

UNRAVELLING THE MIND OF THE PAEDOPHILE

Prof Herman Conradie
Department of Criminology
University of South Africa

Abstract

Fifteen convicted paedophiles were interviewed by means of layer voice analysis (LVA) to demonstrate how this technology can access their thinking levels, emotional levels, sexual arousal and risk. Twelve of the respondents were participants of the PedoStop Programme of Grootvlei Prison near Bloemfontein, South Africa. The other three were not participants of any programmes. Those who were participating in the PedoStop programme made fewer inaccurate statements, made fewer probable false statements and were less deceptive. These people appear to be more confident of their ability to adhere to the law. Those not participating in the PedoStop Programme gave much more truthful, probable false, inaccurate, and deceptive speech samples. As expected, those who were incarcerated demonstrated more emotional duress than those who were not incarcerated.

Key words

Voice analysis; thinking levels; deceptive; pedophile; child abuse; rehabilitation of pedophiles

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INTRODUCTION

There is no doubt that sexual crimes against children are legally challenging. This is true whether it is a high profile case such as the recent one in France, where 66 persons were tried for offences against 45 children, and which involved more than 200 witnesses and 45 lawyers (The Mercury 2005:1; The Star 2005:1) or whether it is one self-confessed paedophile appearing in the Johannesburg high court (Beyers 2005:11). Crimes against children are problematic in terms of their policing, court hearing, the punishment or rehabilitation of the perpetrator, and the rehabilitation of the victim. Layer voice analysis (LVA) claims to be able to give not only access to the thinking and emotional levels of the perpetrator, but also to verify the truth of their statements. This research demonstrates what this research tool can access by means of interviews captured on a laptop computer.

Generally speaking, when the police suspect that someone has committed a crime and when a crime has been reported to them, a litigious investigation follows. When there is only a suspicion, the investigation may be passive (decoy, sting, fixed surveillance, road block, under cover, etc.), but when a crime has actually been reported, a reactive litigious investigation follows. In such reactive investigations, the investigator, the forensic scientist and the courts are the only players (Van Damme 1999:7). The investigator as well as the forensic scientist starts with an event (crime scene investigation) and a great deal of information about that event (De Vries 2005). Most of this information is not relevant to the case. However, both the investigator and the forensic scientist analyse all the information and then come to a conclusion that is most consistent with all the facts pertaining to the event – in this case, a criminal event. The court, on the other hand, starts with the facts and will try to prove or refute the facts in its effort to come to a consistent conclusion (Van Damme 1999:7). Child sexual abuse has been recognised as a criminal offence for some decades now, but the criminal response to it is still evolving and case disposition is widely believed to be influenced by many factors other than strict

legal mandates (Cullen, Smith, Funk, & Haaf 2000:569). This research article aims at adding some information about the perpetrators previously not accessible to those who work with these people.

Based on the above, it is clear that there are significant differences between the roles of the investigators and the forensic scientists, on the one hand, and that of the court officials on the other hand. This is also the reason why their techniques for uncovering the facts, or refuting or substantiating the facts, differ. Quite often, an investigation relies heavily on verbal information supplied by subjects. This is where the forensic expert, trained in the use of psycho-physiological tools, can add his or her expertise. The forensic scientist can use truth verification techniques including the polygraph and voice stress analysis, scientific content analysis, and even handwriting analysis, to arrive at trustworthy facts (Van Damme 1999:7). Gordon (2005:1-130) recently developed and tested the Forensic Assessment Investigation Technique (FAINT), another tool for helping courts arrive at the truth about a criminal event.

However, all the litigious processes explained above – including even psychological and social work analyses of the paedophiles – cannot access the offenders' innermost thinking processes. The contribution that LVA technology (LVA™ or Layer Voice Analysis) can make in achieving this goal – unravelling the thinking and emotions of paedophiles - is illustrated in the research findings discussed in this article.

In the next section of this research report, a brief exposition is given of the LVA technology that was utilised to unravel the mind and emotions of 15 paedophiles convicted of sexual crimes against children in South Africa. Due to the fact that this technology is new and that there is no other documentation available on it, the exposition of what follows is based mainly on the documentation that is used during LVA training.

LVA TECHNOLOGY

LVA-technology has been tested empirically in different large scale investigations by the United States Air Force Research Laboratory and found to be a reliable and valid tool to access stress levels (Haddad, Walter, Ratley, & Smith 2002; Van Damme 2000).

LVA technologies are the products of Nemesysco Ltd., an Israeli company, owned by Mr. Amir Lieberman, who is the developer of the technology. Their products include (Nemesysco 2005(a): 1) the following: LVA Technology (a comprehensive investigative focus tool), Sense Technology (personal use voice analysis), LioNet Technique (heuristic decisions analysis), SEC3 Technique (investigation method using risk assessment), VoiceSum Technology (analyses whole conversations to determine emotional signature), SBPB Technology (unique encryption technology) and Sense Technology (differentiating between different states of mind and emotional behaviour).

In this article the emphasis is on the LVA technology (layer voice analysis) only.

Broadly speaking it can be stated that Nemesysco's Layered Voice Analysis (LVA) technology detects and measures the emotional content of human speech by capturing it live or by extracting it from recorded audio. LVA identifies various types of stress, cognitive processes and emotional reactions. When these are put together they comprise the "emotional signature" of an individual at a given moment, based solely on the properties of his or her voice. "The technology detects minute, involuntary changes in the voice reflective of various types of brain activity. By utilizing a wide range spectrum analysis to detect minute changes in the speech waveform, LVA detects anomalies in brain activity and classifies them in terms of stress, excitement, deception, and varying emotional states, accordingly. In this way, LVA detects what we call "brain activity traces," using the voice as a medium. The information that is gathered is then processed and analyzed to reveal the speaker's current state of mind" (Nemesysco 2006:1).

According to Nemesysco (2005(b): 1-3), this technology has the following features: it is

designed for security purposes and it focuses on formal police investigations, security clearances, secured access control, intelligence source questioning, hostage negotiation, etc. It facilitates better understanding of the subject's emotional structure, insights into the way he thinks, what troubles him and what excites him, what part of his story he is not certain about, what gets his/her attention, etc. Furthermore, it enables the user to explore several levels of conscious and unconscious thoughts and feelings. In other words, this technology reveals additional layers of information that would otherwise not be assessable. All this helps the user to get to the truth more quickly.

Nemesysco (2005(b): 1) emphasises the fact that LVA is not a voice stress analyser and that it does not employ the technologies of voice stress analysis. Instead, LVA uses the voice as the medium to access the brain. It utilises wide range broad-spectrum analysis and minute micro-changes in the waveform of speech – and not micro-tremors as it is the case with voice stress analyses (De Vries 2005). LVA exposes any anomaly in brain activity and classifies the results accordingly. The fight-or-flight paradigm only comprises a small part of the analysis structure. LVA also detects the intention behind lying.

According to the developer of LVA (Nemesysco 2005(b): 2), it has two basic formulas. The first one uses thousands of mathematical calculations (38 000 algorithms) to extract more than 120 emotional data parameters from each voice segment. The second formula then automatically analyses it further into nine (9) major categories of emotions. The final result of these calculations is then reflected in eight (8) formulas, relating to lie, stress, arousal level, attention level, deception and additional methods for veracity assessment.

Speech and the voice need to be viewed in the same way as any other complex set of behaviours. These behaviours are the manifestations of cortical activity, which functions as follows: events occur that are perceived by the individual. These events are processed through the brain according to personal experience and/or behavioural hierarchies. These

interpretations, as manifested by the individual's voice, are unique to that person. Behaviourally, people think that they know what police investigators look for, e.g. eye contact, sitting straight at all times, not swallowing, etc. and they try to behave accordingly. Voice, however, is different because the majority of the people do not know what to look for and so they are not in a position to change these behaviours as easily (De Vries 2005).

The principle that LVA technology is based on is related to what happens when we speak. Initially, the brain has to understand the situation and the possible implications of whatever will be said. The brain closely monitors all the procedures during speech (tongue, air flow, teeth, lips, nasal space). Every event going through the brain therefore leaves a 'finger print' on the speech flow. LVA technology ignores what the subject is saying – its focus is on the brain activity that is involved when the subject speaks. How the subject speaks is crucial, not what he says (Nemesysco 2005(b): 3). LVA detects states of stress and emotions. It then measures them and grades them automatically. The LVA technology pinpoints the cause of stress. Its reports indicate whether a subject's stress is caused by a lie, excitement, an exaggeration, cognitive conflict, etc. It is aimed at detecting many layers of the subject's conscious and unconscious state, using some 18 vocal parameters and thousands of mathematical processes to accurately analyse a subject's state of mind, including excited, confused, stressed, aroused, embarrassed, deceptive and joking (Nemesysco 2005:1).

Operationally, LVA works in five modes.

The Online Mode is for quick facts verification and elimination during phone conversations or during face-to-face interviews. This mode allows the investigator to arrive at the truth much more quickly by highlighting the relevant issues as the conversation or interview progresses. Online Mode is designed to work according to the psychological structure of the unstructured or semi-structured interview --- that is, interviews with no apparent pre-defined purpose. The answers to the questions are given during free speech, usually in full sentences.

The Online Mode provides for analysis of conversations by telephone or microphone as they are happening in real time, thus enabling the investigator or researcher to pinpoint the weak links in the subject's narrative. Pre-recorded conversations kept on file can also be analysed. During such an online interview, Online Mode displays graphs showing the subjects stress levels. One can also mark relevant sections of the conversation to highlight the speaker's response to a specific question or segment of the discussion. The significance of Online Mode as far as the investigator and researcher are concerned is that it generates a complete profile and report, and summarises the overall emotional behaviour of the subject during the interview. The versatility of the Online Mode also provides for switching between microphone and telephone sources during the interview.

The Offline Mode is for in-depth analysis of recorded material, e.g. tapes, phone, DAT, CD or videos. This mode offers the opportunity for even more efficient and more accurate and expedient analysis of .wav-files. This mode receives an in-depth view of any electronic human vocal material, resulting in six different analysis displays. It also shows interactive graphics and segment maps. The Offline Mode generates a complete profile and summarises the overall emotional state of the speaker, his/her thinking activities, stress, anxiety, concentration, anticipation, inaccuracies, tension, probable false statements, false statements, etc. It automatically adjusts the background noise filter to eradicate contamination of the data and configures a printed booklet of the final analysis per test. The off-line mode was utilised for the purposes of this research.¹

The third mode of operation is the Investigation Mode. This is a fully professional polygraph-like system, using all known polygraph techniques in a series of Yes and No questions. It operates in the same way as an ordinary polygraph and uses the same structure of questioning and the same psychological issues. However, the subject is not strapped to anything. It is designed to test very specific issues during questioning, such as screening subjects for a sensitive position or for committing a crime, or simply to

verify facts in a straightforward Yes or No fashion (Nemeysco 2005(b) 2). To be able to use this mode, however, a knowledge of polygraph testing is required.

The fourth mode is a Service Mode. This consists of two (2) separate recording devices (De Vries 2005). One is named the Recorder Mode. This mode starts recording on-going conversations immediately; these are analysed later using the Offline Mode. The Recorder Mode even stores such recordings for easy management and retrieval.

The last (fifth) is the Cassette Recording Wizard Mode. This provides for the analysis of recorded .wav-files to be analysed later using the Offline Mode. The quick recorder mode is for use in real time and the advanced recorder is used to serve the offline analysis of recorded conversations from external sources such as tape recorders, DAT, and CD players.

LVA also displays deep psychological messages in any of these modes in real time (Nemesysco 2005:1).

WHAT LVA IS NOT

It is not a voice stress analyser. McQuiston introduced voice stress analysis in 1964 as an alternative to the polygraph. The USA Army wanted a 'remote lie detector', that is, one with no need for direct connections to the body of the subject. This concept was based on the idea that emotional stress causes measurable changes in the human voice. The changes are due to tremors associated with the contraction of muscles, leading to minute oscillations at about 12 MHz, thus opening the possibility of analysing narrative conversation. McQuiston discovered that the tremors disappear under stress. When someone lies, the volume of blood in the vocal cords drops as a result of the stress – thus, the lack of the presence of the tremors indicates a lie (Van Damme 1999:50).

LVA technology does not utilise Micro-Tremors analysis. Micro-Tremors analysis scans frequencies between 8-12 Hz. Most microphones and all telephones neither transmit nor record this frequency range. Nemesysco LVA technology uses a wide-spectrum analysis, making use of whatever spectrum of frequencies it receives. This feature is what makes LVA technology unique, and what makes it possible for this technology to detect so many different emotions.

Of course, most people experience stress when they have to face the law. LVA technology does not simply measure stress. Instead, it tries to understand the complete emotional structure (including excitement, pain, fear, cognitive activity and more) in each sentence the subject says. The overall analysis algorithm then evaluates the differences in each vocal segment to reach a decision.

MORE OPERATIONAL CAPABILITIES

The advantages of the LVA over the polygraph include the following (Van Damme 1999:67). It can be used as a remote investigative focus tool, that is, there is no need for any direct connection to the subject's body. It is also possible to interview the subject over the telephone or to use previously recorded conversations for analysis. Normal conversations, using full phrases and full phrase answers are used. There is no need for only Yes or No answers, and no need for timing between the posed questions. The subject can be even ignorant of the fact that he is being interviewed or that his answers will be analysed. Instead of requiring up to one and-a-half hour for a result, the LVA requires only a few minutes. LVA technology allows for much more than truth verification because of its ability to unravel the thinking and emotional patterns of subjects during interviews. Because of its ability to do this, it also follows logically that the LVA system is much cheaper to administer than the traditional polygraph. It also needs to be said that LVA technology also provides for traditional polygraph analysis.

There is only one major disadvantage of the LVA system: it has only been in use for about 9 years, whilst the polygraph has been in use for 112 years (Van Damme 1999:67). Another disadvantage is that the LVA only works when there is speech. The polygraph, on the other hand, also operates during periods of silence (De Vries 2005).

THE RESEARCH SET-UP

The Department of Correctional Services (Drs. Sibusisiwe Bengu and Lorinda Berg) granted permission for this research to be conducted. They gave the researcher the opportunity to gain access to two correctional facilities, namely Grootvlei Prison near Bloemfontein and Leeukop near Johannesburg. The researcher was allowed to make contact with 15 convicted paedophiles. Prof. G.I.L.M. Van Damme captured the data for the three perpetrators incarcerated at Leeukop Prison near Johannesburg. These perpetrators were not participants of any specific programme. The researcher conducted the interviews with the 12 perpetrators at Grootfontein Prison near Bloemfontein. These perpetrators were all participants in the PedoStop Programme.

Different courts in South Africa convicted the 15 paedophiles (of sexual crimes against children) who were chosen for this research. They were chosen deliberately on the basis of the fact that 12 of them were, at the time of the research, participating in a rehabilitation programme specifically developed for paedophiles by the Department of Correctional services; this programme is called PedoStop. Mr. Reinier Naudé of the Department of Correctional Services at the Grootfontein Correctional Facility developed this programme, which he also implements and administers. During the period of the research, six of these paedophiles were incarcerated and six were under correctional supervision. This means that six did not and six did have access to children whilst they were participating in the PedoStop Programme – and these were the people who participated in this research project.

All the interviews were conducted on the premises of the Department of Correctional Services. The three interviews at Leeukop were conducted in the office of the responsible Psychologist, Mr. Jeremy Mostert. The 12 interviews at Grootfontein Prison near Bloemfontein were conducted in an abandoned crèche on the premises of Grootfontein Prison, under the supervision of Mr. Reinier Naudé. Capturing the data for the interviews was limited to one day. Those who were incarcerated were interviewed during the morning and those on parole were interviewed during the afternoon.

The interviews were captured on a laptop computer loaded with LVA technology. During the data capturing technical assistance was provided by Prof. G.I.M.L. Van Damme and Mr. L. Van Wyk of Nemesysco South Africa.

In the next part of the research report, the focus will be on the biographical particulars of the respondents, their educational qualifications, and the crimes they were found guilty of. Furthermore, based on what LVA analysis can achieve, results about thinking levels, emotional levels, risk level and sexual arousal factors will also be discussed.

BIOLOGICAL PARTICULARS OF THE SUBJECTS

The biographical information of the paedophiles is as follows: All were male convicts, 11 were white and 4 black. Their age distribution was as follows:

Table 1 Age

Age	Frequency	Percentage
22-30 yrs	2	13.3
31-40 yrs	4	26.7
41-50 yrs	6	40.0
51-60 yrs	1	6.7
Above 61 yrs	2	13.3
Total	15	100.0

Table 1 indicates that the older the men got, the more of them were caught and incarcerated. As they grow older than 50 years, they are arrested less often.

Regarding their marital status, only one was still married when the interviews were conducted during August 2005. Four were divorced, 10 were single. Of the 15, one had one child of his own, four had two children, one had three children and one of the paedophiles interviewed had four children. The others had no children of their own. One abused his own 10-year old daughter. The others all picked victims to whom they were not related.

The educational qualifications of the group are indicated in table 2:

Table 2 Qualifications

Highest Qualification	Frequency	Percentage
Std. 1	1	6.7
Std. 5	1	6.7
Std. 8	5	33.3
Std. 9	2	13.3
Std. 10	1	6.7
NTS 3	2	13.3
BA Law	1	6.7
University Teaching Diploma	1	6.7
Diploma	1	6.7
Total	15	100.0

Table 2 clearly indicates that these are not highly qualified people. Even the University Teaching Diploma is a diploma that only allows teaching at Primary School level. The one with the law qualification stands out. It is also of interest to note that he is a person of colour (which suggests some specific cultural influences that were not followed through during this research). Their qualifications are also reflected in the type of work they are involved with. The group included an electronics expert, garden services, general assistant, hospital supervisor, hawker, mechanical inspector, motor guard, high school pupil, tire sales- and repair man, and a welder with his own business. However, there was also one spiritual worker, one revenue consultant, one retired teacher, and one lawyer in the group, as well as a welder running his own business.

Table 3 is a list of the crimes they have been convicted of.

Table 3 Crimes committed

Crime found guilty of	Frequency	Percentage
Indecent Assault	3	20.0
Indecent Assault (Incest)	1	6.7
Indecent Assault/Assault with weapon	1	6.7
Indecent Assault	1	6.7
Molest 14 yr old boy	1	6.7
Molesting boys	2	13.3
Public indecency/exposure	1	6.7
Rape	3	20.0
Rape/Indecent Assault	1	6.7
Sexual assault/Rape	1	6.7
Total	15	100.0

In table 3 there are duplications of the crimes they were found guilty of. This is because the table reflects the crimes each of the 15 perpetrators was found guilty of. It should be noted that close scrutiny of the table indicates that the courts registered only five counts of rape. In the majority of cases, the perpetrators were found guilty of indecent assault (which is consistent with what paedophiles do to their victims).

As far as their punishment is concerned, four (26,7%) were serving less than five years and five (33,3%) 6-10 years imprisonment. Six of the subjects (40%) were under correctional supervision and therefore not behind bars.

CONDUCTING THE INTERVIEWS

To conduct the interviews, the paedophiles were asked the following questions and shown the following pictures (which were co-developed and approved by Drs. Sibosisiwe Bengu and Lorinda Bergh from the Department of Correctional Services):

1. Please describe, in your own words, why you are here.
2. Please describe, again using your own words, what a sexual offence is.
3. Can you describe how you think a sexually abused person feels?
- 4 Describe, in your own words, what a paedophile is.
- 5 Can you describe your last sexual assault in as much detail as possible, and how you feel about it today?

Then followed the picture questions. These were shown to the paedophiles in colour on a computer screen. They were instructed to describe the picture and then say what they think about it.

- 6 A picture of 3-4 year-old half-naked/bathing girls.
- 7 A picture of 3-4 year-old half naked/bathing boys.
- 8 A picture of an attractive, clothed woman.
- 9 A picture of an attractive, clothed man.
- 10 A picture of an attractive naked woman (not erotic).
- 11 A picture of an attractive naked man (not erotic).
- 12 An erotic picture of an attractive man and woman.
- 13 An erotic picture of an attractive man (erotic position).
- 14 An erotic picture of a few attractive women (in bikinis).
- 15 An erotic picture of a few attractive women (lustful).
- 16 A picture of half-naked women with blood on their breasts.

17 (A "non picture" question again) - How do you feel today about your last sexual offence, and do you believe you will ever do something like that again?

18 How do you satisfy your sexual fantasies now?

The picture-questions were all based on pictures taken from periodicals that are freely available in South African bookshops.

GUIDING PRINCIPLES

The guiding principles behind the showing of these pictures was that the 'true' paedophile would exhibit the highest level of sexual arousal when shown the pictures of the half-naked bathing girls or of the half-naked bathing boys – and that the LVA technology would pick this up. Furthermore, the research was guided by the objective of finding out what the LVA technology can uncover (and thus help the researcher to arrive at a comprehensive overall view of what goes on in the mind of the paedophile).

Although this technology is able to access more, the research results in this article will be limited to demonstrating the levels at which the LVA technology can access people's thinking levels, emotional levels, risk levels, sexual arousal levels and whether they are lying.

Furthermore, it was hypothesised that, if the PedoStop programme is indeed effective, convicted paedophiles will no longer show such a high sexual arousal when they view pictures of pre-teen children.

To start with, the paedophiles' thinking levels will be shown as these were registered and analysed by LVA.

THINKING LEVELS

Buttell (2002:85-86) correctly stated that there are longstanding measurement problems relating to the evaluation of sex offenders. He contends that there is a need for multiple assessment techniques. LVA also claims to be able to access people's thinking levels. As far as the thinking levels of the subjects are concerned, this part of the research will briefly report on their choice of speaking the truth, where they were unsure, inaccurate, probably false and deceptive. The results are reflected below in table 4.

Table 4 Thinking levels

Thinking levels	Sub 1	Sub 2	Sub 3	Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9	Sub 10	Sub 11	Sub 12	Sub 13	Sub 14	Sub 15
Truth	12	09	10	10	05	04	12	08	12	08	06	03	29	110	58
Inaccurate	24	21	22	49	11	30	52	30	51	47	76	48	30	112	45
Probable False	11	09	06	22	06	18	16	15	24	30	55	37	15	45	30
Deceptive	02	00	02	01	02	00	00	01	01	04	02	08	01	06	04

Legend: Sub = Subject

This table should be understood as follows: during the interview, Subject 1 told the truth only 12 times. That means there were only 12 samples of sentences or parts of sentences (speech segments) that were the truth as this was measured by LVA. In 24 of his sentences or parts of sentences, he was inaccurate, in 11 instances he was probably making false statements and in (only) two instances he was downright deceptive.

It should be noted that a very interesting phenomenon occurred during the research. Subjects one (1) through twelve (12) were part of the PedoStop programme and incarcerated in Bloemfontein (Grootvlei Correctional Facility) or under correctional supervision in Bloemfontein. The first six (6) of these subjects were under correctional supervision during the period the research was conducted. Subjects seven (7) through

twelve (12) were incarcerated during the interviews. Subjects thirteen (13) through fifteen (15) were not part of the PedoStop programme, but came from another correctional facility, namely Leeukop.

When the table is further analysed, the following is clear: the six Subjects who were incarcerated during the period the interviews were conducted (subjects 7 through 12) submitted 49 truthful samples, those under correctional supervision (which was followed by their incarceration period), gave only 40 truthful samples. In other words, it is clear that the truth samples decline as these offenders are given more freedom and fewer restrictions. The same happened with the rest of the measured levels. Those who were incarcerated yielded 304 inaccurate samples and those under correctional supervision only 157 such samples. The probable false statements of those inside the correctional facility yielded 177 samples, whilst those who were released only gave 72 probable false statements. This tendency is even true of the deceptive samples. Those inside wilfully deceived the listener with a total of 16 samples, whilst only 7 of the outsiders did the same.

From the above it is clear that, as their participation in PedoStop progresses, paedophiles become more skilled in what they have learned and therefore have to rely less on inaccuracies, probable false statements and even downright deception. It seems as if they become more confident in their ability to adhere to the law. It is interesting, however, that they find it necessary to rely less on the truth.

The Leeukop subjects also yielded interesting results. They gave much more truth (197), probable false (90), inaccurate (187), and deceptive (11) samples. This phenomenon can be explained by the fact that these three were not participants of PedoStop. However, this is not clear. It needs to be verified with further research.

EMOTIONAL LEVELS

Regarding emotions, Plummer (1991:8) said the gender dimension should also be understood in terms of the intimacy-distance continuum. This continuum is related to the emotional levels of males and females. As a result of cultural influences, the girl child usually is encouraged to move towards a complex but essentially private world.

Nevertheless, in this world emotional sensitivity towards others is very important. The boy child is encouraged to move out into public. Here little emotionality is seen or felt. The girl-culture is built around the home and the bedroom. The boy-culture is built around sport, toughness, and "larking around" outside the home (Plummer 1991:8).

People's emotional levels are related to their psychosocial development.

To access the emotional levels of paedophiles, Socarides (2004:25) differentiated between Type 1 and Type 2. He linked these types to pre-oedipal fixation. He stated that, especially in Type 2s, the pre-oedipal fixation is of prime importance and this fixation constantly dominates the psychic life in the individual's search for identify and a cohesive self. The oedipal fixation usually manifests itself in adulthood as a narcissistic personality disorder of various degrees of severity. Because there is an insufficient structuring of the psychic apparatus, Type 2 shows a marked absence of internal conflict because his or her behaviour is not regulated by the superego and he or she does not, therefore, identify with the moral power of the parents. In other words, in Type 2s, no moral self-regulation is present. This severe deficit in their ego and superego development results in crises in their overall functioning – especially when the fixation is in the practising and differentiation phase. They are, during this phase, unable to act out comforting, controlling, guiding or approving behaviours. This dilemma is resolved temporarily by using external objects (self-objects, including sexual objects like pre-puberty children) whose function is to substitute missing structures and their functions. Thus the absence of a defective superego not only creates the imperative desire and need for sexual congress with children, but also creates serious therapeutic obstacles. This is

because these people may well remain unaffected by the need to alleviate or cease their perverse actions with children through the transference relationship (Socarides 2004:19). This has a profound effect on their emotional functioning. In the same vein, the research of Buttell (2002:85-95) demonstrated that the moral reasoning of sex offenders are two standard deviation points lower than that of the average adult population. This suggests that their emotions are more likely to move them to act.

The way in which the LVA technology uncovered the emotional levels of the subjects during the interviews demonstrated the following:

Table 5 Emotional levels

Emotional Levels	Sub 1	Sub 2	Sub 3	Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9	Sub 10	Sub 11	Sub 12	Sub 13	Sub 14	Sub 15
Stress	22	25	31	39	23	28	33	42	29	31	49	18	35	205	32
High stress	04	08	03	12	01	17	20	23	25	27	30	12	00	07	01
Excited	04	03	05	00	06	08	07	11	04	04	07	04	13	43	17
High excited	04	00	01	01	00	00	00	00	00	01	01	00	01	00	00
High Tension	01	06	06	07	01	04	08	06	08	06	05	04	19	41	00
Not sure	01	02	01	05	00	00	00	00	00	00	00	00	00	56	32

In this research stress and high stress indicates that the subject is probably truthful – unless such stress or high stress is not expected in that particular answer. That is, when the subject responds with high stress when one does not expect it, this could indicate a soft spot – the subject feels stressed because you might continue probing for more details about this issue. Furthermore, excited, highly excited and high tension also indicate severe emotional duress.

LVA technology can discriminate between more than the above-mentioned emotional levels. Due to limitations of space, the above-mentioned were selected as illustrations of the subjects' emotional movements during the interviews.

Table 2 indicates that the subjects – all of them – experienced stress and high levels of stress during the interviews. Of course this could be expected. They are in trouble with the law (they are either incarcerated or under correctional supervision) and are being interviewed by a professor of Criminology. Although the readings for excited, highly excited and high tension are not that high, they still give invaluable information about what happens emotionally to the subjects. Before the availability of LVA technology, the emotions were not accessible – at least not at these levels. The reader needs to be reminded that these emotions – as is the case with the thinking levels and deception --- are visible on the interviewer's PC screen while the interview is taking place in real time. This makes LVA technology an invaluable tool for therapists as well, and not only for investigators who need to determine the truth about a particular accusation. In other words, when emotional duress is present, it can be followed through in real time as it occurs during the interview (the interviewer can probe further). This was not deemed necessary for the purposes of this research.

Interesting differences between the three groups were recorded. These differences are reflected in the table below.

Table 6 Emotional level differences

Emotional level	PedoStop Correctional supervision group	PedoStop Incarcerated group	Leeukop group (not part of PedoStop)
Stress samples	168	202	272
High stress samples	45	137	08
Excited samples	26	37	73
Highly excited samples	06	02	01
High tension samples	25	37	88

Analysing table 6 shows that those not participating in the PedoStop Programme yielded many more examples of emotional duress. It should also be noted that there were marked differences between the two groups participating in the PedoStop Programme. It is clear that those who are incarcerated demonstrated more emotional duress than those who were not incarcerated. Here it should be noted that the PedoStop Programme is voluntary after the convicted paedophiles have been convicted. This implies that the group under correctional supervision are not only participating voluntarily, but are also the group that were subjected for the longest time to the PedoStop Programme. It is clear from the above that the LVA technology demonstrated that the PedoStop Programme has had at least a marked influence on the emotional duress of these subjects.

RISK LEVEL

The risk level registered by LVA is indicative of how risky it is to work with or do business with a particular individual. It does not refer to the risk that he will re-offend.

The risk level indicates a general risk. In other words, it identifies the person as a 'bad' person to get involved with.

Table 7 Risk level

Risk Level	Sub 1	Sub 2	Sub 3	Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9	Sub 10	Sub 11	Sub 12	Sub 13	Sub 14	Sub 15
	45	05	34	21	05	05	05	90	07	49	75	95	12	05	05

This table clearly indicates that there were three subjects with whom it is risky to get involved with. These are: subject 08, <Author: should this read "b8", "b11" etc? J Smith> with a reading of 90, subject 11 with a reading of 75 and subject 12 with a reading of 95. The highest risk factor the LVA technology ascribes to any individual is 95. LVA indicated these three people as untrustworthy individuals.

SEXUAL AROUSAL FACTOR

Sexual arousal is clearly of paramount importance as far as paedophiles are concerned. Usually the treatments of paedophiles start with clinical assessment. These assessments may include an interview, psychological testing and a penile plethysmograph in the cases of male offenders (Flora 2001:140). The plethysmograph measures penile erection to register sexual arousal. However, the plethysmograph is a very intimate and very invasive procedure. LVA's technology does not require any attachment and is therefore a much more neutral measurement instrument.

LVA also can also measure the sexual arousal of the subject being interviewed. The sexual arousal is also registered during the cause of the interview. In the table below the questions or picture questions are indicated to which the highest sexual arousal was registered.

Table 8 Sexual arousal

Question or Picture	PedoStop Correctional supervision group	PedoStop Incarcerated group	Leeukop Group not part of PedoStop
Question Why are you here?	1		
Picture What is a paedophile?			1
Picture of pre-teen half-naked girls		1	
Picture of attractive, neatly dressed white women		1	
Picture of attractive, neatly dressed white male			1
How do you satisfy your sexual fantasies now?	3	4	
Describe your last sexual assault	1		1
How do you feel about the last sexual assault?	1		

Briefly stated, table 8 indicates the following: none of the subjects who were under correctional supervision during the research were sexually aroused by pictures of the half-naked boys or the half-naked girls, as one would expect of a paedophile diagnosed as such according to the DSM1V-R's diagnostic criteria. This is a clear indication that, according to the measurements of LVA – at least when the research was conducted – these subjects could not be diagnosed as paedophiles according to the DSM1V-R criteria on sexual urges (or sexual arousal) which LVA can detect. If this could indeed be established beyond any doubt, the fact that they have been found guilty of a sexual offence against a child is even more serious, because their sexual offence was not due to a sexual urge towards a child in the first place. The child could have been only an easy victim. This fact obviously calls for further research.

Three of them registered the highest sexual arousal when they explained how they satisfy their sexual fantasies now. This could be an indication that they have learned alternative ways of sexually satisfy themselves without infringing on children. This could be ascribed to PedoStop. The one who were aroused most when describing his last sexual assault (on a child) and the one whose sexual arousal was activated when he was explaining how he felt about that last sexual assault on a child, could indicate the fact that they are now satisfying themselves sexually by recalling their activities with their victims. It could also be interpreted in the light of the well-known fact that paedophiles like talking about their experiences. One subject, whose sexual arousal was activated while explaining why he was here, referred to himself as a paedophile and briefly explained what he did to his last victim. In other words, this person should actually be grouped with the subject who was aroused when describing his last sexual assault.

Furthermore, as far as those subjects who were incarcerated are concerned, it is clear that only one attained his highest sexual arousal when responding to the picture of the half-naked pre-teen girls. This could be a clear indication of the DSM1V-R diagnostic criteria that he is indeed a paedophile with a preference for girl victims. Another subject responded in the same way to the picture of the attractively dressed white female

(indicative of heterosexual preference), whilst four were aroused the most when they explained how they satisfied themselves now.

It is also noteworthy that the three who were not participating in the PedoStop Programme were not even once aroused by the pictures of either the half-naked pre-teen boys or pre-teen girls. One was activated when he started to explain what a paedophile is, another one by the picture of the attractive, dressed white male and the last one when he explained his last sexual assault. The deduction from this finding is clearly that these three perpetrators, although they were found guilty of a sexual crime against a child, are not true paedophiles. The children could have been only easy victims for them. This also calls for further research.

The above arguments are substantiated by the responses of subject 1.

Table 9 PedoStop Subject 1

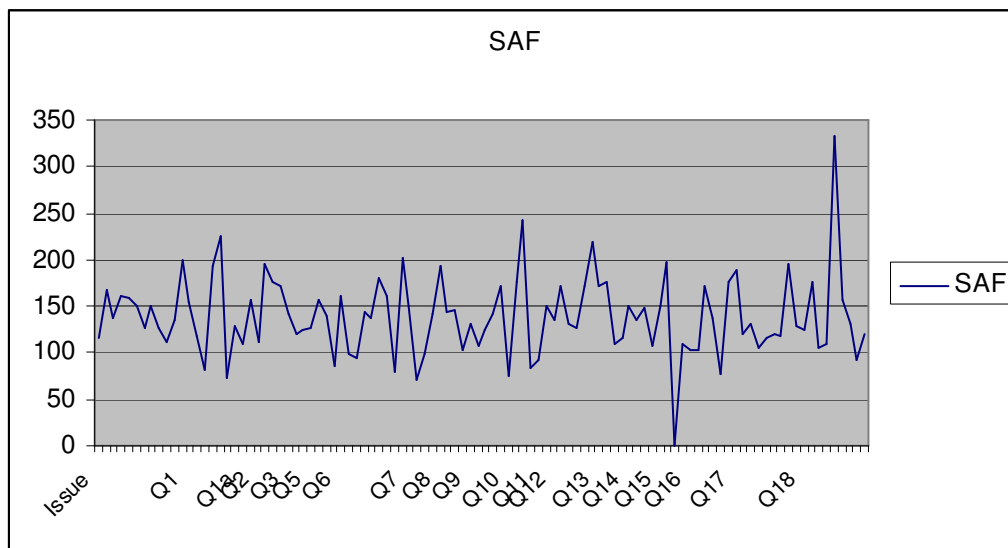


Table 9 shows that subject 1 was not sexually aroused when he was talking about the picture questions – including the pictures of the pre-teen boys and girls (questions 6 and

7). He was somewhat sexually activated by the picture of an attractive undressed man (question 12), which suggests same-sex sexual preference. However, his sexual arousal jumped to its highest point when he was explaining how he now satisfies his sexual fantasies (question 18). He said that he now visits adult women to satisfy his sexual fantasies. LVA indicated that this answer was given under high tension, while he was stressed and with high anticipation. It seems as if Pedostop had succeeded in teaching subject 1 another way of satisfying his sexual fantasies (because he is no longer highly aroused by children). The fact that LVA points to a preference for adult males shows that his offending against a child should be viewed with added aggravation. This could explain some of the probable false readings registered by LVA when this subject was responding to question 18.

CONCLUSIONS

LVA technology clearly does have the capacity to unravel the mind of the paedophile. It is clearly a sophisticated linguistic tool to access what goes on in the mind of the pedophile. The information it can unearth about the paedophile (thinking levels, emotional levels, risk factors, sexual arousal) is invaluable for the investigator, the court, the therapist and the correctional officer. The "unravelling capacities" of LVA obviously needs to be considered seriously in the adjudication of paedophiles – especially against the background of the researched finding of Gardner (Cullen *et al.* 2000:569-570) that punishment for child sexual abuse is generally more severe than for the crime of murder.

However, further research is needed into the fact that someone who has been found guilty of paedophilic acts (some time ago) now shows the highest sexual arousal when he talks about the fact that he now (after the PedoStop programme) satisfies his sexual needs by visiting women of his own age. This finding may mean that the offender never was a paedophile. Or it could mean the PedoStop programme is working (that is, his sexual preference has been changed by PedoStop). It could also simply mean that these subjects experience sexual arousal when they talk about their sexual fantasies. The role the

preferences for girls or boys or the inclusion of adults in their list of victims play in the choice of victims as indicated by the DSM-IV-R diagnostic criteria should also be researched further – preferably by means of LVA technology.

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