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The “Psychology” of Polygraph’: Engendering Differential Salience - Concerns and Caveats

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ABSTRACT

The “success” of a polygraph examination is predicated on the establishment of differential or emotional salience (a “psychological set”) with an examinee. This, according to polygraph proponents, guarantees that an examinee will respond appropriately during the administration of the in-test (questioning) phase of the polygraph examination. However, polygraph procedure, as prescribed by its governing body, the American Polygraph Association (APA), is a static clinical Westernised process that does not make any provision for human multiplicity (culture/ethnicity, idiosyncrasies, level of education, language proficiency, ideologies, and so forth). Identical (one size fits all) test procedures are applied across the board – a highly controversial methodology. This article, instead of rigidly focusing on validity and reliability issues per se, explores the degree to which certain intentional and unintentional human behaviour modification strategies have the potential to counterbalance claimed polygraph rectitude from a metaphysical and discursive standpoint. The article exposes concerns (potential flaws) relating to polygraph theory in the context of the “psychological set” and is intended to serve as a caveat regarding the unmitigated use thereof.

1. Introduction

Worldwide, criminality, including dishonesty, has become pervasive and non-pathological to the virtual point of universality^[1]. For many people, the boundaries between right and wrong, and what is appropriate and inappropriate behaviour, have become vaporous. It is not surprising, therefore, that in such a mercurial environment human honesty and industriousness are highly prized virtues^[2]. Veracity determination has subsequently become seminal in almost all spheres of human endeavour.

To this end polygraph examinations are frequently

employed to manage human integrity, virtuousness and fidelity in an increasingly thoroughgoing way as a miracle cure for this syndrome. Establishing emotional salience with an examinee, irrespective of the type or purpose of the polygraph examination, is a fundamental precept upon which the execution of an apposite examination by a qualified and competent examiner is based. However, the establishment of this salience is no mean feat and presents certain existential challenges that are not readily taken into account by polygraph theory or its general conventions. In relation to polygraph application, people are treated, and their behaviour evaluated, in accordance with a set of rigid rules, independent of their unique persona.

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^[2] Given the diversity of the human psyche, receptiveness to the establishment of emotional salience can, for various reasons, be expected to fluctuate considerably.

This article examines certain human behaviour modification techniques, which could potentially negate the establishment of a psychological atmosphere during the pre-test phase of the polygraph examination and render the results of such examination inaccurate and/or beget a false negative or false positive outcome. It does not purport to provide an encyclopedic exposition of human behaviour modification strategies or a utopian solution to the quandary, but strives to provide food-for-thought and stimulate further discussion and research.

2. Polygraph Operation and Premises

In order to place in context the pre-test phase of a polygraph examination, during which emotional salience should be established, the following succinct exposition of the polygraph curation process is provided as an *aide memoire* ^[3]. All polygraph examinations involve a pre-test phase (interview and stimulation test), an in-test phase (during which several questions requiring “yes” or “no” answers are asked) and a post-test phase (debriefing). The examiner typically begins with a pre-test interview to gain some preliminary information from the examinee, which is used to develop diagnostic questions that are reviewed with the examinee. The examiner also explains the purpose of the various pieces of apparatus that will be attached non-intrusively to the examinee’s body and how the polygraph is supposed to work, emphasising its efficiency and that it is important to answer truthfully and only with “yes” or “no” answers. The examinee’s medical history is briefly examined and he/she is also told that the test is voluntary and that he/she can terminate it at any time. Then a stimulation test (stim test), essentially a truncated mock polygraph test, is conducted during which the examinee is instructed to deliberately lie. The tester subsequently reports that he/she was able to detect the lie “proving” that the polygraph works. The tester then proceeds to the in-test phase of the polygraph examination. During this phase the previously revised questions are put to the examinee during 3 chart sessions. Some questions asked are irrelevant, others are diagnostic and the remainder are relevant questions that the tester is really interested in. The different questions alternate. The test is passed if the responses to the diagnostic (control) questions are larger than those to the relevant questions.

The final phase of the polygraph examination is the post-test phase (essentially a debriefing) during which the examiner confronts the examinee with the results and records any admissions/confessions. Integral to this

paper is the pre-test phase of the polygraph examination. It is during this phase that the polygraph examiner is required to establish emotional salience with the examinee ensuring that the examinee (at least in terms of polygraph theory) will respond appropriately to the questions posed during the in-test phase of the examination. Appropriate responses (physiological arousal) are considered those that are more pronounced in relation to either relevant or control questions based on the fear of detection of deception. More pronounced responses to relevant questions (arousal relating to involvement in the issue/incident being investigated) indicate deception; while more pronounced responses to the control questions (arousal relating to a person’s background that they want to keep secret) indicate no deception. The reasoning here is that a person’s body will autonomously offer a greater response to the issue/s that hold more detrimental gravitas to the examinee.

In layman’s terms, therefore, polygraph application theory holds that examinees respond physiologically to test questions to which they are untruthful out of apprehension that their pretext will be exposed and penalties will follow. All things considered, the greater the fear, the greater the response. It is argued that honesty and integrity are not likely to illicit a greater physiological response than deception on the same test. Clearly, this stereotype invokes a universal, but not necessarily accurate, norm that one should be honest, and if one is not, that measurable “feelings of shame” are to be felt. It is important to remember, however, that polygraph examinations are designed to measure arousal caused by fear of detection of deception, which can be affected by, amongst others, anxiety, anxiety disorders, such as PTSD, nervousness, fear, confusion, hypoglycemia psychosis, depression, substance induced states (nicotine, stimulants), substance withdrawal state (alcohol withdrawal) or other emotions. Polygraphs cannot differentiate anxiety caused by dishonesty and anxiety caused by something else ^[4].

Consonant herewith Grubin states that the polygraph instrument does not recognise lies and that a specific psychological lie response has never been demonstrated and is unlikely to exist. Instead the polygraph instrument records physiological activity associated with arousal in the autonomic nervous system ^[5]. The responses it measures are not unique to deception, nor are they always engendered by it ^[5]. Whether this arousal is caused by a fear of being caught out in a lie, a conditioned response to the act of lying, orientation to a matter of emotional salience, the increased cognitive processing required for deception, or some other mechanism remains unclear. The assumption underlying lie detection technologies is that individuals feel about their spuriousness as an outside party would.

Not only is it a flawed position given the multiple causes of autonomic arousal, but even if it was possible to distinguish between types of arousal, it would be unreasonable given the manifold possibilities. Simply stated, the polygraph paradigm fails to control for alternative explanations for arousal ^[6,7].

3. Engendering the “Psychological Set”

Prior to the actual polygraph examination (in-test phase), it is, importantly, the aim of the polygraph examiner, during the insipient stage of the polygraph examination, to establish a state of emotional salience (a psychological set) with the examinee that is believed to elevate the likelihood of arousal to stimuli (test questions). The polygraph examiner attempts to, during this phase, instill a fear of detection of deception in the examinee. Polygraph theory dictates that examinees will, after being subjected to the “psychological set” procedure be sufficiently psychologically primed so that the likelihood of any observed arousal to specific questions due to deceptive responses will be increased ^[5]. Regrettably, the establishment of this state is treated as an unambiguous, one-dimensional construct instead of complex and multidimensional. Polygraphy, therefore, assumes that everyone is equally susceptible to the establishment of emotional salience and does not make provision for human equanimity or variance.

Marginalisation of this pre-test phase procedure is also prone to occur amongst examiners where economic or other pressures are brought to bear and many tests must be performed within a specific time period (especially in a competitive labour market). This disturbing occurrence further serves to place in context the increasingly opaque silhouette of the interface between emotional salience establishment on the one hand, and the potential of human behaviour modification to frustrate this process, on the other. Notwithstanding, the establishment of emotional salience is attempted, even though there is no definitive indication of its establishment during the pre-test phase.

Despite an examiner’s best attempts, whether emotional salience has been established or not, will never be known. Although quite conceivable that those invested in the procedure, and susceptible to it, will be primed to answer questions in the appropriate way, i.e., more pronounced responses to either relative or control questions based on the fear of detection of deception, it is equally feasible, however, that due to behaviour modification techniques an individual will be able to circumvent these “appropriate responses”. Just because larger responses are recorded for relevant questions or for control questions does not necessarily mean that one person is guilty and another is innocent. Human behaviour transmutation as well as other

forms of arousal that have no bearing on guilt or innocence per se can play a role in examination results as well. The one-on-one interview between the examiner and the examinee and the stim test are, in practice, merged with one another, and together constitute the pre-test phase of the polygraph examination.

3.1 The Pre-test Interview

The pre-test interview is primarily designed to convince the examinee that the polygraph instrument can accurately measure deception and is done by means of examiner narrative whilst engaged in an “interview” with the examinee. It is during the interview that precedes the test that the examiner instills a belief that the test is efficacious. There is, however, a perplexing ambiguity in the pre-test interview for this ostensibly “objective” means of assessing a subject’s veracity. The examiner must accept the examinee’s word that that he/she understands/accepts the polygrapher’s view of the test. Equally important, is the fact that the examiner designs questions that that he/she expects the guiltless subject to be highly concerned about. Again, such a supposition is ironic. The polygraph examiner has no independent means to assess whether any obvious concern is embedded in legitimate fear of revealing damaging/embarrassing information or whether the subject’s concern is “normal” ^[6]. Notwithstanding, rapport is supposedly built, the examiner embellishes his/her detection successes and competence, apparatus to be used is placed in context, and various permissions are sought from the examinee. The individual’s medical history is also superficially discussed to determine appropriateness (psychological and physical) for undergoing the exam. The interview with the examinee culminates in the application of the stimulation test.

3.2 The Stimulation Test

Stimulation tests are designed to, in tandem with the one-on-one interview, enhance examinee responsiveness by demonstrating the “power” of a polygraph test – essentially to reinforce the verbal instruction of the examiner during the pre-test interview (the polygrapher’s injunction about the infallibility of the test). According to Memon, Vrij, and Bull, the main goal of the stim test is to convince the examinee that the polygraph is accurate and can detect every lie ^[8]. For example, the person is asked to pick a card from a pack of playing-cards. An increased physiological reaction is expected when the examiner, using a gambit, identifies the card the examinee has chosen. In fact, polygraph theory dictates that the success of a polygraph examination is dependent on the examiner creating

the proper psychological situation (emotional salience). The examiner attempts to induce in the subject the belief that the test works and instills a fear of detection of deception. It is purportedly this fear of a lie (or lies) being exposed that produces pronounced arousal to either control or relevant questions^[6].

4. Dynamics of lying

People have fluctuating opinions vis-à-vis lying. On the one hand, honesty, truth and ethical conduct are valued; conversely, people think that although lying is condemnable, it is quite inevitable^[2]. Moreover, the skill of cheating may be a benefit in social interactions and serve to protect oneself or a group one belongs to. The ensuing exposition endeavours to provide some context relating to the inherent challenges associated with polygraph application. By examining the motivation/s behind lying and by juxtaposing the reasoning with the pragmatisms associated with such practice, an existential mosaic is created facilitating evaluation and deduction. According to Tooker, self-oriented lies are those lies told to make the teller appear better or to gain some personal advantage^[9]. Such lies account for half of all the lies told, in order to, amongst others, make a positive impression, protect oneself from embarrassment/disapproval, obtain an advantage in a situation and/or avoid punishment/chastisement/a negative consequence^[10]. By way of example, in relation to a job seeker, this could entail lies perceived as justifiable in order to obtain an advantage in a scarce or competitive market – and viewed by such person as a strategy rather than a veracity/moral issue.

Fabricating the truth under such circumstances might not necessarily be seen as a violation of one's personal integrity as an individual can become tolerant of his/her deception in certain circumstances. In essence an individual reverse engineers integrity from ubiquity and ceases to believe that something so justifiable can be wrong – deviance/duplicity, therefore, even though it appears kafkaesque, becomes entwined with the concept of veracity, so to speak, and the person believes what he/she is saying is plausible (confabulation)^[11]. The individual essentially sees the polygraph test as a challenge more than a threat or truthfulness test per se and they will, according to Gozna, Vrij and Bull, be difficult to detect when they lie in high stake settings as they will exhibit an apparently honest demeanour while being void of experiencing emotion or cognitive effort^[12]. The negative consequence in the example mentioned above would amount to not being considered for, or not obtaining, the employment sought should deception be detected during a credibility assessment.

During such “applicant fraud” (in which the person realises, and subsequently believes, that it will be beneficial to craft a more favourable image of him/herself), a calculated effort is made to present a perceived (fictional) image based on the desire to “believe oneself”, which will, for all intents and purposes, be a stronger desire than that of the fear of being “caught out” (by a polygraph examination). Their perceptions will relate to success in lying, and of feeling comfortable during the lie (as well as before and after), and would perceive the situation better dealt with by a lie than the truth^[12]. People, it is submitted, have the inherent and covert capacity to present an “illusory self” in certain, specifically occupational, situations for their own benefit. When this motivation to conceal/deceive is stronger than the threat of having some deception exposed, polygraph results will be questionable. Recent studies in England and Wales have shown that almost two-thirds of adults interviewed (from all classes) admitted to committing minor fraud, but rarely think that their behaviour is criminal.

Sykes and Matza's (1957) concept of neutralisation is useful to identify the techniques that many shoplifters use to deny or deflect blame for wrongdoing away from the perpetrator. For example, shoplifters may claim that shoplifting does not really hurt the store very much (denial of injury caused) or that a particular store deserves to be ripped-off because they manipulate customers (denial of the victim). Such neutralisations allow individuals to re-define shoplifting as a more acceptable form of behaviour. Theft by employees is also extremely prevalent. The workplace has always been a key site of property crime. Indeed Gerald Mars wrote about the “normal crimes of normal people in the normal circumstances of their work”^[13]. Mars contends that such “fiddles” are part of the suppleness of some occupations which emphasise individual entrepreneurship, flair adaptability, and professional autonomy, and in which group control of the workforce is low (academics, lawyers, journalists, sales representatives, etc.).

The conditions of work may unlock a criminogenic environment that opens opportunities and rationalisations for rule-bending and even rule-breaking^[14]. It is expected that such people will report little guilt or effort during deceit and will control their behaviour to create an honest demeanour. By suppressing a memory or thought of previous infidelity or disconnecting themselves from a former deception and diverting their attention to another matter (e.g. the necessity of obtaining a job) when presented with a polygraph test stimulus question an examinee could redirect their salience and be adjudged truthful while the opposite is in fact the case. Handler, Shaw and Gougler sum-

marise the foregoing by stating that polygraph subjects appraise or evaluate polygraph test questions against some type of goal that is at stake, and that these assessments perform an arbitrational function for valence and salience of emotional and physiological response^[15]. Similarly, Raskin, Honts and Kircher aver that, in general, people formulate goals, and use planning and self-regulatory strategies to in order to reach such goals^[16]. Moreover, while some self-regulatory strategies occurs automatically and without conscious awareness or thought, other situations activate conscious, deliberate control of behaviour.

5. Behaviour Transmutation

Recall that polygraph theory dictates that examinees will experience physiological arousal to questions posed during the polygraph test based on the fear of detection of deception. Arousal to the most aversive stimuli, therefore, is, to the polygraph examiner at least, an indication of deception to either the control or relevant issue as the case may be. Herein lies polygraph's fundamental flaw. Polygraph theory does not take into account the fact that arousal to questions (control or relevant) can be caused by a multitude of different reasons. Even "innocent" responses such as stress and fear to endure a polygraph test, as well as anger, shame, colds, headaches, phlegmatism, and neurological muscle problems could also cause arousal during the polygraph procedure.^[10] These authors also point out that individuals with a lack of conscience (e.g. antisocial personality disorder) will in all probability not be affected emotionally by polygraph questions and will, therefore, not show unique physiological responses. Consonant herewith some human attitudinal machinations and rationalisations used to camouflage bodily signals that can contaminate polygraph results are presented below as further evidence of polygraph's fear of detection of deception arousal contention imprudence.

5.1 Self-regulation

Self regulation theory is a social cognitive framework for understanding how people control their behaviour to steer away from undesired outcomes and towards desired goals. The desired goal for both liars and truth-tellers is to convince an interviewer that their statement is true. In general, people formulate goals, and use planning and self-regulatory strategies in order to reach desired goals^[6].

While some self-regulatory activity occurs automatically and without conscious awareness or thought other situations activate conscious, deliberate control of behaviour. Psychological research shows that self-regulatory strategies are evoked by threatening situations, especially

ones in which one lacks knowledge about a forthcoming aversive event. In line with self-regulation theory, it is reasonable to assume that liars and truth-tellers will view an upcoming polygraph examination as a potential threat - the threatening element being the possibility that one might not be believed by the examiner. Importantly, not knowing how much or what the interviewer knows may add to this threat.

A person attempting to avoid a threat and reach a particular goal will, under normal circumstances, have a number of self-regulatory strategies to choose from. The common objective of these strategies is to attempt to restore and maintain control in order to steer oneself toward the desired outcome^[16].

5.2 Self-enhancement and Self-esteem

Self-enhancement is a very important topic in different fields of psychology, including (but not limited to) social psychology and personality psychology. It can be seen as a universal human characteristic, which nonetheless shows interesting cross-cultural differences. Self-enhancement can be seen as an "umbrella" term, related, among others, to such phenomena as self-esteem, narcissism, self-serving attribution bias, entitlement and so on.^[6] Self-esteem refers to the positive (high self-esteem) or negative (low self-esteem) feelings that we have about ourselves. We experience the positive feelings of high self-esteem when we believe that we are good and worthy and that others view us positively. We experience the negative feelings of low self-esteem when we believe that we are inadequate and less worthy than others. Our self-esteem is determined by many factors, including how well we view our own performance and appearance, and how satisfied we are with our relationships with other people^[17]. Self-esteem is in some measure a trait that is stable over time, with some people having relatively high self-esteem and others having lower self-esteem. But, self-esteem is also a state that varies day-to-day and even hour-to-hour. When we have succeeded at an important task, when we have done something that we think is useful or important, or when we feel that we are accepted and valued by others, our self-concept will contain many positive thoughts and we will, therefore, have high self-esteem. When we have failed, done something harmful, or feel that we have been ignored or criticized, the negative aspects of the self-concept are more accessible and we experience low self-esteem.

5.3 Maintaining and Enhancing Self-esteem

Although people can be quite good at creating positive

self-esteem by doing positive things, it turns out that we often do not stop there. The desire to see ourselves positively is sometimes strong enough that it leads us to seek out, process, and remember information in a way that allows us to see ourselves even more positively. Research has confirmed this general principle - people often attempt to create positive self-esteem whenever possible, even if it involves distorting reality. We tend to take credit for our successes, and to blame our failures on others. We remember more of our positive experiences and fewer of our negative ones. We emphasize our positive characteristics, and we may even in some cases distort information - all to help us maintain positive self-esteem.

5.4 Positive Response Distortion

It is reasonable to presume that when faced with the prospect of undergoing a polygraph examination, applicants will frequently be motivated to create a good impression, i.e., one they believe to be more favourable and appropriate in order to “pass” the examination^[18]. Some individuals are likely to select and rehearse responses that reflect highly positive attributes, rather than providing factually accurate responses. This, according to Tooker, is known as positive response distortion^[9]. Others could quite feasibly believe, at least temporarily, their own exaggerations resulting in the deception aspect thereof featuring less prominently in the persons psyche. It is then seen as a necessary lie, and does not invoke the same amount of fear of detection of deception during credibility assessment. It is submitted that this drive/competitiveness dulls the fear and perception of deception and the person becomes more positively engaged/driven by, for example, the anticipation of securing a position/job, than negatively charged by the lie/s that need to be told. The polygraph examination is likely to be laced with positivism not apprehension per se as the person’s psychological set/atmosphere is entirely different to a situation where, for example, and by way of contrast, a criminal activity or serious breach of workplace fidelity is being investigated. The necessity of obtaining a job will override the fear that being caught out lying will hold for the individual, or at least this is the central thrust of this paper. Someone preparing for a job application polygraph will, in all probability, have a different mind-set/motivation to the one that is being subjected to a specific issue examination involving serious theft, or dismissible workplace impropriety. For example, a person who bolsters/exaggerates the truth is portraying his/her version of his/her competence and does not necessarily perceive this as lying, due to it being interpreted as the truth, although it could be exaggerated and tainted so to speak. They are accordingly, in their own minds, at

least, not lying per se. Quintessentially, the examinee is concluding that telling the complete truth about what they have done may be incompatible with the hiring preferences of the particular agency/company/institution to which he/she has applied. Positive response distortion thus arises when a person wants to present him/herself in a more favourable light – more favourable than what is true or actual. This would include “over-reporting basic virtues and underreporting faults”^[19]. Consonant with the foregoing, it is important to note that this form of response distortion is regarded as not always being conscious or a form of self-deceptive enhancement. It is in fact more recently, according to Pauhus and John viewed as form of bias, egoistic versus moralistic – in other words the person is intrinsically biased towards the positive aspects of him/herself and believes them to be accurate, making it very difficult to detect deception should such a person be subjected to a polygraph examination^[19]. Egoistic bias relates to a person exaggerating social and/or intellectual status, while moralistic bias speaks to social harmony and claims of “saint-like” attributes and “exaggerated agreeableness and dependability” that are applied to present a more socially agreeable image of complying with perceived external social perceptions^[19]. Any one or combination of these employed by an examinee could lead to a false positive or false negative finding in a credibility assessment test. According to Tooker, response distortion has been observed in job applications, completion of personal history statements, and during the pre-test interview of polygraph examinations, which are not unlike a job interview^[9]. This means that an honest or dishonest person that exaggerates the truth would either get away with the deception or be labelled deceptive as a false negative/positive, either way the results will be flawed and a measure of victimisation will be present.

5.5 Self-preservation

Much like response distortion self-preservation is related to the notion of social desirability whereby a person presents him/herself in a manner he/she believes is most attractive to society at large. Both are related in their goal to present an image that is perceived desirable for the situation^[9]. Self-preservation in the context of a person being subjected to a polygraph examination (who is inherently humble and timid) might want to present him/herself as respectful, yet bold and highly self-confident, i.e., more in line with the perceived attributes expected of them. In other words, self-preservation is the intentional capacity one has to convey those items in an image of him/herself, which he/she perceives meets the expectations or desires of the audience to whom the image is being presented^[20,21].

This appears to be a perfectly acceptable mechanism to apply during a polygraph examination in order to “pass”. The upshot hereof in the context of this paper is that a person feigning reality could fail or pass a polygraph erroneously due to the misaligned image they have of themselves generating a skewed polygraph result. In essence this form of behaviour adaptation involves the “overextension of factual information about oneself that may be false in order to protect the desired self-image”, priming the applicant for exaggerated self-presentation during a polygraph examination^[9].

5.6 Impression Management

When a heightened concern is placed on self-presentation, it subtly begins to bleed into the concept of impression management. Impression management is the (cognitive) process through which one manages information about his/herself so that he/she may be viewed in the way he/she would like to be viewed and can include elements of ingratiation^[22]. Exaggerated self-preservation involves image projection that is not real, and in which incongruent (dissimilar/contrasting) beliefs are adopted^[9]. It appears to not involve the extended adoption of incongruent beliefs, but only those with a transitory purpose, i.e., however long it takes to get through the polygraph examination - fleeting or situational appearance. Research by Carlson, Carlson and Ferguson (2011) found that impression management, as part of organisational behaviour, which includes job-seeking, likely embraces deceptive acts. These authors in fact postulate that motivation to enhance impression management with deception is strongly related to situations in which successful impression management is likely to result in substantial yield to the individual. By way of example, the stakes for desired jobs (as perceived by an individual) can be high and the motivation to exercise every possible advantage arise, to some extent from the limited availability and competitiveness for jobs, even in propitious economic times, crafting an enormously competitive market. The use of deception in impression management realises two specific possibilities, i.e., the applicant is a liar by nature or the applicant is only lying to get the job. Quite understandably there is deceptive practice, which is not desirable in a position of publicly and assumed integrity. However, as most things are proportional and can be viewed circumstantially, it beggars the question whether there is perhaps a degree to which lying is acceptable? It is quite possible, therefore, that even those individuals who are normally of a high integrity and honesty may engage in deception alongside those who do not adhere to these traits/ideals quite so much. In the case of the latter the lie is an instrument, not a character trait

to gain something intensely desired. This manifestation of self-salience is, however, to be expected – the individual may perceive deception (temporarily) necessary to achieve his/her goal - a noble goal perhaps held by a noble person.

5.7 Narcissism

Although not intentional transmutation behaviour per se, narcissism is a personality trait characterised by overly high self-esteem, self-admiration, and self-centeredness. Narcissists tend to believe that they are more likable and attractive, have better relationships, and make better impressions on others than people with low self-esteem. But objective measures show that these beliefs are often distortions rather than facts. The self the narcissist imparts to the world is curated and edited, presenting their meant-for-the-public selves by only highlighting relevant parts, illuminating why the narcissist is blissfully unconcerned with being found out^[23].

The current theory is that all of the narcissist’s behaviours are unconsciously motivated and driven by a wound that fills her with shame and that she hides from the world; hiding that damaged part of herself leads her to self-aggrandize and exaggerate her talents, prowess, and almost everything else. Seen in that way, lies - or hiding the truth - are central to the narcissist’s identity. Of course, she doesn’t see it that way because all of her experiences are filtered through the hidden image; instead, she will see it as her truth. Someone who has Narcissistic Personality Disorder doesn’t have the same kind of decency or basic morals when it comes to telling the truth. Narcissism is one of the personality disorders categorized as Cluster B - according to the DSM-IV and DSM-5^[24]. It is a mental condition in which people have inflated senses of their own importance, a deep need for attention and admiration, troubled relationships, and a complete lack of empathy for others. The narcissist is stripped of empathy, remorse and guilt. There is literally nothing to stop them from forming lies in their heads or actually saying them out loud. They lack the moral compass to guide them toward good and decent behaviour^[24, 25]. It would, therefore, be naïve to expect the narcissist to experience arousal based on polygraph’s fear of detection of deception doctrine.

Nothing is off-limits, especially when lying can serve their interests and if they think they can profit from omitting or altering the truth. In addition, the narcissist is thriving on drama, rejoicing when there is emotional chaos, and risking being caught is giving her even more motivation to craft a better, more artistically fabricated lie. They need to control what happens around them, who does what, who reacts how to their presence or absence.

Lies are ensuring them to stay in control, by making them seen better than they are, by altering the power dynamics and ensuring always the upper hand.^[25] Also, lies allow escaping responsibility - which would cause any other decent human being to refrain from positioning themselves falsely. The narcissist knows that there are consequences to her actions, but she chooses not to be bothered about them in general. They refuse culpability by telling lies - small ones and big ones. The positive outcome from lying is so significant compared to any negative consequence, that they are compelled to lie frequently, so it becomes a habit^[24]. They get so used to lying that telling the truth becomes the uncomfortable rare event making the establishment of emotional salience in preparation for a polygraph examination an almost impossible task.

Lying comes easily and they become so good at it, that it takes a very seasoned, unbiased and suspecting individual to spot it once it's told with utmost conviction. If the truth is not meeting the needs of the narcissistic, then there is nothing else to do but to modify it. The truth is a lot less important than their entitlement, their need for being loved, admired, and validated. At a certain point, they fail to see the world as it is, they only see it through their distorted perceptions - either letting go of reality completely or by choosing to see it in its fabrication^[24]. Under such conditions it is highly unlikely that a psychological set will be established appropriately by a polygraph examiner (irrespective of his/her competence) and even more unlikely that polygraph results will be of any value.

6. Examiner Aptitude

When dealing with the establishment of emotional salience and the potential for human behaviour transmutation, the inclusion of examiner competence (read incompetence) further muddies the waters. The appointment of a polygraph examiner is usually based on service providers' marketing claims and pricing. The frequently polygraph illiterate consumer has little or no way of scrutinising the polygraph service provider's credentials and an appointment is usually based on "face value" or referrals. Polygraph examiners, on the whole, do not disclose their polygraph test charts to clients, and even if they did, the consumer would not know how to interpret them. There is thus, after the fact, no way of telling how good or not the tests were as the report and/or charts do not in any way reflect competence (to the untrained eye).

Consonant herewith, Raskin states that one of the major deficiencies with polygraph examinations is the lack of adequate training in physiology, psychology, and scientific methodology^[26]. As a result many examiners are unaware of the basic principles of interviewing techniques with

regard to establishing the ideal psychological atmosphere for each subject, the sophistications and subtleties of question formulation, and their introduction to the subject and administration of the test. These problems indicate an oversimplified inattentiveness to the role of personality factors and effusive processes. According to Amsel, polygraph examiners must have the technical propensity plus a sense of pliancy in order to adjust and react to the continuously changing conditions of polygraph tests^[27]. An examiner should have the same productive and successful interpersonal communication with a teenager as they do with an elder adult. They should be as sentient with an uneducated examinee as they are with a university professor or a CEO. Effective examiners must be able to adapt to a variety of topics and many different types of cases. Regrettably these are usually inherent traits which might not present in many examiners and is really something, besides not being taught, that cannot be taught. Anecdotal evidence suggests many polygraph examiners are merely "polygraph technicians" who rigorously follow protocol and operate a machine with a predetermined sequence - they display little discretion or flexibility as an essential commodity - realising application difficulties when dealing with unique individuals *in situ* and not merely "text book" actors^[27].

These "technicians" follow a set of predefined, step-by-step rules and procedures dutifully despite the uniqueness of the situation or actual examinee. Even more distressing states Amsel, is the frequent lack of adequate training in the basic psychophysiology of the response measures and the interpretation of polygraph charts^[27]. The failure to stay abreast of and use the best available techniques and the lack of familiarity or willingness to acknowledge (engage with) the scientific literature vis-à-vis accuracy rates and risks of errors has resulted in rash statements and flagrant mistakes. This can do great harm in both the criminal justice and public arena. Human beings are prone to making errors, however much we loathe doing so, and when we make them we feel bad about ourselves, and we look less than capable to the rest of the world. When polygraph examiners make mistakes, the results can sometimes be quite somber, even deleterious, for examinees.

7. Discussion

This article was designed to draw the reader's attention to the necessity of considering the context of human behavioural adaptation strategies in evaluating polygraph's claims that the establishment of emotional salience (with an examinee) will result in psychophysiological arousal when faced with aversive stimuli. The simple premise of a polygraph test is that when an examinee attempts decep-

tion, their state of physiological arousal will be altered. This argument is based on the successful establishment of emotional salience with the examinee and that he/she will be primed to psychophysiological arousal due to “fear of detection of deception”. As shown above, this is a highly contentious assumption and one that can be regarded as truly fallacious.

There is no certainty about whether the emotional salience, required by the polygraph test, has in fact transpired as expected. Behavior adaptation, intentional or unintentional, plays a pivotal role in producing certain arousal, which in many cases will have nothing to do with whether emotional salience has been establishment or not. Nobody can claim, and there is certainly no evidence, that prevarication produces a unique physiological reaction. Autonomic activity is multi-determined, and the polygraph paradigm fails to control for alternative explanations for arousal as outlined in this article.

8. Conclusion

The foregoing exposition serves to disambiguate polygraph’s contention that physiological arousal during a polygraph examination occurs solely due to fear of detection of deception embedded during the pre-test phase of the polygraph procedure. Polygraph examinations often foist people into situations that facilitate the invocation of necessity driven Machiavellian traits allowing them to, often effortlessly, skirt uncomfortable or potentially disadvantageous issues. Criminal justice agencies, industry and civil society alike, need to, henceforth, endorse a flexible process during diagnostic integrity endeavors, and not rely solely on vacuous polygraph results to make veracity decisions. It is crucial to realise that the human psyche is diverse and that people can execute adaptive strategies in the face of perceived challenges to goals, including responses in preparation for potentially harmful events. This review should be judged, not only on how it offers some food-for-thought, but more importantly by the questions that it generates paving the way, together with other literature on the matter, for future studies on polygraph theory and advanced scholarship in this contested space.

References

- [1] Herbig, F.J.W. Polygraph Screening in the South African Workplace: Veracity Verification or Victimisation? *Acta Criminologica*, 2018, 31(1): 54-67.
- [2] Kwiatkowska, A. How Do Others Deceive? Cultural Aspects of Lying and Cheating. Available at: https://www.academia.edu/33668285/How_Do_Others_Deceive_Cultural_Aspects_of_Lying_and_Cheating.
- [3] Hesselink, A.E., & Herbig, F.J.W. Polygraph Potential in South African Corrections: in Pursuit of Reform, Reintegration and Recidivism Reduction. *Acta Criminologica*, Special Edition, 2015, 2: 94-105.
- [4] Lewis, J.A., & Cuppari, M. The polygraph: The truth lies within. *Journal of Psychiatry and Law*, 2009, 37(1): 85-92.
- [5] Grubin, D. The Polygraph and Forensic Psychiatry. *Journal of the American Academy of Psychiatry and the Law*, 2010, 38(4): 446-451.
- [6] Saxe, L. Science and the CQT Polygraph. A Theoretical Critique. *Integrative Physiological and Behavioural Science*, 1991, 26(3): 223-231.
- [7] Reinach, L., & Louw, D.A. The Relationship Between Anxiety And Polygraph Results. *Acta Criminologica*, 2002, 15(3): 56-67.
- [8] Memon, A., Vrij, A., & Bull, R. *Psychology and Law: Truthfulness, accuracy and credibility*, London: McGraw-Hill, 1998.
- [9] Tooker, J.L. The relationship between integrity and personality in law enforcement applicants, 2012, *Polygraph*, 41(4): 209-220.
- [10] Vrij, A. *Detecting lies and deceit: The psychology of lying and the implications for professional practice*, New York: John Wiley & Sons, 2000.
- [11] Wallace, J. *Lying. The Ethical Spectacle*. (2000). Available at www.spectacle.org, accessed on 25 November 2019.
- [12] Gozna, F. G., Vrij, A. & Bull, R. The impact of individual differences on perceptions of lying in everyday life and in a high stake situation. *Journal of Personality and Individual Differences*, 2001, 31: 1203-1216.
- [13] Mars, G. *Cheats at work: an anthropology of workplace crime*, 1982, London: George Allen & Unwin Ltd.
- [14] Carrabine, E., Cox, P., Fussey, P., Hobbs, D., South, N., Thiel, D. & Turton, J. *Criminology. A sociological introduction*. (Third edition), 2014, London: Routledge.
- [15] Handler, M., Shaw, P. & Gougler, M. Some Thoughts about Feelings: A Study of the Role of Cognition and Emotion in Polygraph Testing. *Polygraph*, 2010, 39(3): 139-154.
- [16] Raskin, D.C., Honts, C.R., & Kircher, J.C. *Credibility Assessment. Scientific Research and Applications*, Academic Press, Oxford, 2014.
- [17] Tafarodi, R.W., & Swann, W.B. Self-liking and self-competence as dimensions of global self-esteem:

- initial validation of a measure, *Journal of Personality Assessment*, 1995, 65(2): 322-342.
- [18] Schmidt, J. A. & Ryan, A. M. The Big Five in personnel selection: Factor structure in applicant and nonapplicant populations. *Journal of Applied Psychology*, 1993, 78: 966-974.
- [19] Detrick, P., Chibnall, J.B. & Call, C. Demand effects on positive response distortion by police officer applicants on the revised NEO Personality Inventory. *Journal of Personality Assessment*, 2010, 92(5): 410-415.
- [20] Schlenker, B. R., & Weigold, M. F. Self-identification and accountability, in *Impression Management in the Organization* (Edited by Robert Giacalone & Paul Rosenfield), New Jersey: Lawrence Erlbaum Associates, 1989.
- [21] Kassin, S., Fein, S., & Markus, H. R. *Social Psychology* (7th Edition), Belmont, CA: Wadsworth Cengage Learning, 2008.
- [22] Snyder, M., & Copeland, J. Self-monitoring processes in organizational settings, in *Impression Management in the Organization* (Edited by Robert Giacalone & Paul Rosenfield), New Jersey: Lawrence Erlbaum Associates, 1989.
- [23] Cai, H., Kwan, V.S.Y., & Sedikes, C. A Sociocultural Approach to Narcissism: The Case of Modern China. *European Journal of Personality*, 2012, 26: 529-535.
- [24] Baumeister, R.F., Smart, L., & Boden, J.M. Relation of Threatened Egotism to Violence and Aggression: The Dark Side of High Self-Esteem, *Psychological Review*, 1996, 103: 5-33.
- [25] Bizumic, B., & Duckitt, J. "My Group Is Not Worthy of Me": Narcissism and Ethnocentrism, *Political Psychology*, 2008, 29(3): 437-453.
- [26] Raskin, D. Science and the Polygraph Profession. *APA Magazine*, 2015, 48(2): 25-28.
- [27] Amsel, T.T. Where There is Doubt, There is Freedom. *APA Magazine*, 2015, 48(2): 32-34.