

# Analyses on selected techniques for crime detecting among Pupils of Police Model Primary School, Wudil Kano

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## ABSTRACT

Crime is an epidemic, and there is a need to spot crime doers. The research aimed to analyze systemic technical approaches to nipping crime in the bud. Police Primary School was employed. Recruitment was 100 pupils. They were five classes in all, and each classroom had 20 pupils. The pupils stayed in their classrooms. The research is in two phases: Phase 1 is voice recognition, and phase 2 is the truth serum approach. Phase 1 was to test the ability of students to recognize each other through a voice from spoken words between close associates. Each class was allocated twenty seconds for the ear witness voice recognition. The pupils in each class block utter sounds (speak), one after the other, and the other class block keenly listens to their voices for identification. In phase 2, pupils receive items as an enticement for the truth. This item is mind-altering, and the crime's identity is known. The research analyzed information obtained from the pupils after inducement to ascertain the doer of the crime. In phase 1, pupils in the same classrooms' voice recognition scored above 70%, while pupils in different classrooms scored above 60% in all the classrooms demonstrated. Only Classrooms B and D were non-significant from other classrooms ( $P>0.05$ ) in the same classrooms, while non-significant differences in the different classroom settings were observed. Phase-2 revealed above 60% of the crime doers. Only two classrooms were not significant. The most frequent crime is noise making. The divulging of information on crime doers was comparable in all.

**Keywords:** Crimes, Pupils, voice recognition, truth serum, classrooms and Police Model School.

## INTRODUCTION

Crime can be considered an epidemic and its effect is the feeling of insecurity. It happens regularly, generating public concern around the globe (Van Brakel and De Hert, 2011). Crime is defined, by the criminal laws, of each country, but in general, it is defined as an intentional act in violation of criminal law (Tapper, 1948), or a legal wrong for which the offender is punished at the instance of the state (Isiaka and Okapho, 2018). Despite that, the notion that acts like murder, rape, theft and others are prohibited exists globally. Nigeria is not an exception to the ripple effect of the crime epidemic (Francis, 2015). Crime occurrences are almost a daily announcement in Nigerian newspapers. Alemika and Chukuma (2005) and Sanni et al. (2010) reported a lack of safety of lives and property in Nigeria. Crime affects everybody.

Nigeria is affected by all criminal acts (Badiora and Afon, 2013). Newer, emerging crimes are reported in newspapers, even though the old and familiar ones have not received adequate solutions. It is because adults are involved and they had, adapted to the crime. It can toughen them and make it difficult to stop. A crime can be business, hence lucrative and profitable to the perpetrators. These are the reasons why crime of kidnapping still flourishes in the country.

Children are a necessary group to impact morals. Their consciences are easy to appeal to through these methods. Their daily encounters with peer groups and adults cause decadence in morals. Hence are, in a greater predisposition toward crime. Consequently, a scientific crime-detecting approach is necessary. Crime is advancing globally, and a scientific approach can allow

**Table 1.** Manual testing on voice recognition among the pupils in the same classrooms settings.

Classroom	Numbers of pupils	Mean Correctly Matched Voice (Percentage)
A	10	96.50±1.41 <sup>c</sup>
B	10	89.00±20.00
C	10	79.20±0.00 <sup>ade</sup>
D	10	91.30±3.20
E	10	94.10±4.64 <sup>c</sup>

Values are expressed as mean ± standard deviation of n=10. Significant difference expressed at p < 0.05 Values bearing p<sup>ade</sup> is significantly difference with Classroom A D and C. Values bearing p<sup>c</sup> is significantly difference with Classroom C.

us to understand its nature, causes, and consequences (Jayamala, 2008).

Several techniques are currently in use in solving crime, yet the outcome is an increasing crime rate, shown by crime statistics and catapulted by a quantitative increase in population (Glaeser et al., 1996, Uche, 2008, Financial, 2011 and Toledo et al., 2020). The techniques are - a death sentence, torture, imprisonment, plea bargaining, the prerogative of mercy, extrajudicial killings (jungle justice), and amnesty and recently, whistleblowing. The outcomes are an overwhelming increase in crime and miscarriage of justice. There are many problems with the methods. The methods failed because of the adaptive tendency of crimes and lesser effective punishment to reduce criminality at that stage. The researchers exerted that successful crime control must start from the formative stage of the development of the individual and society at large. The formative stage is the transition phase when children move from primary to secondary school. This period is considered pivotal in character development (Zeedyk et al., 2003) and markable social, biological, and psychological development occurs (Anderson et al., 2000). The research will be of immense significance in understanding approaches to crime control, at least to the barest level using scientifically-based approach techniques. Noteworthy, nobody was born – a criminal. It is through adaption. Considering that everybody around the world, and Nigeria specifically, are predisposed to the ripple effect of crimes serves as the justification of this research. The research-specific objective was systemic different technical approaches to nipping crime in the bud.

## METHODOLOGY

### Sampling

Random sampling methods were adopted and employed. The classes selected were nominated, in a randomized manner, to produce a good representation of pupils within the age brackets of 7 to 9. These selected classes have sizeable numbers of pupils. It is believed that the test is less biased between age groups.

## Research Design

The Pupils in Primary 4-5 of Police Model Primary School, Wudil Kano, were employed for the research. Police Model Primary School is a subsidiary of Nigeria Police Academy. This study recruited 100 pupils for the two methodological approaches to crime detection. There were five classes in all, and each classroom had 20 pupils. The pupils stayed in their classrooms. In each situation of crime in the class, the Class teacher notifies us and assists in organizing the pupils. The research is in two phases: Phase 1 is voice recognition, and phase 2 is the truth serum approach. In Voice recognition, it was to test the ability of students to recognize each other through a voice from spoken words (ear witnesses). It is for the close associate in the same classroom. Each class was allocated twenty seconds for the ear witness voice recognition. The pupils in each class block utter sounds (speak), one after the other, and the other class block keenly listens to their voices for identification. Each class, in turn, played the ear witness and noted the names of the speakers according to the voice they heard. The assumption is that the voice identified was the person who committed the crime Nwachukwu (2016) with modification. These procedures were repeated, using pupils in the same classroom. The pupils were behind each other in opposite directions to a group of ten speakers. In phase 2 (Truth serum) the pupils receive biscuits, sweets, and other items as an enticement for the truth. This item is mind-altering, and the concept will make the pupils incapable of lying, so the crime's identity is known. The valuable information obtained from the pupils after inducement was analyzed to ascertain the doer of the crime. Incentives, such as truth serum always given to pupils on the day of the crime assessment. The result was in percentages. The result was expressed in percentages to depict the methodology's effectiveness.

## RESULTS

The results of the crime-detecting techniques and the category of the offender's crimes are shown in Tables 1-4. Tables 1 and 2 tested the voice recognition techniques among members of the same and different classrooms.

**Table 2.** Manual testing on voice recognition among the pupils in different classrooms settings.

Classroom	Numbers In A Classroom	Mean Correctly Matched Voice (Percentage)
A	20	62.60±16.26
B	20	59.42±4.44
C	20	72.00±7.42
D	20	67.52±6.02
E	20	68.41±3.05

Values are expressed as mean ± standard deviation of n =20.

**Table 3:** Truth serum testing on pupils of Nigerian police model primary school.

Classroom	Numbers of pupils	Percentage crime information revealed
A	20	60.53±4.86 <sup>bd</sup>
B	20	89.02±0.00 <sup>a</sup>
C	20	72.00±3.24
D	20	79.40±3.24 <sup>a</sup>
E	20	67.24±6.03

Values are expressed as mean ± standard deviation of n =20. Significant difference expressed at  $p < 0.05$ . Values bearing  $p^a$  is significantly difference with Classroom A. Values bearing  $p^{bd}$  is significantly difference with Classroom b and D.

**Table 4:** Categories of crimes committed among the pupils in police model primary school.

Crimes	S	C	F	L	N	B	FG	AW	DT
Frequencies	6	12	2	31	102	4	3	17	9

S = Stealing, C = Cheating in Test, F = Farting, L = lying, N = Noise Making, B = Bullying, FG = fighting, AW = Abusive words, DT = Disrespecting teachers.

In the members of the same classrooms, the results were; Classroom A (96.50), Classroom B (89.00), Classroom C (79.20), Classroom D (91.30), and Classroom E (94.10). Classroom A showed a significant with Classroom C ( $p < 0.05$ ). Classroom C showed significance with Classrooms A, D, and E (Table 1) at  $p < 0.05$ . Classroom E was significantly different from Classroom C (Table 1) at  $p < 0.05$ . Classrooms B and D were nonsignificant from other classrooms ( $P > 0.05$ ). Classrooms A and C have the highest and lowest percentage values (Table 1).

In the members of the different classrooms, the analyses were; 62.60% in Classroom A, 59.42% in Classroom B, 72.00% in Classroom C, 67.52% in Classroom D, and 68.41% in Classroom E. There was no significant difference among the Classroom ( $P > 0.05$ ).

The results of truth serum techniques in Table 3 show that Classroom A, Classroom B, Classroom C, Classroom D, and Classroom E scored 60.53, 89.02, 72.00, 79.40, and 67.24 percent, in this order. Classroom A was significant from Classrooms B and D ( $P < 0.05$ ), and Classroom B was significantly different from Classroom A at  $p < 0.05$ . Classroom D was significantly different from Classroom A at  $P < 0.05$ , while Classrooms C and E were nonsignificant ( $P > 0.05$ ).

In the category of crimes, as depicted in table 4 and Figure 1, the list and frequencies of crime were; Stealing

(6), Cheating on Tests (12), Farting (2), lying (31), Noise Making (102), Bullying (4), fighting (3), Abusive Words (17) and Disrespecting teachers (9). The frequently observed crime is noise, and the less frequently observed crime is farting among the pupils.

## DISCUSSION

The research demonstrated a methodological approach for detecting crime doers. The primary school setting was employed. No human being is born a criminal hence the use of pupils in the age range cited. The Pupils are miniaturized adults, and their responses to innocent situations made their involvement necessary. They are adults in the marking. Using pupils will eliminate adult factors and reduce the skewness of results in these methodological approaches.

Earwitness is the witness of who heard rather than who saw. The result of the correctly matched voice by pupils of close associates was high (Tables 1 and 2). The scores were above 70 percent in the same classrooms (Table 1) and above 60 % in pupils in different classrooms (Table 2). The pupils in the same classrooms have higher percent voice recognition than the classrooms of different classroom settings. It is because unfamiliar voice identification is error-prone (Smith et al.,

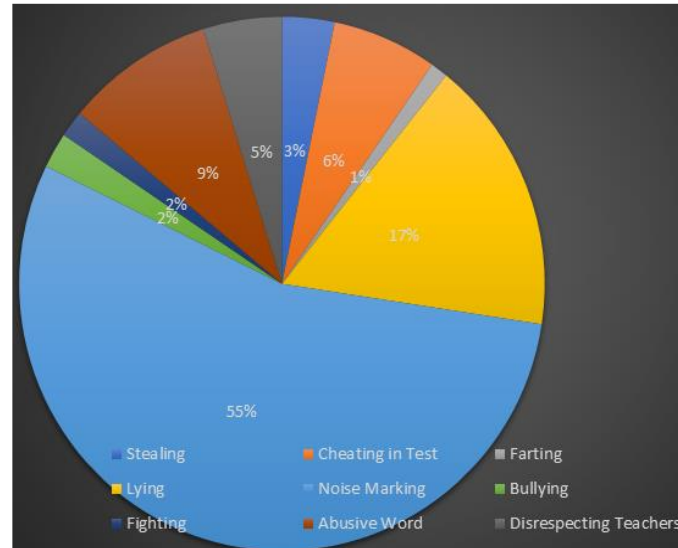


Figure 1: Crime distribution.

2019). The high percent scores showed the degree of method accuracy in spotting crime doers. The less than 100 % achievement in all cases showed that there could be a mistake in voice recognition. It is evident in the findings of the body of research conducted by Corneille et al. (2004) and Huart et al. (2005). It is possible because of various factors- emotionality, voice disguise, accent and language and others (Wilding and Cook, 2000; Read and Craik, 1995; Orchard and Yarmey, 1995; Saslove and Yarmey, 1980 and Kerstholt et al., 2007). Again, some pupils tend to listen to what the speaker is saying and not the speaker (Reynolds and Rose, 1995). In a crime scenario, this could be fatal. Three classrooms were significant to each other, and two were not. This may be due to the individual ability to recognize spoken words. In table 2, there was no significant difference in all cases. It may be due to no sharp differences in the same classroom, per ability to recognise the voice.

Truth serum in the present research induces pupils under questioning to talk without inhibition. It alters their ability to tell lies. Truth serum crime revealing scores were above 60 percent (Table 3). The high scores showed it did spot the truth in these groups of pupils. The truth serum cut off the policy of torturing pupils to reveal the truth. The chief components of disciplinary social control in primary school were flogging, manual labor, kneeling, and other torturing methods (result not presented). Though, the use of truth serum is a form of torture (Keller, 2005). It is the opposite, in the present study. It is by incentives. Narcotics used for extracting confessions from criminals (Hanscom, 1956) may be part of the torture. The research exertion is that being less inhibited or guarded will make the subject more likely to divulge information necessary to ascertain crime doers.

Three of the classrooms showed significant differences while two did not (Table 3). The much more revealing of the crime is the strength of the method.

In every place, different crimes tend to exist. In this study, the researcher found out and outlined the types of crimes committed in school understudy. Among those crimes, noise marking was the highest and the least - fighting (Table 4, Figure 1). Noise-making is a habit of pupils in the age bracket understudy, while the fighting may be minimal due to the nature of the school. It is a police-model primary school that practices high disciplinary standards. The study result agrees with Pitso et al. (2014) finding in school children.

## CONCLUSION

All previous efforts by teachers of the pupils to resolve crime in the classroom were re-occurring. The research method produced better discipline among pupils and reduced crimes through self-discipline. It goes with the moral aspect of the mind. The pupils are now aware that crime in the public and private is wrong. The methods of approach in the research will immensely contribute to extracting information from suspects in the larger populace. The study highlights the crucial role that the techniques play in crime. It reveals the magnificent plasticity and uniqueness of the method.

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## REFERENCE

- Alemika E and Chukwuma C (2005). Criminal Victimization and Fear of Crime in Lagos Metropolis, Nigeria. CLEEN Foundation, Lagos, Nigeria.
- Anderson LW, Jacobs J, Schramm S and Splittgerber F (2000). School transitions: beginning of the end or a new beginning? *Int. J. Educ. Res.* 33, 325–339.
- Badiora AI and Afon AO (2013). Spatial pattern of Crime in Nigerian Traditional City: The Ile-Ife Experience. *International Journal of Criminology and Sociological Theory*, 6(3), pp.16-28.
- Corneille O, Huat J, Becquart E and Bredart S (2004). When memory shifts towards more typical category exemplars: Accentuation effects in the recollection of ethnically ambiguous faces. *Journal of Personality and Social Psychology*, 86, 236–250.
- Financial (2011). Nigeria crime. *Financial Times*. <https://www.fbi.gov/stats-services/publications/financial-crimesreport-2010-2011> (Accessed on 7th November, 2011).
- Francis U (2015). Robbery on Rampage in Orlu, Snatch 11 Motorcycles. *The Lead newspaper* December 27; Vol. LV1 No 51 p. 5.
- Glaeser EB, Sacerdote B and Scheinkman J (1996). Crime and Social Interactions, *The Quarterly Journal of Economics*, 111(2): 507-548.
- Hanscom CB (1956). Narco Interrogation. *Journal of Forensic Sciences*, 1; 37-4.
- Huat J, Cornielle O and Becquart E (2005). Face-based categorization, context-based categorization, and distortions in the recollection of gender ambiguous faces. *Journal of Experimental Social Psychology*, 41: 598-608.
- Isiaka AA and Okaphor EF (2018). Concept of crime in the administration of penal justice in Nigeria: an appraisal. *Nnamdi Azikiwe University Journal of International Law and Jurisprudence (NAUJILJ)*, 9 (1): 246-251.
- Jayamala M (2008). Trends and Spatial Patterns of Crime in India: A Case Study of a District in India. A doctoral dissertation in sociology, Annamalai University, Indian
- Keller LM (2005). Is Truth Serum Torture. *American University International Law Review*. 20 (3): 521–612.
- Kerstholt JH, Jansen NJM, Van Amelsvoort AG, and Broeders APA (2006). Earwitnesses: Effects of accent, retention and telephone. *Applied Cognitive Psychology*, 20: 187-197.
- Nwachukwu FC (2016). Voice Recognition in Forensic Evidence-A Situational Phenomenon as Stratagem In Crime Track and Scale Down. *Journal of Medical and Biological Science Research*, 2 (3): 36-43.
- Orchard TL and Yarmey AD (1995). The effects of whispers, voice-sample duration, and voice distinctiveness on criminal speaker identification. *Applied Cognitive Psychology*, 9: 249-260.
- Pitso T, Njeje TP, Bonase TD, Mfula T, Nobendle BS and Nogaga, P. (2014). The Impact of Crime among Learners in High School. *Academic Journal of Interdisciplinary Studies* 3(1): 333-339.
- Read D and Craik FIM. (1995). Earwitness identification: Some influences on voice recognition. *Journal of Experimental Psychology: Applied*, 1:6-18.
- Reynolds D and Rose R (1995). Robust text-independent speaker identification using Gaussian mixture speaker models *IEEE Transactions on Speech and Audio Processing*. 3 (1): 72–83
- Sanni KB, Nsiong U, Abayomi AO, Modo FN and Leonard EN (2010). Family types and Juvenile Delinquency issues among Secondary School Students in Akwa Ibom State, Nigeria: Counseling Implications. *Journal of social sciences, University of Uyo, Akwa Ibom State, Nigeria*, 23(1): 21-28.
- Saslove H and Yarmey AD (1980). Long-term auditory memory: Speaker identification. *Journal of Applied Psychology*, 65: 111-116.
- Smith HMJ, Bird K, Roeser J, Robson J, Braber N, Wright D and Stacey PC. (2019). Voice parade procedures: optimising witness performance. *Memory*, 28:2-17.
- Tapper P (1948). Who is the Criminal. *American Sociological Review*, pp. 96-102.
- Toledo ASO, Laura C, Carpi and APF (2020). Diversity analysis exposes unexpected key roles in multiplex crime networks. *Complex Networks XI*. Springer, Cham, pp. 371-382.
- Uche O (2008). Nigeria Prison Robbed by Criminals. <http://www.whichwayNigeria.net/Nigerian-prison-robbed-criminals/> (Accessed on 30 October, 2009)
- Van Brakel R and De Hert P (2011). Policing, surveillance and law in a pre-crime society: Understanding the consequences of technology-based strategies. *Technology-Led Policing*, 20: 165-92.
- Wilding J and Cook S (2000). Sex differences and individual consistency in voice identification. *Perceptual and Motor Skills*, 91: 535-538.
- Zeedyk MS and Gallacher J (2003) Negotiating the Transition from Primary to Secondary School, *School Psychology International*, 24(1): 67-79.