4. A DIARY STUDY OF FACE RECOGNITION: YOUNG ET AL (1985)

4.1. INTRODUCTION

Young et al (1985) were interested in collecting data about face/person recognition in real-life. Face or person recognition involves the feeling of recognition or familiarity about a person or face, and the retrieval of information about the person/face including their name. Failure during either part produces a recognition error or difficulty.

4.2. METHOD

Twenty-two participants were recruited at Lancaster University, of which half were male and half female. They were recruited by advertisement for the eight-week study. The participants were asked to record, as soon as possible after it happened, details of any errors or difficulties in recognising/identifying another person under the following headings:

- Type of incident;
- Source - Information, like facial features, available at the time of the incident;
- General details - eg: person in mass media, state of participant at the time of the incident;
- Person involved - How well the person known on a scale of 1 (unknown) to 5 (very well known);
- Way incident ended - ie: able to recognise person eventually or not;
- Person details available - Information that could not be recalled about the person.

The first week of the study was treated as training and the 140 records collected were not analysed.

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4.3. RESULTS

Over the seven-week period of the study, 922 completed records of errors and difficulties in face/person recognition were collected. These incidents were divided into seven principal types (with 23 incidents as "other"). A set of 86 records of "resemblance only" were treated separately.

1. Person unrecognised

Failure to recognise a familiar person (114 incidents); eg: "I was going through the doors to B floor of the library when a friend said 'Hello', I at first ignored him, thinking that he must have been talking to the person behind me" (p500).

Most of these incidents were in good viewing conditions (82%), and lasted a short time (58% over ten seconds before recognition). Many were highly familiar people (42% of cases), often seen (38%), and expected to see (28%). Only 31% of these incidents related to the mass media.

2. Person misidentified

One person mistook for another (314 incidents). This category was divided into two subtypes:

a) Unfamiliar person misidentified as a familiar person

For example, "I was waiting for the phone. A lot of people were walking past. I thought one of them was my boyfriend" (p505). This type of mistake was most associated with poor viewing conditions (55% of cases), but were corrected quickly (69% in ten seconds or less).

b) One familiar person misidentified as another

For example, "I was looking for Dennis Hay. I went into computer room 1 and started speaking to a person sitting with his back to me. He turned round and I saw it was not Dennis, but one of the technicians" (p505).

This type of mistake was not due to poor viewing conditions, and it was more often related to people known through the mass media.

3. Person seemed familiar only

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The person's appearance, name, voice, or other characteristics seemed familiar, but not able to recall any other information about the person (233 incidents). This situation ended in three ways:

a) Familiar person successfully identified;

b) Incident not ended when record made; eg: "I didn't recognise her till she spoke; then I recognised the voice as familiar. I've no idea who she was" (p507).

c) Person found to be unfamiliar; eg: "I just thought the person looked familiar, as she waved, and I thought it was at me. I waved back, then realised I didn't know her. She was waving at someone else" (p508).

4. Difficulty in retrieving full details of person

Able to remember more information that type no.3 but not full recognition (ie: person's name)(190 incidents). This was either successfully resolved or not. In both cases, participants were able to recall details of occupation and where last seen, but with the successfully resolved cases, the participants were able to recall the voice and more details of the appearance.

5. Not sure if it was a particular person or not

Participants were unable to decide if they had correctly identified a person (35 incidents). This was divided into:

a) Not sure if a particular familiar person, or unfamiliar;

b) Not sure which of two familiar people it was.

6. Thought it wasn't the person it was

Four incidents were recorded where participants encountered an unfamiliar person who seemed to resemble a person they knew, but it was actually the familiar person; eg: "I was going into the paper shop in Alexandra Square. A person in shop looked very like a friend who I know very well. I was sure it wasn't him because I though

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he was abroad. After a minute in the shop I realised it was him and not just a lookalike. I was very surprised" (p511).

7. Wrong name given to person (9 incidents).

Table 4.1 summarises the most common characteristics of each of the main types of face/person recognition error/difficulty.

1. Person unrecognised - 21 of 22 participants reported a case; occurred with highly familiar people in 42% of cases; had to be told who it was in 40% of cases.

2. Person misidentification - all participants reported a case.
a. Unfamiliar person misidentified as a familiar person - occurred in poor viewing conditions in 55% of cases; quick resolution (69% in less than ten seconds).
b. One familiar person misidentified as another - high certainty about identification despite being wrong in 62% of cases.

3. Person seemed familiar only - all participants recorded a case.
a. Familiar person successfully identified - 87% of cases involved people not highly familiar and 83% not seen often; information retrieved without help in 64% of cases.
c. Person found to be unfamiliar - quick resolution in 71% of cases; information retrieved without help in 65% of cases.

4. Difficulty in retrieving full details of person - most participants (19) reported a case with 47% related to the mass media. Where successfully resolved, it involved individuals seen often in 34% of cases.

Table 4.1 - Characteristics of main types of face/person recognition errors/difficulties.

4.4. DISCUSSION

The results showed that different types of errors and difficulties occur in recognising people, and "tend to emphasise the point that different kinds of information are used to form a highly integrated person identification system.." (Young et al 1985 p515).

Young et al (1985) used this data in their model of person recognition which involves (figure 4.1):

- Recognition units (RU)(or face recognition units) whose function is to indicate how closely a characteristic of the person observed resembles someone familiar. These units are aided by the other two elements of the model.

- Person identity nodes (PIN) - Each known person has a PIN which contains specific information about him (eg: face, hair, voice).

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- Additional information stores - Separate stores containing details of the person's name, and additional information about them like occupation.

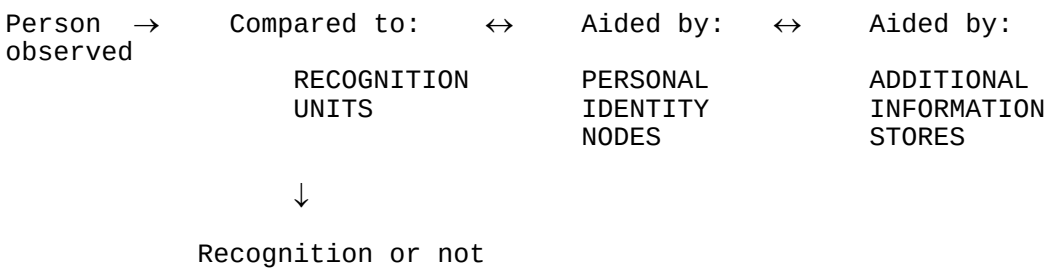

Figure 4.1 - Main details of Young et al's (1985) model of person recognition.

Young et al (1985) applied their model to the errors and difficulties in recognition from participants' diaries to explain how they happened (table 4.2).

4.5. EVALUATION

The Young et al (1985) study used the diary method. Table 4.3 lists the specific and general advantages and disadvantages of this diary study.

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TYPE OF ERROR/DIFFICULTY	WHERE PROBLEM OCCURS IN MODEL
1. Person unrecognised	Failure to trigger RU/FRUs
2a. Person misidentified: Unfamiliar person misidentified as familiar	Triggers RU/FRUs and accepts as that person because poor viewing conditions or high resemblance
2b. Person misidentified: One familiar person misidentified as another	RU/FRUs triggered and information from wrong PIN accessed
3a. Person seemed familiar only: Familiar person successfully identified	"Block" in link between RU/FRUs and PINs; "block" resolved
3b. Person seemed familiar only: Incident not ended when record made	"Block" in link between RU/FRUs and PINS; "block" unresolved
3c. Person seemed familiar only: Person found to be unfamiliar	Similar to 2a above
4a. Difficulty in retrieving full details of person: resolved	Difficulty retrieving from Additional information stores, but overcome
4b. Difficulty in retrieving full details of person: unresolved	Difficulty retrieving from Additional information stores, but not overcome
5a. Not sure if it was a particular person or not: Not sure if particular familiar person, or unfamiliar	Conflicting PIN or not because person seen in different context to usual
5b. Not sure if it was a particular person or not: Not sure which of two familiar people it was	Conflict between PINs
6. Thought it wasn't the person it was	Correct PIN "over-ruled" inappropriately
7. Wrong name given to person	Errors in retrieval from Additional information stores

Table 4.2 - Types of face/person recognition errors/difficulties and where problem occurs in Young et al (1985) model.

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ADVANTAGES

1. Many studies of face recognition tend not to use real-life cases, but are artificial laboratory experiments.

2. This study looked at person recognition rather than just face recognition because "the use of facial and non-facial cues is so thoroughly integrated in everyday person recognition that it is not advisable to try to study them in isolation" (Young et al 1985 p496).

3. Collected both quantitative and qualitative data.

4. Took place over reasonable length of time - two months.

5. Allowed participants to describe their experiences in their own words.

6. Participants were asked to record details of the incident immediately afterwards to overcome memory problems of recording the information much later.

7. Used standardised categories for recording qualitative data.

8. This study attempted to find real-life data to support a experiment-based model of face recognition by Hay and Young (1982).

DISADVANTAGES

1. Volunteer bias (Reason and Lucas 1984) - People volunteer for the study who think they are "particularly prone to the cognitive failure being investigated" (Young et al 1985).

2. Selection bias (Reason and Lucas 1984) - "not all the errors made will come to subjects' attention, and they are also more likely to record those they think noteworthy" (Young et al 1985). Recording bias may occur as "what is recorded is influenced by the record-keeper's own theory as to why it occurred" (Young et al 1985).

3. The diary study does not have the rigour of the laboratory experiment.

4. Not a particularly large sample used (n = 22), and most of them were students. All were aged between 20-40 years.

5. Qualitative data can be difficult to compare between diarists.

6. Participants know that someone will read their diary and this may influence how/what they write; eg; failure to recognise a very famous celebrity producing embarrassment not recorded. Thus an under-reporting of socially unacceptable behaviours and an over-reporting of socially acceptable ones (Breakwell and Wood 2000).

7. Replication difficult.

8. No independent record of what participants reported.

Table 4.3 - Advantages and disadvantages of the diary study by Young et al (1985).

4.6. REFERENCES

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