

ECPS6005: COGNITION IN ACTION

COGNITION IN FORENSIC SETTINGS POLICE LINE-UPS

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EYEWITNESS MEMORY

- Involve one-time event, but basics of encoding, storage, and retrieval are the same
- Witness is then asked to recognise/identify suspect
- SDT applies to study of EW memory and recognition of suspects
- SDT Matrix can also be implemented:

		Eyewitness Response	
		"Yes"	"No"
Suspect is:	Present	Hit	Miss
	Absent	False alarm	Correct rejection

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RELEVANCE

- Criminal justice system and protection of society served by maintaining high level of sensitivity, while beta is kept neither:
- Too high = many misses would lead to criminals going free.
- Too low = greater FA would lead to innocent people being convicted of crimes they did not commit.

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WHAT INFLUENCES AN EWS ABILITY TO ID A SUSPECT?

- Eyewitness memory importance
- Eyewitness suggestibility
- Recognising suspects: Police line-ups
- Recognising suspects: Describing faces
- Police questioning and interviewing techniques
- Violence & Weapon Focus
- Research into EWM performance has influenced policy and procedure in police and legal profession

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POLICE LINE-UP

- Most common method to identify a suspect:
- Line-up: EW presented with number of individuals
 - One is suspect
 - Remainder are “foils”
- A two-stage process
 1. Is suspect in line-up?
 2. If so, which person is the suspect?



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POLICE LINE-UP

- Variables impacting line-up process:
 - Presentation method:
 - Simultaneous vs. sequential; live vs. pictures
 - Instructions provided to witnesses
 - Content
 - Behaviours

Wells & Olson (2003)

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EFFECT OF LINE-UPS

- Inappropriately designed line-ups impact EWs ability to ID a suspect
 - May use external cues rather than memory
- Wells et al., (1994):
 - Verbal descriptions should be obtained prior
 - Foils should resemble suspect description
 - Clothing of members in line-up must be considered
 - Instructions must not be biased



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EFFECT OF LINE-UPS

- Cutler et al., (1989):
 - Photographic line-ups inferior to live
 - But correct IDs roughly similar in both, and....
- Photographic line-ups have following advantages:
 - Suspect/foils/EW not required at police station
 - Easier to make fair due to larger pool of photographs
 - Those in live line-ups can inadvertently draw attention



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EFFECT OF LINE-UPS

- Simultaneous line-ups:
 - Risks witness using **Relative judgment** Strategy:
 - Selecting person most like "memory" of culprit – process of elimination (Lindsay, 1999).
 - May be acceptable if culprit **is** in line-up.
 - But – if true culprit not in line-up = False alarm.



Wells & Olson (2003)

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EFFECT OF LINE-UPS

- Sequential line-ups:
 - Encourages conservative response criterion (Lindsay & Wells, 1985; Steblay et al., 2001).
 - EWs do not know size of line-up - discourages relative judgements.
- But, hit rate will be reduced (Grondlund et al., 2009; Meissner et al., 2001).

Wells & Olson (2003)

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EFFECT OF LINE-UPS

- Memon & Gabbert (2003): 30% drop in accuracy with sequential.
- Wells (2003): only a % of accurate IDs in simultaneous line-up come from relative judgement.
 - EW with weak memory may still choose suspect – EW guessing will still be correct certain % of the time.
 - But this EW may not be able to ID suspect in sequential line-up
 - An EW in sequential line-up usually has strong memory
 - “Guessers” are not present in sequential line-ups.
- Drop in accuracy is due to removal of weak witnesses: which is a good thing!

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EFFECT OF LINE-UPS

- Line-up number:
 - Large enough to avoid guessing innocent person.
 - Usually, one suspect and at least five foils
 - But foils need to be acceptable
- Luus and Wells (1991): foils that resemble suspect promote similarity, making it difficult to ID suspect
 - EW needs to make use of extra-recognition information

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EFFECT OF LINE-UPS

- Technique to identify weak witnesses = “Dual line-ups”:
 - First line-up is “blank”
 - Target absent
- If EW does not choose anyone, target present line-up then goes ahead.



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LINE-UP INSTRUCTIONS

- Telling an EW the suspect may **not** be in line-up reduces FAs – i.e., mistaken identification (Malpass & Devine, 1981).
- US dep. of justice has added this instruction to set of guidelines for law enforcement (Technical Working Group for Eyewitness Evidence, 1999).

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LINE-UP OUTCOMES

- Speed of decision: 10-12 second rule:
 - Dunning & Perretta (2002) – time to ID suspect linked to accuracy....
- Fast (<10-12 seconds) – automatic and likely accurate
- Slow – conscious deliberate process – perhaps justify choice to themselves?



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EW CONFIDENCE

- Once EW makes selection, usually told if they have selected suspect.
- This can impact confidence levels in their judgement
- Wells and Bradfield (1998): post-identification suggestions lead to “false certainty” that culprit was correctly identified.
- Even when true culprit not in line-up, FAs accompanied by inaccurate overconfidence in judgement.

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EW CONFIDENCE

- When these EWs appear in court to testify against a suspect:
 1. They are more convinced suspect is culprit
 2. Jury more easily convinced by their confidence

General assumption:

Highly confident EW = accurate EW
(Cutlet al., 1990; Wells et al., 1979).



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EW CONFIDENCE

- Wells and Murray (1984): no significant relationship between confidence of EW and accuracy.
 - Jury should **not** use confidence as measure of accuracy.
- Wells and Olson (2003): Line-ups should be administered by someone who does not know which line-up member is suspect (or if present).

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OPTIMALITY HYPOTHESIS

- Factors affecting quality of memory influence confidence
- Confidence accuracy relationship strongest when encoding and retrieval conditions are optimal.
 - Length of time to view suspect (Deffenbacher, 1980)
 - Distinctiveness (Cutler & Penrod, 1989).
- However: quality of “foils” in line-up impact CA

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OPTIMALITY HYPOTHESIS

Line-up Conditions	Mean Confidence
1. Foils like witness description	3.68
2. Foils like suspect	3.80
3. Foils resemble neither	4.46

Accuracy

Police usually use this – Should they?
Does it bias choice?

Wells et al. (1993)

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MODERATOR VARIABLES

- Wells et al. (1993): foil selection influences accuracy while confidence related to encoding conditions.
 - Good encoding conditions = higher confidence
 - Good line-up conditions = better accuracy
- Lippé (1980)
 - Some factors affect accuracy without affecting confidence
 - E.g., post-event misleading info
 - Other factors influence confidence without affecting accuracy
 - E.g., post-event questioning

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POST LINE-UP FEEDBACK

- Confidence can be altered in opposite way:
 - E.g., “Are you really sure?” “Do you want another look?”
 - Wells and Bradfield (1998, 1999)
 - Influences memory retrospectively.
- Garrioch & Brimacombe (2001): Line-up administrators can also influence confidence without any post-ID feedback.
 - E.g., through intonations, tone of voice, agitation, other non-verbal behaviour.



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POST LINE-UP FEEDBACK

- Can work to advantage by testing EWM
- EWs with strong memory not influenced by post-ID feedback (Bradfield et al., 2002).
 - Strength of internal cues to accuracy vs. external cues.
 - When internal cues weak, EWs rely on external cues
 - EWs with poor memory use info during line-up to make decision

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LINE-UP INSTRUCTIONS AND WITNESS EXPECTATIONS

- Memon, Hope, and Gabbert (2002):
 - Despite explicit instruction suspect may be absent
 - 90% still expected suspect to be present
 - 95% remember hearing the 'suspect may be absent' instruction
 - 17% felt under pressure to choose anyway
 - 78% would make same decision in real-life line-up
 - 47% were incorrect in decision
- Social influences cannot be easily overcome, and witness expectations can undermine good practices

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PROVIDING FACE DESCRIPTIONS

- EWs describe what they witnessed.
 - Including description of suspects face
 - Sounds easy, but actually very difficult
- Serves important function of:
 - Allowing law enforcement to search for suspect
 - Give public idea of who to look out for
 - Basis to select foils in line-up
- Needs to be as accurate as possible!

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DESCRIBING FACES

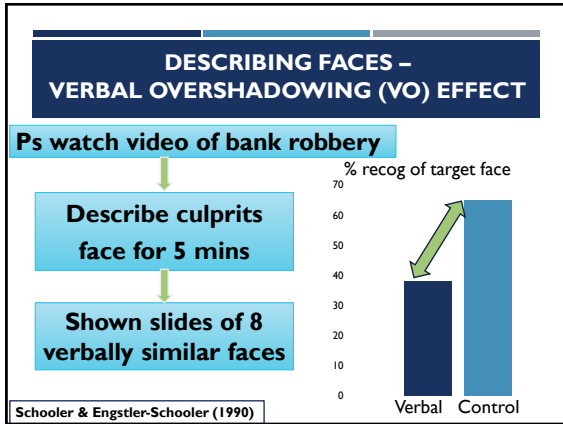
- How can we put visual image into words?
- Dual-code theory:
 - Suggests this type of information is stored separately
 - Visual code: global information
 - How face fits together (not just component parts).
 - Verbal code: specific information containing verbal labels
 - Independent and additive – e.g., "They had a big round nose"
- Advantage = If they cannot remember one type, hopefully they have other as a back-up.

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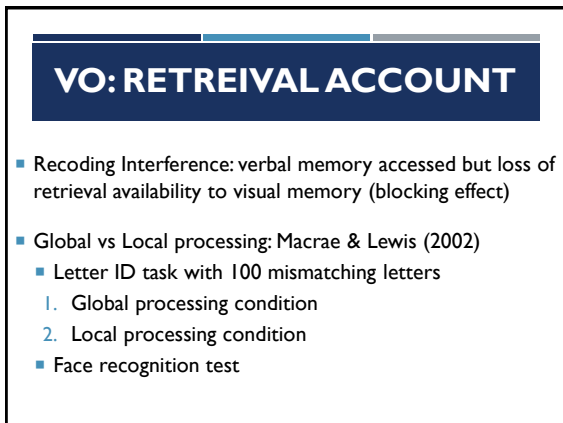
DESCRIBING FACES

- Consequences of verbal processing:
 - Positive:
 - Elaboration – meaningful labels associated with new stimuli.
 - Repetition – rehearsal helps memory of visual info
 - Negative:
 - Discriminating targets from distractors is difficult if they are similar
- When people in line-up look similar, verbal labels not useful
- Verbal labels only helpful if only one person in line-up looks like verbal label

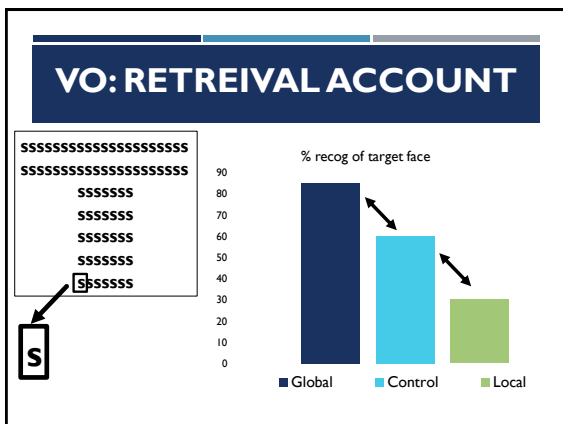
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