Research Paper

Detection of Deception through Eye Detect System (EDS)

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ABSTRACT

The purpose of the present study was to investigate the efficiency of the detection of deception tool Eye Detect System (EDS) in identifying different types of deceptions. In this study, a sample of 18 participants aged between 18 to 60 years including 9 males and 9 females who had studied English at least till class 12 were taken. They were divided into 3 groups namely Group A (lying group), Group B (misleading group) and Group C (truthful group) randomly. Group A was made to commit the mock cybercrime but were instructed to deny the same while taking the EDS test. Group B was given a written report with screenshots along with its screen recording of the mock cybercrime and they were instructed to admit committing the cybercrime while taking the EDS test. Group C were only given a written report with screenshots of the mock cybercrime and were instructed to be truthful while taking the EDS test. And then their data was recorded on the Eye Detect System using the Direct Lie Comparison Test (DLCT) type. The data analysis was done using Kruskal Wallis (H) test and Dunn Test. The finding of the present study showed that the detection of deception tool Eye Detect System is efficient to differentiate between the different types of deceptions. From the present study, it can be concluded that the detection of deception tool Eye Detect System is efficient in detecting types of deception, as there is limited research in this field, there is scope for more research in this field and prevent innocent people getting punished due to false confessions under pressure or otherwise.

Keywords: *Eye Detect System, Detection of Deception, Cybercrime, White Collar Crime, Forensic Psychology, Justice, False Confession.*

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eception means any act or statement that misleads, hides the truth, or promotes a belief, concept, or idea that is not true. It is often done for personal gain or advantage. Lying is the most common form of deception. The American Psychological Association defines deception as "any distortion or withholding of fact with the intent of misleading others." Deception is "an act that is intended to foster in another person a belief or understanding which the deceiver considers to be false." (Krauss RM, 1981). Deception in the context of Forensic Psychology refers to when an individual attempts to avoid the legal consequences of his or her inappropriate act or behaviour.

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Detection of deception in the Forensic Psychology field is related to the investigation of the accused person to determine whether an individual is truthful or not.

In the 19th century, phrenology and graphology were used for deception detection. It could be inferred that the physiological basis has been used to detect deception since ages. It is believed that one's mouth becomes dry, body temperature decreases; heart rate increases etc while the person is deceiving. Some other physiological changes believed to occur while being dishonest are changes in respiration pattern, skin conductivity, pupil dilation, pitch, shaking etc. Candida Peterson in his research "Deception in Intimate Relationships" (2010) has mentioned about six types of deceptions- they are: Omission, Distortion, Half-truths, White lies, Blatant lies, Failed lies. In 1996, Buller and Burgoon proposed three types of motivation for deception in their interpersonal deception theory. There are: Instrumental: to avoid punishment or to protect resources, Relational: to maintain relationships or bonds, Identity: to preserve one's "face" or the self-image. False confession is also a form of deception. Ofshe and Leo had modified Kassin and Wrightsman typology and made it into five types of false confession. They were voluntary, stress-compliant, coerced compliant, coerced-persuaded, and non-coerced-persuaded. (Ofshe and Leo).

In Forensic Psychology, Detection of deception is done with various assessments tools. They are divided in to Psychological (Interview, Non-verbal detection, Statement assessment, Hypnosis, Psychological assessment), Physiological (Adoptive profiling system, Voice stress analyzer, Lie detector, Thermal imaging) and Neurological (Brain Electrical Oscillation Signature Profiling System, Functional Magnetic Resonance study) based tools.

Eye Detect System (EDS)

Professor John C. Kircher and David C. Raskin, after developing a computerised polygraph system, felt that there was a need for a new lie detection method to complement the polygraph. In 2002, John C. Kircher and his colleague Doug Hacker came up with the thought that changes in the eye movements and pupil size while reading and answering crime-related questions would reveal deception. Thus, the idea of an Ocular-Motor deception (ODT) test was born, which is now known as Eye Detect. In 2003, Professors Kircher and Hacker created a team with Anne Cook and Dan Woltz. And together, they started the work on producing and validating an ODT solution. In 2014, the test was developed with the name Eye Detect System (EDS) under the company Converus Inc. and the field has been more cultivated.

The Eye Detect System (EDS) is an Ocular-Motor Deception Test (ODT). EDS focuses on involuntary eye movements like pupil dilation, blinking, fixation, reading behaviour, cognitive workload, error rate, response rate, involuntary deception cues, etc. It uses an infrared system and a complex algorithm to detect deception. When the brain and eyes respond to deception, the greater the consequences of the lie, the greater the cognitive load. This has an effect on eye behaviour. After conducting the test, the result is received in the form of credible or not credible which is based on how honest one is during the EDS test.

Fig 1: Detailed picture of EyeDetect Station Parts

The EDS instrument includes a monitor, mouse, Intel NUC mini-PC, web camera, eye tracker, chin rest, headphones, keyboard, and a carry bag. The test appears on the monitor screen, the mouse is used to answer the presented statement as true or false. Web camera and infrared camera/ eye tracker is used to record the eye behaviour. To get credible results, the EDS should be set in a particular fashion - desk depth of at least 80 cm, and the distance between eye tracker and eyes should be between 55 to 60 cm for eye tracker to record the eye behaviour appropriately. The room should be clean, isolated, and distractions-free.

In 2016, in an article of European Polygraph Journal, the accuracy rate of EDS is reported as 86%, which is 0.89 of true negative and 0.83 of true positive and no inconclusive result. This test is non-intrusive in nature, which means it does not cause any harm to the target/test taker. Hence, it protects human rights. It is both an economical and time-saving test as the test takes around 30 minutes and the result is auto-generated. This is also the reason this test is minimally biased and difficult to manipulate. It is easy for the administrator to administer the test, as well as easy for the participant to give the data. It is a language-fair test. To conduct this test, no special permission is required from the court of law.

There are three types of tests used in EDS. They are
1. **Relevant Comparison Test (RCT):** It is a screening test and it has one relevant and 1 secondary issue. It has an accuracy rate of 86%. The total time required for the test is 30 minutes, and there are a total of 318 questions with response times of 3 to 5 seconds. Some common relevant issues are stealing, drug use, serious crime, bribes etc. The test format is- pre-test instructions are followed by two short practice sessions that are used to familiarize the examinee with the testing process. For better test results, it is important that the examinee become familiar and comfortable with the testing process during a practice test rather than during the "real" test.
2. **The Multi-issue Comparison Test (MCT):** It is also a screening test but it has 2 to 3 relevant and one secondary issues. It has an accuracy rate of 88%. The total time required for the test is 30 minutes, and there are a total of 280 questions with a response time of 3 to 5 seconds. In this type of test, after pre-test instructions two short practice sessions that are used to familiarize the examinee with the testing process for a better result.
3. **The Direct Lie Comparison Test (CLDT):** It is a diagnostic test with one relevant and one secondary issue or direct lie questions. It has an accuracy rate of 90%. The total time required for the test is 15 minutes, and there are a total of 66 questions with a response time of 3 to 5 seconds. In the case of the DLC test, the Comparison questions consist of a series of directed lie questions. These are questions where the test taker is instructed to lie when asked/presented with a certain type of questions. The pre-test instructions are followed by short practice sessions that are used to familiarize the examinee with this new type of questions.

The types of questions presented to the examinee can be divided into 3 categories:
1. **Comparison questions:** These are questions where the participant has to lie by default. Example: In my entire life as an adult, I have never lied to my parents, in my entire life as an adult; I have never eaten unhealthy food.
2. **Relevant questions:** These are questions directly related to the present crime. Example: I have stolen the gold ring from XYZ Jewellery Shop; I haven't stolen the gold ring from XYZ Jewellery Shop.

3. **Neutral or irrelevant questions;** These are questions with no relation with the testing issue. Example: Questions about math, such as 2 + 5 = 9, and general knowledge, such as India's capital is Delhi.

Scoring in EDS: Logistic regression is the science behind the credible score of EDS. Logistic regression is a process of modelling the probability of a discrete outcome given an input variable. (Edgar and Manz, 2017). The Scores from 50 to 99 are considered Credible and scores from 1 to 49 are considered Not Credible. The closer the Converus Credibility score is to 1, the greater the probability of deception. On the contrary, the closer to 99, the more likely it is the person is telling the truth. But a 55 and a 95 are considered "passing" scores while a 5 and a 45 are considered "failing" scores. Essentially, a score of 51 is as good as a score of 99.

EDS is a modernized detection of deception tool. And the instrument was made considering that nowadays everyone has a basic knowledge of computers and education. Therefore, a certain level of education is required for this test. Hence, the researcher has chosen a white-collar crime (cybercrime) for the present study which usually involves educated people.

METHODOLOGY
Hypothesis
- Null Hypothesis (H0): There is no significant difference in detection of types of deception by EDS in between groups A, B and C.
- Alternative Hypothesis (Ha): There is significant difference in detection of types of deception by EDS in between groups A, B and C.

The present research is an Experimental Research with 3 groups. Group A and Group B are experimental groups and Group C is the control group. The nature of the measurement of the data suggests that the required statistical measures could be non-parametric statistical tests. For the present research, samples were selected by simple random sampling which is a basic probability sampling method. 9 Males and 9 females within the age range of 18 to 60 years who had studied English till class 12 and are fluent in reading and understanding English. They were distributed into 3 groups 1. Exposure to stimulus with instruction to lie. -Group A, 2. No exposure to stimulus with instruction to lie. -Group B & 3. No exposure to stimulus with instruction to tell the truth. -Group C. Each group consists of 6 participants (3 males and 3 females). Therefore, total no. of participants will be 18. The ratio of male: female will be 1:1.

Procedure and Data Collection
The researcher for the present study divided the sample into three groups. Each group consisted of six participants, three males and three females. Groups will be named Group A, Group B, and Group C as mentioned in operational definitions. A mock crime scenario was set up in the Physics Division and the participants of Group A were asked to morph a picture and then upload a specific Facebook account. The Facebook ID and password was written in a small notebook and kept anywhere on the computer table. They had to edit the picture, find the notebook and upload it to their assigned Facebook account. Group A was instructed to deny the crime and also to say no to confession when asked by researcher.

Group B were not directly involved in any of this process. They were given a written report along with screenshots of the mock cybercrime. After that they were shown a screen recording of the mock cybercrime. They were instructed to lie about being involved with

mock cybercrime even if they weren't and to confess when researcher asked them. Group C were only given the written report along with screenshots of the mock cybercrime, they were instructed to be truthful while giving the data and confession when researcher asked them about the same.

The written report and screenshots were kept the same for both Group B and Group C. The researcher then collected volunteers who were willing to give the data. The research explained about the present experiment and what were expected to be done. The researcher contacted around 21 volunteers who were willing to give data.

The researcher created a set of questionnaires. The questions were the same for both scenarios except for the date and time of the mock cybercrime. The instructions were given to the three groups respectively. The questionnaire for Group B and Group C consisted of information about the mock cybercrime that took place on 18th May 2022 at CFSL, Kolkata between 11:40 to 12 noon. And for Group A date and time changed according to subject. Picture shows instructions for Group B and C.

The participants were called randomly according to their availability. The researcher made them choose a chit. These chits consisted of the names of the 3 groups. This was done by the researcher to avoid biases. After that researcher asked the participants to give their consent by signing the consent form. Mental Status Examination (MSE) was administered on the participants. Only in case of Group A, the researcher gave the participants consent to edit the pictures by signing the forms. Then they were given instructions according to the group. (Instructions are enclosed as annexure I) Each group had two phases, the first phases was either doing the mock cybercrime or reading reports, watching screen recording or seeing screenshots of the same. And the second phase was taking the test.

After the instructions, phase I was conducted, which were editing a picture and uploading for group A, reading the written report and watching the screen recording for group B and reading the report and seeing the screenshots for group C. While the participants were conducting phase I, researcher set up everything for phase II. Some samples of morphing are attached as annexure II.

After completion of phase I, 5 minutes break was given to the subject. Then they were made to sit on the instrument and it was set accordingly. First and foremost, it was checked if EDS was connected properly. Then they were asked to keep their chin on the rest and telemetry checked if the position was ok. Thirdly, it was checked if the instrument is calibrated by focusing the eye on the red dots and shifting as it is presented. After checking the validity and filling up some required information. The test was conducted.

The calibration values should be between 0.5 to 1.5 to be valid. Which means the instrument could   record one's eye movement and reading behaviour. Both the eyes' functions were checked here. Here basic information about the participants was recorded like gender, age, qualification; along with a picture if they are comfortable was also clicked. This information was required for the results.

Fig.: participants doing telemetry and calibration

The participants were made to sit comfortably with their chin on the chin rest and then the telemetry and calibration were conducted. All the instructions were prepared by the researcher and were displaced on the screen before the actual test started. The questionnaires contained three types of questions. One were the relevant questions that were questions about the mock cybercrime. The second type were neutral questions, they were simple math questions. And the third types of questions were 'directed to lie' questions. These were questions where the participants had to lie on purpose. These questions started with "in my entire life as an adult". These questions were presented randomly by the algorithm.

The test starts with instructions followed by a practice session of direct lie questions. The practice would keep repeating till it was able to record the required response for lying. Once an adequate response for lying was recorded, the test started asking questions in a random order. All the questions were true- false type. The questions are repeated in 3 sets with 15 seconds break in between. After each break the test checks the positioning automatically. After completion of the test, the data was saved and the result was generated automatically. After completion of the EDS Test as per the assigned group, each participant was debriefed about the complete research study. Then they were asked about any question they had about the test, and were given explanation about the same, if any, and were enquired about experience throughout the research study.

RESULT AND DISCUSSION

According to Table 1, the results for Group A, Group B and Group C. These results are auto-generated by the instrument. The respected results for Group A were indeterminate, inconclusive or non-credible deceptive. The results were indeterminate, inconclusive for four participants and non-credible deceptive for two participants. Further discussing the data on the basis of gender, for the three females the result came as indeterminate inconclusive and for the males, one result came as indeterminate inconclusive and the other two came as non-credible deceptive. Hence, we can say group A data was consistent with the expectations. The expected results for Group B, were non credible confession or non-credible deceptive. The final result came as a non-credible confession for six participants. Further discussing the data on the basis of gender, for both three male and three female participants the result came as a non-credible confession. Hence, we can say group B data was consistent with the expectations. For Group C data, the expected data was credible and truthful. For all the six participants, the result was credible and truthful. Based on gender, both three male and three female participants the result came out as credible truthful. Hence, we can say group C data was consistent with the expectations. The data was consistent with the expectations.

Table 1: results arranged gender wise.

GROUP	NAME	SEX	AGE	QUALIFICATION	RESULT	RESULT	DATE
	SM	FEMALE	29	PG	INDETERMINATE	INCONCLUSIVE	20.05.2022
	PB	FEMALE	28	PG	INDETERMINATE	INCONCLUSIVE	24.05.2022
	SK	FEMALE	27	PG	INDETERMINATE	INCONCLUSIVE	01.06.2022
	DD	MALE	33	PG	INDETERMINATE	INCONCLUSIVE	25.06.2022
A	KS	MALE	36	Phd PURSUING	NOT CREDIBLE	DECEPTIVE	07.06.2022
	SB	MALE	29	PG	NOT CREDIBLE	DECEPTIVE	07.06.2022
	EXPECTED	INDETERMINATE OR NOT CREDIBLE	INCONCLUSIVE OR DECEPTIVE				
	DSM	FEMALE	26	PG	NOT CREDIBLE	CONFESSION	20.05.2022
	KY	FEMALE	30	PG	NOT CREDIBLE	CONFESSION	19.05.2022
	SSD	FEMALE	27	PG	NOT CREDIBLE	CONFESSION	26.05.2022
	AR	MALE	27	PG	NOT CREDIBLE	CONFESSION	01.06.2022
B	CB	MALE	51	HS	NOT CREDIBLE	CONFESSION	02.06.2022
	KKD	MALE	45	GRADUATION	NOT CREDIBLE	CONFESSION	02.06.2022
	EXPECTED	NOT CREDIBLE OR NOT CREDIBLE	CONFESSION OR DECEPTIVE				
	KN	FEMALE	29	PG	CREDIBLE	TRUTHFUL	20.05.2022
	AS	FEMALE	24	PG	CREDIBLE	TRUTHFUL	30.05.2022
	SS	FEMALE	24	PG	CREDIBLE	TRUTHFUL	30.05.2022
C	ORW	MALE	35	GRADUATION	CREDIBLE	TRUTHFUL	25.05.2022
	SB	MALE	51	GRADUATION	CREDIBLE	TRUTHFUL	02.06.2022
	TKG	MALE	33	Phd	CREDIBLE	TRUTHFUL	07.06.2022
	EXPECTED	CREDIBLE	TRUTHFUL				

Fig 2: A screenshot of Group B female participant result.
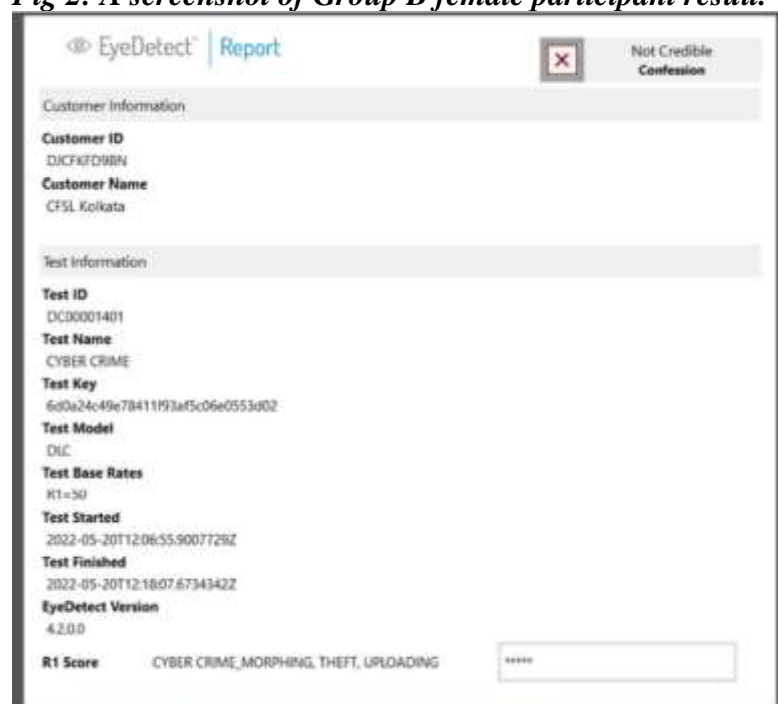
Data Analysis

The data and result were in qualitative form. For quantified by coding. As we can see in table 2, the researcher came up with the coding accordingly. In table 2, it can be seen that the researcher has coded as follows.

Table 2: converted qualitative data to quantitative.

GROUP	NAME	SEX	AGE	QUALIFICATION	DATE	RESULT
A	SM	FEMALE	29	PG	20.05.2022	1
	PB	FEMALE	28	PG	24.05.2022	1
	DD	MALE	33	PG	25.06.2022	1
	SK	FEMALE	27	PG	01.06.2022	1
	KS	MALE	36	Phd PURSUING	07.06.2022	2
	SB	MALE	29	PG	07.06.2022	2
	EXPECTED	INDETERM	INCONCLUSIVE			
		OR	OR			
		NOT CRED	DECEPTIVE			
B	DSM	FEMALE	26	PG	19.05.2022	3
	KY	FEMALE	30	PG	20.05.2022	3
	SSD	FEMALE	27	PG	26.05.2022	3
	AR	MALE	27	PG	01.06.2022	3
	CB	MALE	51	HS	02.06.2022	3
	KKD	MALE	45	GRADUATION	02.06.2022	3
	EXPECTED	NOT CRED	CONFESSION			
		OR	OR			
		NOT CRED	DECEPTIVE			
C	KN	FEMALE	29	PG	20.05.2022	4
	ORW	MALE	35	GRADUATION	25.05.2022	4
	AS	FEMALE	24	PG	30.05.2022	4
	SS	FEMALE	24	PG	30.05.2022	4
	SB	MALE	51	GRADUATION	02.06.2022	4
	TKG	MALE	33	Phd	07.06.2022	4
	EXPECTED	CREDIBLE	TRUTHFUL			
	index					
INDETERMINATE INCONCLUSIVE=1						
NOT CREDIBLE DECEPTIVE =2						
NOT CREDIBLE CONFESSION =3						
CREDIBLE TRUTHFUL =4						

The result was nonparametric with three groups. To check the significance, difference the researcher had used the Kruskal Wallis (H) test. The three assumptions are met, hence Kruskal -Wallis has been used in this study. The assumptions are:

- **Independence** – each group should be independent from the others
- **Sample size** – each group must have a sample size of 5 or more.
- **Ordinal Variables** – the variable in question should be ordinal or continuous i.e., have some kind of hierarchy to them (reference)

Table 3: data ranked in ascending order

GROUP	NAME	SEX	AGE	QUALIFICATION	DATE	RESULT	Ranks
A	SM	FEMALE	29	PG	20.05.2022	1	2.5
	PB	FEMALE	28	PG	24.05.2022	1	2.5
	DD	MALE	33	PG	25.06.2022	1	2.5
	SK	FEMALE	27	PG	01.06.2022	1	2.5
	KS	MALE	36	Phd PURSUING	07.06.2022	2	5.5
	SB	MALE	29	PG	07.06.2022	2	5.5
	EXPECTED	INDETERM	INCONCLUSIVE				
		OR	OR				
		NOT CRED	DECEPTIVE				
B	DSM	FEMALE	26	PG	19.05.2022	3	9.5
	KY	FEMALE	30	PG	20.05.2022	3	9.5
	SSD	FEMALE	27	PG	26.05.2022	3	9.5
	AR	MALE	27	PG	01.06.2022	3	9.5
	CB	MALE	51	HS	02.06.2022	3	9.5
	KKD	MALE	45	GRADUATION	02.06.2022	3	9.5
	EXPECTED	NOT CRED	CONFESSION				
		OR	OR				
		NOT CRED	DECEPTIVE				
C	KN	FEMALE	29	PG	20.05.2022	4	15.5
	ORW	MALE	35	GRADUATION	25.05.2022	4	15.5
	AS	FEMALE	24	PG	30.05.2022	4	15.5
	SS	FEMALE	24	PG	30.05.2022	4	15.5
	SB	MALE	51	GRADUATION	02.06.2022	4	15.5
	TKG	MALE	33	Phd	07.06.2022	4	15.5
	EXPECTED	CREDIBLE	TRUTHFUL				
	index						
INDETERMINATE INCONCLUSIVE=1							
NOT CREDIBLE DECEPTIVE =2							
NOT CREDIBLE CONFESSION =3							
CREDIBLE TRUTHFUL =4							

The result has to be ranked in ascending order to proceed with Kruskal Wallis. In Table3, the ranks given are shown. The sum was done following the H formula

$H=12/N(N+1) \sum i=1kR2i/ni-3(N+1)$

Where,

K is the Kruskal-Wallis test statistic which approximates to the χ2 distribution for values of ni greater than 5,

N is the total number of observations across all groups, Si is the sum of ranks of observations in the ith sample, ni is the number of observations in group i.

Table 4: SPSS table consisting of H value and summary of hypothesis.

➡ **Nonparametric Tests**

[DataSet1]

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. [a,b]	Decision
1	The distribution of RESULT is the same across categories of GROUP.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.

a. The significance level is .050.
b. Asymptotic significance is displayed.

Independent-Samples Kruskal-Wallis Test

RESULT across GROUP

Independent-Samples Kruskal-Wallis Test Summary

Total N	18
Test Statistic	16.541[a]
Degree Of Freedom	3
Asymptotic Sig.(2-sided test)	<.001

a. The test statistic is adjusted for ties.

The calculation was done in SPSS. The value of H was 16.541 with df 3. Value at 0.001 level of significance was 13.816. Therefore, H is greater than α. Hence, null hypothesis is rejected. There it could be said that the deception tool EDS is efficient to differentiate between different types of deception.

Table 5: it shows comparison between three groups in SPSS in Kruskal Wallis test.

Pairwise Comparisons of GROUP

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
A-B	-6.000	2.951	-2.034	.042	.252
A-	12.000	5.520	2.174	.030	.178
A-C	-12.000	3.095	-3.878	<.001	.001
B-	6.000	5.520	1.087	.277	1.000
B-C	-6.000	3.095	-1.939	.053	.315
-C	.000	5.598	.000	1.000	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 6: this shows comparison between groups using Dunn test in SPSS.

RESULT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
1	6	1.33	.516	.211	.79	1.88	1	2
2	6	3.00	.000	.000	3.00	3.00	3	3
3	6	4.00	.000	.000	4.00	4.00	4	4
Total	18	2.78	1.166	.275	2.20	3.36	1	4

Post Hoc Tests

Multiple Comparisons

Dependent Variable: RESULT
Dunnett t (2-sided)[a]

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1	3	-2.667[*]	.172	<.001	-3.09	-2.25
2	3	-1.000[*]	.172	<.001	-1.42	-.58

*. The mean difference is significant at the 0.05 level.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Dunn test was done by the researcher for a post hoc test in SPSS. The Group A and Group B are experimental groups and Group C is a control group. Therefore, Group A and Group B are compared with Group C respectively. There is a significant difference between group A and group C but there was no significant difference between group B and Group C.

DISCUSSION

The objective of the present research was to study the efficiency of the deception tool Eye Detect System in identifying different types of deceptions. The data collected from all three groups reveals that the EyeDetect System (EDS) was able to differentiate between deception types (lying and misleading) and truthful participants. Hence, we can say the null hypothesis is rejected.

This side is yet to be explored. The researcher did not come across much research to support or oppose the present finding. The present research was done with a small sample size of 18 participants. Therefore, these results can't be generalised. The sample size was highly educated which could be a reason for the present study to be significant at a higher level.

In group A, 4 data came as inclusive this could have happened as it is a mock cybercrime. it was not able to elicit the guilt conscious among the participants. The fear of punishment was also absent as the permission for editing the picture was given to them.

There was no significant difference found between Group B and Group C as both had homogenous results. This could have occurred as it was a mock cybercrime that was conducted in an experimental setup with minimised extraneous variables.

CONCLUSION

In the present study, researchers checked the efficiency of the deception tools Eye detect System to detect types of deception. 3 groups were considered. Group A (lying group) and Group B (misleading group) were the experimental groups. Group C (truthful group) was the control group. Kruskal Wallis and Dunn post hoc test was done in SPSS. It was found that the instrument was able to differentiate among the three types of deception.

This is a small sample experiment. It was homogenous samples the data was collected from people working or interning at CFSL, Kolkata. There is a need for more research in the same to generalise the result and to conclude that the deceptive tool Eye Detect System is able to detect the different types of detection.

The researcher hopes that in future much more research will be done in this field so that the investigation process becomes easier and justice could be given at a faster rate.

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Conflict of Interest
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