

# Deception



## Characteristics of Liars

DePaulo et al. (2003)

- They:
  - appear more nervous
  - are less pleasant and positive
  - are less forthcoming
  - are less compelling
  - display less imperfections

## Other characteristics

- Inter-channel discrepancies
- Microexpressions

## Microexpressions Test

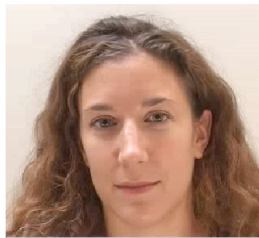


## Detecting Genuine Emotions

- Paul Ekman
- Facial Action Coding System

## False vs. felt smile

### Genuine



- “Driver’s license” smile
  - mouth muscles: zygomaticus major
  - corners of the mouth pull outwards and upwards
- Duchenne smile
  - eye muscles: orbicularis oculi
  - eyes crease, eyebrows dip
  - eye cover fold and eyebrows dip



## Wizards?

- The Illusion of Transparency
- Detection apprehension & detection guilt
- Othello effect

## Polygraph

## History

- King Solomon
- Trial by Sacred Ass
- Lick a hot iron
- Mouthful of bread or rice

- Cesare Lombroso
- William Moulton Marston
- Frye v. US
- Daubert v. Merrell Dow
- Larson & Keeler
- Relevant/irrelevant test
- Reid & Inbau
- Control question test

## Control Question Test

N1. Do you live in the United States?

C1. During the first 20 years of your life, did you ever take something that did not belong to you [apart from what we discussed]?

R1. Did you take that ring?

N2. Is your name Matt?

C2. Prior to 1993, did you ever do something dishonest or illegal [apart from what we discussed]?

R2. Did you take that ring from the desk?

N3. Were you born in the month of March?

C3. Before age 21 did you ever lie to get out of trouble or to cause a problem for someone else [apart from what we discussed]?

R3. Did you participate in any way in the theft of that ring?

## Guilty Knowledge Test

Q1. Regarding the type of ring that was taken, was it a

1. sapphire class ring
2. pearl engagement ring
3. silver and turquoise ring
4. gold wedding ring\*
5. ruby class ring
6. diamond engagement ring

Q2. Regarding the floor of the building that the ring was on, was it the

1. 1st floor
2. 12th floor
3. 6th floor
4. 4th floor
5. 8th floor\*
6. 10th floor

Q3. Regarding the number of the room that the ring was in, was it

1. Room 800
2. Room 820\*
3. Room 810
4. Room 816
5. Room 814
6. Room 803

Q4. Regarding the type of envelope that the ring was in, was it

1. an intercampus mail envelope
2. a medium-sized manila envelope
3. a business-size white envelope\*
4. a small-size manila envelope
5. a small-size white envelope
6. a large-size manila envelope

## Scoring the GKT

- 2 pts for each time reaction is largest to correct answer
- 1 pt if second largest
- 0 pts if third largest, etc.
- add, divide by highest possible score ( $2 \times \#qs$ )
- $> .50$ , failed the test
- $< .50$ , passed

## Sample Scoring for GKT

- Q1: second largest reaction to right answer
- Q2: largest reaction to right answer
- Q3: fourth largest reaction to right answer
- Q4: largest reaction to right answer

## Validity Issues

- Inconclusive tests
- 75% correct test results, 15% incorrect, 10% inconclusive
- Different types of error and accuracy

## Signal Detection Theory

		Test Conclusion	
		Lying	Truth-telling
Reality	Lying	True positive (Hit)	False negative (Miss)
	Truth-telling	False positive (False alarm)	True negative (Correct rejection)

- Examples
- Accuracy rate of 80% for both types of accuracy
- 80% of liars found to be lying
- 80% of truth-tellers found to be truth-telling

## High Base Rate Example

		Test Conclusion		
		Lying	Truth	(Totals)
Reality	Lying	600	150	750
	Truth	50	200	250
	(Totals)	650	350	1000

Of those who flunk the test, 92% (600/650) are liars.

## Low Baserate Example

		Test Conclusion		
		Lying	Truth	(Totals)
Reality	Lying	160	40	200
	Truth	160	640	800
	(Totals)	320	680	1000

Of those who flunk the test, 50% (160/320) are liars.

## Very Low Baserate Example

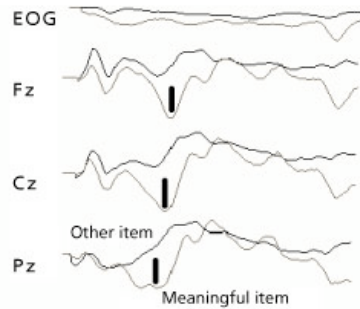
		Test Conclusion		
		Lying	Truth	(Totals)
Reality	Lying	8	2	10
	Truth	198	792	990
	(Totals)	206	794	1000

Of those who flunk the test, **4% (8/206) are liars.**

Lesson: When baserates are low,  
be skeptical of positive test results.

## Other Techniques

- Voice stress analysis
- Brain fingerprinting
  - P300 event-related potential
- fMRI



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## Statement Analysis

- Pronouns
- Tense

- *I got up at 7:00 when my alarm went off. I took a shower and got dressed. I decided to go out for breakfast. I went to the McDonald's on the corner. Met a man who lives nearby. Talked with him for a few minutes. I finished breakfast and drove to work.*

- *My wife and I were invited to a neighbor's 50th birthday party. We arrived at the party a little late. The party was still in full swing when we left for home.*
- *My wife and I were invited to a neighbor's 50th birthday party. My wife and I arrived at the party a little late. The party was still in full swing when my wife and I left for home.*

- *I met four friends at the movie theater, watched a movie, then stopped to get something to eat with them. We had a few drinks at the bar on the way home. I stayed until just after midnight. I drove home.*
- *We all met at the movie theater, watched a movie, then stopped to get something to eat with them. We had a few drinks at the bar on the way home. We stayed until just after midnight. We each drove home.*

- Found in a crop circle:
  - *We are not alone.*

## Statement Analysis

- Pronouns
- Tense

- *I was sitting in my car when a man walked up to my window. He points a gun at me and tells me to move over.*

- *It happened Saturday night. I went out on my back deck to water the plants. It was almost dark. A man ran out of the bushes. He came onto the deck, grabbed me and knocked me down.*
- *It happened Saturday night. I went out on my back deck to water the plants. It was almost dark. A man runs out of the bushes. He comes onto the deck, grabbed me and knocks me down.*

- *Susan Smith: My children wanted me. They needed me. And now I can't help them.*
- *Father: They're okay. They're going to be home soon.*

- *OJ Simpson "suicide note"*

*To whom it may concern:*

*First, everyone understand. I have nothing to do with Nicole's murder. I loved her; always have and always will. If we had a problem, it's because I loved her so much.*

BUT:  
Validity not established.

## Determination of Authorship

### Introduction

1. The Industrial Revolution and its consequences have been a disaster for the human race. They have greatly increased the life-expectancy of those of us who live in "advanced" countries, but they have destabilized society, have made life unfulfilling, have subjected human beings to indignities, have led to widespread psychological suffering (in the Third World to physical suffering as well) and have inflicted severe damage on the natural world. The continued development of technology will worsen the situation. It will certainly subject human beings to greater indignities and inflict greater damage on the natural world, it will probably lead to greater social disruption and psychological suffering, and it may lead to increased physical suffering—even in "advanced" countries.

Mr. Ramsey,

Listen carefully! We are a group of individuals that represent a small foreign nation. We don't respect your business but not the country that it serves. At this time we have your daughter in our possession. She is safe and unharmed and if you want her to see 1997, you must follow our instructions to the letter.

You will withdraw \$118,000.00 from your account. \$100,000 will be in \$100 bills and the remaining \$18,000 in \$20 bills. Make sure that you bring an adequate size envelope to the bank. When you get home you will put the money in a brown paper bag. I will call you between 8 and 10 am tomorrow to instruct you on delivery. The delivery will be exhausting so I advise you to be rested. If we monitor you getting the money early, we might call you early to arrange an earlier delivery of the

money and hence a earlier ~~delivery~~ pick-up of your daughter. My satisfaction of my instructions will result in the immediate execution of your daughter. You will also be allowed the remains for proper burial. The two gentlemen watching over your daughter will particularly like you so I advise you not to provoke them. Spoken to around about your situation, such as the FBI, etc., will result in your daughter being beheaded. If we catch you talking to a third party, she dies. If you alert bank authorities, she dies. If the money is in any way marked or tampered with, she dies. You will be scanned for electronic devices and if any are found, she dies. You can try to deceive us but be warned that we are familiar with law enforcement countermeasures and tactics. You stand a 99% chance of killing your daughter if you try to outsmart us. Follow our instructions

and you stand a 100% chance of getting her back. You and your family are under constant scrutiny as well as the authorities. Don't try to grow a brain. She is not the only one out around so don't think that killing will be difficult. Don't underestimate us. John. Use that good southern common sense of yours. It is up to you now John!

K'ebony!  
S.B.T.C

The environmental policies of this country are ruining the very fabric of our culture. Whatever it takes to stop the path of destruction we are currently heading down, I will take those steps. If it means the loss of a few lives in the process, it will be worth it. Nothing can stop us as we take back control of our planet and our future.

1. The poisons and toxins that all of us are filling our sky with will surely lead to losses of life and the death of the planet before anything is done to stop it. The people will see that the politicians are not doing anything about the problem, and they will rise up and take back the country that was theirs from the start.
2. When will everyone understand what is happening? People are destroying our planet. Each individual must take action. People must stand up and be counted. The powerful must know that individuals will fight.
3. Listen when I say that something must happen to change the state we are now facing. Those of us with a sense of responsibility to the future must take control and fight back. We must take these new and urgent steps to ensure the life of our planet.
4. The principles that we have upheld for generations must not be abandoned, or we will suffer the consequences. We are longing for a return to these fundamentals that we have forsaken. We cannot fail to distinguish between the larger picture and the lesser political issues that we confront.

**BUT:**  
**Validity not established.**

## Honesty Tests