merusk & Olle, 2013). Their efficiency to act as a balance to central government has decreased, and each agency uses its units to communicate with local citizens and the LGs while, at the same time, there is a threat of uncoordinated and partly controversial messages and activities. In an Organization for Economic Co-operation and Development report (OECD, 2011), attention was drawn to the fact there are several significant unsolved problems in the provision of public services in Estonia: consolidating services on the mid-level and discordance between financial capacities and responsibilities on the local level. The solution offered suggests accustoming the requirements to provide services with people’s needs, connecting the local level with local development and regional policies, and matching the number of services rendered with an LG’s capacity, and increasing its scope (OECD, 2011). Estonia’s case is compelling even for the fact that, since the end of the Soviet era, Estonia has undergone significant socioeconomic changes that are reflected in its internal security. Tabur (2013, pp. 90–91) explains the latest developments in Estonia’s internal security system: “The history of newly independent Estonian law enforcement can be described as permanent reform from force to a service. While moving towards service-oriented organization also the number of administrative units of police, prosecutors’ office and courts have been significantly cut to put more resources into core activities of the institutions. The recent law enforcement reform in 2010 integrated police, border guard, and migration services into one — Police and Border Guard Board [PBGB], making it the biggest state institution in the country. [...] Law enforcement in Estonia is fully under responsibility of state. There is only one police with some separate governmental investigative organizations making the responsibility for developments in criminality and crime fighting clear and transparent”. Due to the

principle of local autonomy, LGs should be able to decide independently on their competencies, including the choice of legal instruments to achieve the set goals. However, the issues of internal security presuppose the more restrictive power of the central government. The maintenance of public order must take place in a partnership involving both the police and the local governments.

2 INTERNAL SECURITY IN ESTONIA: LOCAL GOVERNMENTS SUPPORTING THE POLICE

According to the development plan for Estonia's internal security, security means a stable living environment in which a person feels secure. Both national and cross-border international structures play the leading roles in providing internal security. Sections 1 and 3 of the Police and Border Guard Act (PBGA, 2009) describe the police as an institution of executive power within the Ministry of the Interior. The primary functions of the police include protection of the public order and proceeding with misdemeanour matters. Subsection 1 of section 4 states the Police and Border Guard Board is a police authority.

The Local Government Organisation Act (LGOA, 2016) regulates the main tasks of Estonian local governments. The LGOA (2016) states the functions of an LG include organising social assistance and services, welfare facilities for the elderly, youth work, housing and utilities, and supplying water and sewerage. LGs also offer different public services and facilities, carry out spatial planning, waste management, public transportation within the rural municipality or city, and the maintenance of local roads and city streets. In some instances, an LG also has to dispense with some state functions – these must be assigned to them by law or arise from a contract between an authorised state body and a specific council. At the same time, providing internal security is in the first place a responsibility of government structures like the PBGB, and is not a priority of the LGs. But different international studies show a constant rise in the role played by LGs in internal security (Bureau of Justice Assistance, 2001). This role can arise when there is fruitful cooperation with the police and other law enforcement organisations, but also among citizens and LGs. The role of municipalities mainly involves supporting and helping (e.g. sharing information, joint organisation of school events in schools or kindergartens, communication) the PBGB and other state structures for which internal security-related matters are their primary function. On the other hand, the national strategy, the Estonian Internal Security Development Plan 2015–2020 (EISDP, 2015), assigns security-related tasks to LGs. Subsection 2.5. of the EISDP (2015) emphasises the importance of a community-oriented approach and states that government institutions must involve the LGs, businesses, social and other organisations and citizens as much as possible. One positive example mentioned concerns the law enforcement committees that function as network-based working groups in LGs and the village chiefs' roundtables. According to the EISDP (2015), it is essential to establish and implement a community-oriented approach model to achieve internal security in the community. This practice also helps achieve all other sub-goals of the EISDP (2015). Implementation of the community-oriented

internal security model means that everyone understands their role and place in providing security and is also ready to contribute to it. It is important to develop and make the forms of citizens' initiative-based cooperation more versatile; here towns and rural municipalities hold a significant role. On one hand, the EISDP (2015) emphasises the part of LGs but, on the other hand, it refers to different problems.

For example, although the new Law Enforcement Act (LEA, 2011) states that towns and rural municipalities are responsible for maintaining public order, they have no apparent power to establish an order requiring the police and the Rescue Board to maintain security in the community. Hereto, LGs see crime prevention chiefly as a responsibility of the police. The EISDP (2015) also lists some critical activities LGs should implement. Pursuant to the LEA (2011), the general law enforcement agency is the police. According to the explanatory notes related to the act, there are two different models to choose from when determining a public law enforcement agency. It can be the police, or similar to the model used in several German lands, and these tasks can also be the responsibility of an LG. Preferring the police in Estonia is justified if one takes the country's legal tradition into consideration. Another advantage of this model lies in the fact the police as an administrative agency is fast and flexible in its operations, whereas it would be significantly more complicated for an LG to take on the role of a general law enforcement agency. For example, the departments of an LG are not ready for around-the-clock responses, and do not have the necessary means to apply direct coercion. It would be more complicated for LGs than for the police to deal with complex and large-scale threats that cross the borders of one LG (Explanatory notes relating to the Law Enforcement Act, 2007). At the same time, it has to be stated that community-oriented policing has been the core principle of Estonian police work for several years (Wijckmans, Klima, & Vanhauwaert, 2012). Community-oriented policing in Estonia is organised in the following way: 1) police officers – officials of the PBGB; 2) assistant police officers; 3) other volunteers and cooperation partners; and 4) law enforcement units or agents of a rural municipality or city. In every regional structural unit of the PBGB (in all, four prefectures), there is a coordinator. In conclusion, we can say the function of the LGs is largely supportive, for example, prevention activities and helping law enforcement volunteers, while the actions of the national police are organised based on community-oriented policing principles.

3 PUBLIC ORDER AND LAW ENFORCEMENT

The present LEA (2011) came into force in 2014. This step sought to arrange regulations concerned with state supervision and the combating of threats, which had previously been scattered across various different laws. When the LEA (2011) came into force, the principle for determining the rules of public order was altered. Prior to the provisions of public order in the LEA (2011), the field was mainly regulated by the municipalities themselves; therefore, these resulting rules varied widely across the country. Upon writing the new act, the government based its decisions on the principle that a person does not have to know in which territory of

a rural municipality he or she is – the right to security must be provided similarly across the country. In addition, the legal regulation for holding public meetings was renewed, and LGs were given the right to establish requirements to hold public gatherings. From the aspect of constitutional rights (e.g. freedom of expression and assembly), at this point the stringent open meeting regulations include significant issues. The bases for limiting the rights of individuals' fundamental rights, which are included in the requirements for behaviour in a public space, must be determined by law or given a sufficiently clear-cut authorisation, which at that time was missing. According to the explanatory notes relating to the draft of the LEA (2011), law enforcement is a combination of activities intended for combating a threat. The earliest stadium of law enforcement is prevention. In this case, there has been no clear and present threat on public order yet, but it is possible that such a hazard may arise. If it has been impossible to prevent a risk, and it may have already emerged but it is still unclear whether there is a threat or not, necessary details must be determined to detect the menace. If a risk to public order is identified, law enforcement needs to combat the threat (e.g. a police officer stops an intoxicated person who sitting behind the wheel and wanting to drive). The latest phase of law enforcement is eliminating a threat that has already arisen. In this case, the public order has already been breached (e.g. the police restore the traffic that was disrupted due to a road traffic accident, at the same time emergency medical staff is providing first aid to the injured). The practicality of the chronological activities of law enforcement lies in the fact that different measures are taken at various stages. The Constitution (1992) mentions public order in sections 26 and 33, in subsection 3 of section 40, subsection 1 of section 45 and sections 47 and 130. However, it does not determine the meaning of this concept. In addition to the idea of public order, the Constitution (1992) uses the notions of internal and external peace, the protection of which is one of the vital tasks of the state of Estonia. It should still be considered that the concept of public order in the Constitution (1992) and the concept of public order in the LEA (2011) may not entirely coincide. The European Convention for the Protection of Human Rights and Fundamental Freedoms (1950) and its additional protocols, and some other international human rights related agreements, use the concept of public order (*ordre public*). The Convention also applies the concept of public safety (e.g. para 2, Article 9), which is mostly used in the meaning of law and order (European Convention for the Protection of Human Rights and Fundamental Freedoms, 1950). An attempt to incorporate the concept of public order is made in the LGs' rules for public order, where the term mainly refers only to the rules of behaviour in a public space. It is a state of society in which the adherence to legal provisions and the protection of legal rights and persons' subjective rights are guaranteed. According to subsection 1 of section 6 of the LEA (2011), a law enforcement agency is an authority, body or person authorised by law or regulation to perform the function of state supervision. Therefore, it can either be the police or some other agency, including a town or rural municipality. Each administrative agency is a law enforcement agency only to the extent needed when fulfilling or guaranteeing the fulfilling of its tasks. According to the law, all law enforcement agencies may apply the general measure of state supervision and this special measure, which

has been indicated for all law enforcement agencies, e.g. the call for service. To implement the remaining special measures, the corresponding special law has to include a reference to the corresponding unique action. Law enforcement agencies engage in cooperation, which also includes collecting and exchanging the necessary information needed for carrying out state supervision and making proposals to make state control more efficient. The extent of cooperation is stated in a law or provision. Different rules determine different responsibilities of the LGs in carrying out supervision. An LG has the right to enact rules and to supervise the following of the rules. An LG's supervision capabilities are legally limited to these activities: 1) notifying; 2) addressing orders; and 3) ascertaining the existence of a threat. Each person has the right to participate in providing public order if necessary and to demand that someone stop breaching the public order. Still, the main structure for providing public order is the police, where some problems also appear. For example, according to the National Audit Office (2013), not all LG responsibilities are determined as falling solely to local governments or states. For example, confusion over the division of responsibilities may be created with the concept of state supervision – does it mean supervision over the fulfilling of state responsibilities or does it also embrace control over the fulfilling of an LG's responsibilities. The National Audit Office adds that in several areas of LGs' activity it is possible to detect tasks which may instead involve the fulfilling of state responsibilities, e.g. proceedings for misdemeanour matters (National Audit Office, 2013).

4 MUNICIPAL LAW ENFORCEMENT UNIT

As a rule, LGs do not have a police structure of their own, with the only exception in the law being the establishing of a municipal enforcement unit (department). Compared to the state police, such a law enforcement unit has significantly fewer powers. Subsection 1 of section 53/1 of the LGOA (2016) states that an LG may establish a town's or rural municipality's law enforcement unit or nominate an official dealing with law enforcement. The primary task of such official shall be to participate in maintaining public order and carrying out supervision over the adherence to the regulations passed by a local council in the area determined by the LG. The activities of a law enforcement unit and a law enforcement official are funded from the budget of an LG. Establishing and terminating the unit or the position held by a law enforcement official is decided upon by the local council. The jurisdiction, area of operation and a more detailed description of the law enforcement unit's responsibilities are found in a statute confirmed by the local council. Upon establishing the position of a law enforcement official in a rural municipality, the jurisdiction, area of operation and a more detailed description of the responsibilities are included in their job description. While fulfilling their duties, a law enforcement unit and official cooperate with other agencies of the LG, state agencies, the PBGB, legal entities governed by civil law and citizens and their unions. Based on a contract made with a rural municipality or a city government, the PBGB provides help when carrying out initial training and in-service training for a law enforcement unit and a law enforcement official. Law enforcement officials wear a uniform that bears the insignia of the LG or another insignia that

separates their uniform from the police uniform. Unfortunately, the current law suffers several deficiencies. LGs cannot form an inter-LG law enforcement unit or one LG cannot hand over its competency to another LG to carry out supervision on its administrative territory. What is more, an LG cannot authorise another rural municipality or town to conduct misdemeanour proceedings in their name. In addition, LGs do not have sufficient legal means to guarantee the carrying out of extrajudicial actions (Ranne, 2012).

4.1 The Tallinn Municipal Police Department

A typical municipal police department in the EU is a recognisable and functioning structure, but is somewhat exceptional in Estonia (Donnelly, 2013). As a separate unit, municipal police only operate in the capital of Estonia, Tallinn. The Tallinn city government has given it a name that is not entirely correct or is even misleading – the Tallinn Municipal Police Department [MPD] is not part of the PBGB. The MPD was established in 2003 as a structural unit within the Fire and Rescue Agency after a certain amendment to the LGOA allowed such a possibility. At the time, the unit had 12 officials. They supervised public order, the fulfilling of property maintenance rules, rules for historical excavation operations and norms for owning dogs and cats (Järvelaid, 2006). In 2004, the number of MPD staff increased to 36, and two divisions were established: a registry and a procedural department. Since 1 January 2006, the municipal police has conducted patrols 24 hours a day to prevent offences and solve situations quickly. Since January 2007, the MPD has been an independent authority, one of the 14 official bodies of the City of Tallinn. As the scope of responsibilities has widened, the number of MPD staff has also grown. While in January 2007 54 people were employed by the municipal police, at the beginning of 2008 there were already 79 officials among the MPD staff. In July 2008, the MPD was given the responsibility to check the documents permitting people to ride in public transport and, for this reason, the number of staff increased to 145. In 2009, a separate taxi and animal patrol service was established. In autumn 2009, the newest division of the MPD started work – school supervision, whose task is to observe and check the respect of tobacco-related requirements in school territories in Tallinn. In February 2010, class control inspectors started holding lectures about the dangers of smoking and alcohol. The MPD is a member of the local security and public order workgroup of the Union of Baltic Cities. At the start of 2014, structural changes were made in the department and development and administration divisions were added to the procedure, patrol, and registry units. The MPD actively communicates with the agencies of the city system and with citizen initiatives, and has also become an important partner of the citizens when several security-related questions in the city are concerned. At the moment, there are 110 positions within the MPD (Tallinn Municipal Police Department, 2016). The MPD currently fulfils the following tasks (Rules of the Tallinn Municipal Police Department, 2016): 1) exercising supervision over the performance of regulations adopted by the Tallinn City Council and conducting misdemeanour proceedings where such rules are breached; 2) as authorised by the Tallinn City Government, exercising supervision

over adherence to laws and processing misdemeanours; 3) guarding property owned or possessed by the City of Tallinn; 4) participating in guaranteeing public order in institutions and at public events of the City of Tallinn; 5) maintaining the Register of Misdemeanours of Tallinn and other registers and databases required in performing the board's tasks; 6) developing the legal acts of Tallinn connected with issues relating to the competency of the Tallinn MPD; 7) preventing misdemeanours that belong to its area of competency; 8) forwarding information to the city's agencies concerning the need to apply administrative coercion; 9) prevention work and supervision in schools and kindergartens; 10) prevention work and a posteriori monitoring of legal acts connected with the city's property maintenance rules and rules for keeping domestic animals; 11) offences related to parking; and 12) supervision of the taxi service. The MPD operates according to its statute (Statute of the Tallinn Municipal Police Department, 2014). According to section 7 of this Statute, in order to fulfil its tasks and responsibilities, the department has the right to: 1) present the city government with draft legislation on questions of the department's competency; 2) receive the necessary data and information from other agencies of the city, including city-owned businesses, foundations and non-profit organisations; 3) establish committees and work groups; 4) include specialists and experts in their work; 5) make contracts in order to fulfil its responsibilities; 6) implement an around-the-clock patrol service with a view to fulfilling the department's duties; 7) make suggestions for cooperation and about the organisation of work with other city agencies; 8) within the scope of its competence, issue prescripts and implement means of coercion or sanction; 9) consult, organise training events and seminars and carry out analyses; 10) participate in national and international projects, programmes and cooperation projects; 11) cooperate with state agencies, state police agencies, legal persons governed by private law and their unions; and 12) use the rights given to the department by the legal acts of Tallinn. The department is led by the head, and its structure and staff are confirmed by the city council. Therefore, compared to the state police, the municipal police's tasks are limited.

5 REGULATING PUBLIC ORDER IN LOCAL GOVERNMENT: A CASE STUDY

The LEA (2011) stipulates consistent, general requirements for behaviour in public spaces all over the country (Section 55), with an LG only able to specify related details to the extent provided by law. The requirements for organising a public event in the administrative territory of an LG unit shall be established by a regulation of the local government council (Section 59). According to the hierarchy of valid legal norms in Estonia, legislation ranking the highest includes the Constitution (1992), international contracts, and statutes. These are followed by administrative acts such as regulations issued by the Government and the Minister. According to subsection 1 of section 7 of the LGOA, municipal councils and governments (the executive body) have the right to issue regulations. Paragraph 2 of the same section states that municipal authorities have the right to

pass orders as legislation concerning a particular application. The legal acts issued by municipal councils and authorities are valid in the administrative territory of a given LG. Internal-security-related issues are often regulated by a provision in some fundamental document of an LG, for example a development plan. We will now look at three cases more closely: namely, the municipalities of Saue, Jõelähtme and Anija.

For example, entitled “Public order and security”, Article 5.4 of the Development Plan 2012–2022 of the Town of Saue declares that Saue is a safe town where public order is maintained by the security services ordered by the LG. During public events, the Defence League is to help a private security company. There have been discussions about installing a network of security cameras, but the final decision will only be made after the security concept has been finalised. The guarantee of public order means it is safe to be in Saue and to move around on its streets. The document also states the residents are involved in maintaining public order and security; Neighbourhood Watch is actively functioning (Saue town development plan 2012–2022, 2012).

Still, there are development plans which the security section includes a lot more details. For example, Article 4.7 of the Development Plan of the Rural Municipality of Jõelähtme explains “Security in the rural municipality: There are three voluntary rescue organisations in the rural municipality: the non-governmental organisation [NGO] Kostivere Firefighting Association, NGO Kaberneeme Club, and NGO Neeme Voluntary Firefighting Association. These organisations function mainly with the help of the rescue Board, the Jõelähtme rural municipality, and different projects. In addition to carrying out rescue works, more and more attention is paid to implementing prevention activities and informing the inhabitants of the area. Voluntary rescuers are officially in the national operative response system of the Rescue Board (112). In cooperation with the Rescue Board, the NGO Kaberneeme Club also has two boats with which they carry out maritime rescue and protect the small islands of the area. The number of neighbourhood watch sectors that have made a safety-related cooperation contract with the NGO Estonian Neighbourhood Watch and the PBGB are increasing in the rural municipality. Public recording security cameras have been installed in several populated places. There is a local constable in the area who has a permanent office in the small town of Loo” (Jõelähtme parish development plan 2015–2025, 2015).

LGs may decide to establish committees that deal with internal security themselves, and this office is given different names across the LGs: it can be called a legal, crisis or law enforcement committee. For example, the government of the Anija rural municipality has established a permanent crisis committee whose aim is to organise the rescue, disaster response and emergency-management-related responsibilities in the parish territory (Anija Vallavalitsus, 2017). Hiring a law enforcement specialist also depends on the priorities of the administration of an LG and its financial capability. Usually, there is either one or two positions. It is possible to give some functions to another official to carry out beside their primary activities. Therefore, an LG’s public-order-related operations mainly depend on cooperation with local structures and government agencies and its scale, in turn,

depends on the capabilities of local leaders and their interest in dealing with the topic. To some extent, joint organisations created by LGs, e.g. local government associations, support the LGs' activities.

6 FINAL CONSIDERATIONS

Compared to the police, the tasks and legal power of an LG to adopt responsibility for internal security issues are limited. The LGOA stipulates the essential functions of LGs in Estonia. The said act does not state that LGs have to perform specific internal security tasks (like fulfilling the duties of the police or rescue services). On the other hand, these responsibilities may arise from particular laws or national strategies. LGs' ability to perform these tasks is not similar to the legal power of the PBGB. Although the LEA (2011) authorises an LG to maintain public order within its territory, it has no apparent possibilities to achieve that without the help of the PBGB. LGs do not have their own police structure, the only limited possibility the law provides is to establish a law enforcement unit. The municipal police department operating in the capital of Estonia, Tallinn, is a wholly exceptional case in Estonia. The law restricts the competences and power of a law enforcement unit. LGs have the right to establish voluntary committees dealing with internal security and public order issues. The measures to maintaining public order are usually regulated in an LG's development plan. Unfortunately, LGs of different sizes also come with different financial and administrative capacities. LGs can also hire a law enforcement specialist; this depends on the local possibilities and needs. Many rural municipalities in Estonia only have a couple of thousand inhabitants or even fewer, which is why their opportunities to obtain financial resources to solve the situation are quite limited. Maintaining public order in the territories of the LGs is only achieved with the cooperation of the state structures.

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