Daily-life Difficulties in Person Recognition Reported by Young and Elderly Subjects

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ABSTRACT

Elderly people frequently complain spontaneously about their inability to remember people and their names. Naturalistic methods such as diaries, checklists, etc. provide useful means to study and make more explicit the nature of such memory difficulties among the elderly, as well as to better understand normal memory functioning. We developed a checklist (inspired by a study by Young, Hay and Ellis. 1985) to explore normal young and elderly people's difficulties in person recognition. The checklist is composed of four parts, each one corresponding to a particular context in which the difficulty look place. Each part has the same structure and consists of precise questions about the type of incident, the circumstances, the persons involved, and the way the incident ended. Three groups of normal subjects kept records of their difficulties and errors in recognizing people for I month: young subjects with a bad memory for faces, young subjects without particular problems of face memory, and a group of elderly subjects. A total of 299 records were collected. They were classified with respect to the functional components presumably implied in the process breakdown. The elderly subjects experienced difficulties with retrieving names, first names, or nicknames (Name Codes), while the young subjects with a bad memory for faces reported overall the greatest number of incidents and were particularly impaired in access to Face Recognition Units. A characterization of these two kinds of difficulties is proposed. Young subjects without problems of face memory presented equal numbers of difficulties at all stages of person recognition. These patterns of results will be discussed in terms of current cognitive models of person recognition.

The collection and analysis of difficulties and errors in person recognition has been the aim of both naturalistic and laboratory studies (for instance. Brennen. Baguley, Bright, and Bruce, 1990; Bruce, 1988; Bruce, Ellis, Gibling, and Young, 1987; Hanley and Cowell, 1988; Hay and Young, 1982; Young, McWeeny, Hay, and Ellis, 1986; Young, Hay and Ellis, 1985). The study of memory difficulties in everyday life may well improve our understanding of normal memory functioning. The results of such investigation have been used to test or refine models of the cognitive operations involved in face recognition or, more broadly, in person recognition. For instance, the records collected by Young *el al.* (1985) using a diary method are often presented as an important data source supporting the

arrangement of functional components postulated by the models of Hay and Young (1982), or Bruce and Young (1986): these studies have confirmed the different stages of face processing, and showed that certain patterns of difficulty or error cannot occur. More recently, in laboratory studies. Hanley and Cowell (1988) and Brennen *el al.* (1990) have provided data supporting Young *et al.'s* (1985) results. Indeed, both methodologies have similarly- shown that successive but distinctive stages are involved in person identification. For instance, people frequently remember the occupation or some other pieces of information about a person without remembering his or her name, but the reverse has never been observed. Access to names, then, seems to take place only after the activation of semantic information about the person.

Difficulties in memory of persons and names, especially name lace matching and cued name recall, is a frequent complaint of elderly people (Perlmutter. 1978; Zelinski, Gilewski. and Thompson. 1980). These difficulties have also been studied, in elderly people, using naturalistic and experimental approaches. Ferris, Crook, Clark, McCarthy, and Rae (1980). Smith and Winograd (1978), and more recently Bartlett. Leslie. Tubbs, and Fulton (1989) have shown age-related differences in face recognition, essentially marked by an increase of false alarms. Such a pattern has been interpreted as the consequence of an age-related deficit in coding distinctiveness. Other studies have explored memory for names and other semantic pieces of information. In three groups of subjects (young, middle-aged, and elderly). Cohen and Faulkner (1986) investigated memory for proper names, first using a questionnaire asking subjects to record details of naturally occurring name blocks (retrieval failure) and then, using an experimental task in which subjects had to recall names and fictitious descriptions of persons. In the questionnaire, older people blocked more often on names than the two other groups did. The majority of their blocks occurred for the names of friends or acquaintances, and less frequently when partial information about the target name was available, or when other candidate names were elicited. In the laboratory experiment, the authors showed age-related deficits in records of all types of information. However, for all groups, memory for people's names was poorer than memory for places' names, occupations, and hobbies. In the study of Burke, Worthley, and Martin (1988), young and old adults were asked to keep a structured diary of all tip-of-the-tongue experiences (TOTs) occurring during a 4-week interval. For each TOT, the subjects were asked to answer a set of questions about the type of words involved, their feeling of knowing, the familiarity of words, the retrieval strategies, the blockers, and the resolution method. In both groups, the majority of TOTs concerned proper names. Older adults had more TOTs than young adults, and reported fewer resolutions through memory search or external consultation, and more resolutions through "pop-ups' in which the word came to mind without conscious effort to retrieve it. In any case, the effectiveness of any strategies was similar across ages. In other respects, young subjects had more blockers and knew more features of the TOT words than older adults. Finally, in older subjects. TOTs were almost exclusively proper names and common names of objects, whereas in young subjects. TOTs were about proper names and more abstract words.

The aim of the present study is to explore, by means of a questionnaire, the everyday difficulties and errors of person recognition encountered by three groups of normal subjects: young subjects who mentioned their bad memory for laces, young subjects who claimed to have no particular problems of

face memory, and a group of elderly subjects. The first group was composed of a particular kind of people who, while not pathological, did report experiencing often socially embarrassing problems with person recognition. By comparing the groups, we wanted to determine whether the difficulties encountered were of the same kind and frequency in each group. The aim was also to compare the three groups with respect to the circumstances in which the reported recognition incidents occurred, the people involved in the incident, and the way the incident was resolved (including whether it was resolved or not). We followed the same general procedure as the one used by Young *el al.* (19X5): subjects were asked to keep records of errors and difficulties they experienced in identifying other persons. As in Young *et al.,* the present investigation was not restricted to face recognition problems but concerned person recognition difficulties in general.

Descriptive data for each group will be presented first, then the data will be distributed into categories of incidents to allow comparisons between the three groups. Finally, we will describe in more detail typical incidents of the elderly group and of the group of young people with bad memory for faces.

METHOD

SUBJECTS

Fifty-five subjects kept records of their errors and difficulties experienced in recognizing people over a 1-month period. Borrowing the terminology of Young *et al.* (1985), we will refer to these subjects as the *diarists* who kept *records* of recognition *incidents.*

1. Twenty-four diarists were young, normal students mainly from the Psychology Departments of the Universities of Louvain and Liege. They ranged in age from 19 to 25 years (mean age, 21.9 years). We will refer to this group as the 'young normal diarists'.

2. Ten young diarists described themselves as being persons with a bad memory for faces. They were recruited by word of mouth: the authors informed colleagues and friends that they were looking for people with a bad memory for faces in order to participate in a study. No selection test was administered, and these diarists were assigned to this group on the basis of their own description of themselves. These people were students or graduates of Liège University. They ranged in age from 19 to 25 years (mean age 21.6 years). We called this group the 'young impaired diarists'. At the end of the study, one subject made known that she suffered from neurological problems in her childhood; we excluded her from the study.

3. Twenty-two elderly subjects ranging in age from 54 to 73 years (mean age 63.8 years). All of them had accomplished a minimum of 12 years of school. They were recruited from the Third Age University. They attended lectures on diverse topics geared to an aged audience. The lectures were given several days a week and typically gathered together more than 100 persons. But it appears very difficult, if not impossible, to find young and old subjects who are strictly comparable with each other in terms of lifestyle, number of people encountered each day, school level, etc. However, our older subjects seemed to have certain important characteristics in common with our young subjects

about their daily routine. We called this group the 'elderly normal diarists'.

PROCEDURE

The diarists were asked to keep a record of every incident they experienced by using a checklist as soon as possible after the occurrence of an incident. Before beginning the study, the diarists were trained to complete the checklist by using fictitious scenarios during a 2-hour session. They had to fill in the list corresponding to the situation described in the scenario, and to mark off the corresponding characteristics of the incident on the list. Our questionnaire was mainly a checklist made up of multiple-choice questions, while Young *et al.'s* subjects (1985) kept a diary. We wanted to make the task easier, especially for the elderly subjects.

The checklist was composed of four parts (six or seven pages each) organized in a series of lists of items to record. Each part corresponded to one of the four general contexts:

Context I: a person was physically encountered.

Context 2: a person was seen or heard in the mass media (watching television, listening to the radio, etc.).

Context 3: the person was not physically present but the diarist was thinking about him or her.

Context 4: hearing or reading the first name, the surname, the nickname, the address or another characteristic of the person (to be specified).

The structure of the lists was identical in each of the four parts of the checklist.

For each part the following items of information were asked:

A: Type of incident

1. Lack of recognition of a known person.

2. Hesitation between two known persons.

3. Confusion between two known persons (to think the target known person is another known person).

4. Confusion between a known and an unknown person (to take an unknown person for a well-known one, or the reverse situation).

5. Inability to decide whether a person is known or not.

6. Recognition but inability to retrieve any information about that person.

7. Recognition but inability to retrieve particular pieces of information (surname, first name, nickname, occupation, address, circumstances of the first encounter, other).

8. Recognition but mistake about the name, first name, nickname, occupation, other.

9. Noticing merely a resemblance without a feeling of recognition while the person was actually

known.

10. Other type of incident (to be specified).

B. Circumstances

1. Whether viewing or hearing conditions were poor when the incident occurred (the environment was noisy or quiet, dark or clear; the diarist was alone, surrounded by a few persons, surrounded by a lot of people; the diarist was near or far from the person).

2. Whether the diarist was in a normal state or was in a hurry, tired, irritable, distracted, or under the effects of alcohol or drugs.

3. Whether or not the diarist expected to meet, or was looking for, someone when the incident occurred.

C. People involved

(information recorded for each person involved in the incident, i.e. the 'target' and the mistake)

1. Whether the person was unknown, a distant acquaintance, a close acquaintance, or a celebrity.

2.

    a. How long the diarist had known the person;

    b. the frequency of encounters with that person;

    c. the approximate elapsed time since the last encounter

    (these three items had to be specified and scored on five-point rating scales).

3. Whether the physiognomy of that person was special.

4. Whether that person had a special name or a special occupation.

5. Whether the appearance of the person had changed from the last encounter (if so, whether the change involved spectacles, beard, hair, build, make-up. voice, age, style of clothing, other).

6. Whether the diarist expected to meet that person.

7. When the target had been mistaken for another person, whether they had resemblances (none; physical resemblance: facial features, gait, hairstyle, style of clothing. beard, spectacles, voice; similar occupation; similar names or surnames; persons often seen together).

D. The way the incident ended

1. Whether the incident was completely, partially, or not at all resolved at the time of the record.

2. How long it lasted (to be specified and scored on a five-point rating scale).

3. Whether the incident ended because the diarist asked somebody else for information, resolved the incident by using non-elicited external information, or resolved the incident by himself.

RESULTS

The data provided a main set of 299 records of difficulties experienced by our 55 subjects over a 1-month period. Descriptive data are presented in Table I.

The first analysis showed that the incidents were not shared identically across the three groups: the young impaired diarists reported significantly more difficulties and errors than the two other groups (Kruskall Wallis test and the *post-hoc* Mann Whitney test, $p < 0.01$). The same analysis was computed on the distribution of incidents in the four contexts for the three groups. We used the Friedman test for within-group comparisons and. when the test was significant, the Wilcoxon test to compare the categories of incidents two by two. For the young normal diarists and for the young impaired diarists, the number of incidents occurring in context 1 (the person was physically encountered) was significantly higher than in the three other contexts $(p < 0.01)$. In the group of elderly people, incidents occurring in context 1 and in context 3 (diarist thinking about a person not physically present) were more frequent than the incidents occurring in contexts 2 (person seen or heard in the mass media) and 4 (hearing or reading the name or another characteristic of a person) $(p < 0.01)$.

Table 1. *Mean number of incidents per subject as a function of the context in which they occurred, for each group*

	Young normal	Young impaired	Elderly normal
	(n = 24)	*(n = 9)*	*(n = 22)*
Context 1	2.37	9.44	1.69
Context 2	0.79	1.33	0.63
Context 3	0.42	1.33	1.41
Context 4	0.29	0.44	0.50
General mean	3.87	12.54	4.23
Total number	93	113	93

Table 2. *Mean number of incidents per subject and category (FRU, ISSC. NC, other incidents) for each group*

	Young normal	Young impaired	Elderly normal
	(n = 24)	*(n = 9)*	*(n = 22)*
FRU incidents	2 12	8.55	0.45
ISSC incidents	0.83	2.11	0.27
NC incidents	0.79	1.00	3.45
Other incidents	0.13	0.89	0.05

The incidents were then classified into four categories with respect to the functional component that was presumably implied in the process breakdown, and that referred to the theoretical model of Bruce and Young (1986). All the incidents concerning the visual recognition of a person physically encountered or seen through the mass media (TV, newspaper, etc.) were assumed to imply a malfunctioning of the Face Recognition Unit (incidents of types 1 to 5, see the method presentation) occurring in context 1 and context 2, but only when a person's face was seen in the mass media or on photographs. These difficulties will be called FRU incidents. The Identity-Specific-Semantic-Codes component was assumed to be responsible for type 6 (recognition but inability to retrieve any information about the person), as well as for type 7 and 8 incidents, but only when the particular missing piece of information or mistake was about a semantic feature of the person, and not only about a name. We will refer to those incidents as ISSC incidents. The remaining incidents of types 7 and 8, where the missing piece of information or mistake was about the name, first name, or nickname, were attributed to a problem of access to Name Codes and will be called NC incidents. Finally, a filling category ('others') gathered together all the incidents that could not be classified within the first three categories. Table 2 gives the resulting classification.

For all the following statistical analyses, we used a conservative threshold of $p < 0.01$ or less, because many analyses have been carried out on the same data. The 'other' incidents were rare, and thus not analysed.

First, we analysed within-group comparisons by Friedman and Wilcoxon tests. For the young normal diarists, there were no significant differences between the three categories. In the young impaired group, the FRU incidents were significantly more numerous than the two other types, which did not differ from each other. The elderly normal diarists reported more NC incidents than the two other kinds of incidents, and these incidents were much more numerous than the FRU and ISSC incidents.

Table 3. Percentage of each type of incident in the four contexts for the elderly diarists

	FRU incidents	ISSC incidents	NC incidents
Context 1	90	66	33
Context 2	0	17	14
Context 3	0	0	41
Context 4	10	17	12

We next compared, for each category of incidents, the groups of subjects by the Kruskali-Wallis and the Mann-Whitney tests. For the FRU incidents, the mean number of errors per subject made by young impaired diarists was greater than the number reported by young normal diarists, who in turn reported

more incidents per subject than the elderly diarists. The ISSC incidents were significantly less frequent among the elderly diarists than in the two other groups, which did not differ from each other. Additionally, NC incidents were more often reported by the elderly diarists than by the young normal and impaired diarists. These NC incidents were distributed among the four contexts of occurrence and were not restricted to one particular context, as presented in Table 3.

We also compared the three categories of incidents with respect to the diverse items of the checklist: the circumstances, the characteristics of the people involved, and the way the incident ended. For these analyses we used contingency tables gathering together incidents from all the subjects in each group, taking the incident as the unit of analysis. For each item of the checklist, we computed the frequency of occurrence in all incidents. We used a chi-square test to compare all the values in the table, except for the ratings on live-point scales (concerning, for instance, encounter frequency with the person involved in the incident and the lime of resolution), for which we used the Kruskall-Wallis lest.

From the between-group comparisons, four significant differences emerged. For the NC incidents, the proportion of incidents occurring while the diarist was in a normal stale and when the person encountered had no special physiognomy, was higher for the elderly diarists when compared to the two other groups. There was also a higher proportion of ISSC incidents when the person encountered had no special name or occupation, and this for both the young normal and the young impaired groups, than in the elderly group. Finally, for the FRU incidents, the person encountered was more frequently a distant acquaintance for both the young normal and the elderly diarist groups, but a close acquaintance for the young impaired diarists. In addition, the frequency of encounter with the person involved in the incident was significantly higher for the young impaired diarists than for the young normal diarists.

From the within-group comparisons, we found two significant differences between the types of incidents in only the elderly diarist group. The person involved in the incident was more frequently met in the case of ISSC incidents than in the NC incidents. Second, the resolution time was shorter for the FRU incidents than the one for NC incidents.

Table 4. *Results of chi-square tests comparing values for all items of the checklist for the FRU and NC incidents in the young impaired and the elderly groups*

	FRU incidents: young impaired diarists	NC incidents: elderly diarists
Circumstances		
External circumstances	NS	No external circumstances
Normal internal slate	Normal internal slate	Normal internal stale
Expectation	No expectation	No expectation
People involved		
I. Encountered person	close acquaintance	NS

Particular physiognomy	NS		No particular physiognomy
Change of appearance	NS		No change of appearance
Special name or occupation	NS		NS
Expectation	No expectation		NS
2. Thought person	Close acquaintance		*Not enough incidents*
Particular physiognomy	NS		
Special name or occupation	NS		
Expectation	NS		
3. Common features			
Physical	More physical characteristics		
Semantic			
Often seen together			
None			
Way incident ended			
Completely solved	Completely solved		Completely solved
Partially solved			
Not resolved			
External or internal help	External help		NS
Time of resolution	NS		NS

Finally, we tried to characterize in a more accurate way the dominant types of incidents in the impaired diarist group (FRU incidents) and in the elderly group (NC incidents) by attempting to identify the circumstances, the characteristics of the person involved, and the way the incident ended, all of which were significantly associated with these two types of incidents. We should remember that, for young normal diarists, the occurrences of three types of incidents were shared out identically. We have computed chi-square tests on the distribution on the diarist's responses for each item: that is to say, the number of times that he or she had signalled the intervention of this item in an incident. These results are presented in Table 4.

For the *young impaired diarists,* the FRU incidents occurred mostly when the diarist was in a normal state (not hurried, tired, distracted, or intoxicated) and when he or she was neither expecting to meet nor looking for someone. These incidents involved more often a close acquaintance who generally was not expected to be met. For the FRU incidents in which the diarist mistook the encountered person for an imagined person, this person was more frequently a close acquaintance. The most-reported

common features between the encountered and the imagined persons were physical features. The FRU incidents were nearly always completely resolved with external help.

For *elderly diarists,* the predominant type of incident dealt with access to names.

Table 5. *Distribution of incidents in the four categories (FRU. ISSC, NC, other incidents) for the young normal subjects and for Young et al. (1985) subjects*

		Young *et al.* (1985)	Young normal group	
FRU incidents	Person unrecognized	114		
	Person misidentified	314		
	Not sure if it was a particular person or not	35		
Total			463 (50%)	51 (55%)
ISSC incidents	Person seemed familiar only	233		
Total			233 (25%)	20 (22%)
NC incidents	Difficulty in retrieving full details (name)	190		
	Wrong name given to a person	9		
Total			199 (22%)	19 (20%)
Others	Thought it wasn't the person it was	4		
	Others	23		
Total			27 (3%)	3 (3%)

The NC incidents occurred while the perceptual conditions were good and while there was no external factor (darkness, noise, etc.) making perception difficult. Nearly all of the incidents of this type occurred while the diarist was in a normal state and while he or she did not expect to meet a particular person. The encountered person had no special physiognomy and did not change his or her appearance. The NC incidents reported by elderly diarists were nearly always resolved al the lime of their recording.

Finally, we compared the incidents reported by the group of young normal subjects to the incidents experienced by the subjects partaking in the study of Young *et al.* (1985), because our group of normal students shared more characteristics with the subjects of that study than with our two other groups. These authors identified and described eight principal types of incidents. Among them, four were both frequent and produced by a large majority of the diarists.

For the comparison we classified their incidents in the same three types as we used: FRU, ISSC, and NC incidents. The following types of incidents were considered as implying a malfunction of the Face Recognition Unit: 'person unrecognized', 'person misidentified', and 'not sure if it was a particular person or not'. The Identity Specific Semantic Codes could be seen as responsible for incidents involving

*a person who seemed familiar only', where all information about semantic features of the person was missing. Incidents about 'difficulty in retrieving full details of a person' (which usually concerned the person's name), and 'difficulty about a wrong name given to a person', could be classified as involving a problem of access to Name Codes. Table 5 shows that the distributions of incidents for the two groups of subjects were nearly identical.

DISCUSSION

The results of our study have shown that young normal and elderly diarists reported the same frequency of incidents during the period of investigation. The young subjects who reported experiencing person recognition problems, however, recorded a greater number of incidents. We have seen also that our three groups of subjects showed different patterns of person recognition problems.

For the young normal diarists, no incident type predominated: the incidents implied all processing stages of person recognition. Nevertheless, given the low number of incidents recorded by each subject we must be cautious about any interpretation asserting the lack of significant differences between the three kinds of incidents. Taken as a whole, these subjects reported a lower number of incidents than the Young *et al.'s* subjects did: 93 incidents for 24 young normal diarists in 4 weeks vs 922 for 22 diarists in 7 weeks. This can probably be attributed to methodological differences between the two studies: Young *et al.'s* subjects were assisted during the entire study and were trained in the method used for a I-week period (Young, *personal communication).* In our study, the training session lasted 2 hours, and during the recording period no contract with the subjects occurred. Nevertheless, if the young normal diarists are compared with Young *et al's* subjects, the distribution of incidents is, in fact, very similar. In addition, we also found that incidents in person recognition can occur for all the possible sources of information (face, name, voice, etc.) and that the majority of recorded incidents involved facial features as a primary source of information (context 1 of our checklist, in which the person was physically encountered, received the highest proportion of records in the young normal subjects). Finally, we recorded no incident where the diarist was able to remember the name of a person without being able to access appropriate semantic information.

Even though the young impaired and the young normal subjects shared many characteristics (i.e. age. educational background, etc.), the young impaired diarists showed a particular results pattern. Indeed, they reported a significantly greater number of incidents than the two other groups of diarists, and those incidents specifically implied a malfunctioning of the face recognition units (FRU). A possible explanation for this greater number of FRU incidents could be that young impaired subjects differed from the young normal subjects in terms of their lifestyle, for instance, or social activities, number of encountered persons per day, stress, tiredness, etc. But this hypothesis is unlikely because FRU incidents occurred in spite of a lack of unfavourable circumstances, and even when the person encountered was more often a close acquaintance of, and well known to, the subject. Two other characteristics of these FRU incidents are worth noting: when there was a confusion between two persons, it was often due to physical resemblances (in agreement with cognitive models of face

recognition: Young and Ellis, 1989) the thought-about person was nearly always a close acquaintance, and finally, the young impaired subjects more often needed external help to resolve the incident. Taken as a whole, the results obtained in young subjects suggest large individual differences in face recognition (this fact has already been shown in the literature—Cohen. 1989).

We also have to take into consideration the fact that our recruiting mode led us to select subjects presenting particular difficulties for face recognition units (FRU). Indeed, we sought people who specifically experienced problems with face recognition; therefore, our sample has this particular characteristic as opposed to problems with names or other types of information. Nevertheless, it is probably possible to find young subjects who experience specific difficulties in other aspects of person recognition. Broadly speaking, these data suggest that problems encountered by normal subjects can involve, in a relatively specific way, certain functional components of person recognition. The .study of these specific problems in normal subjects, like the study of dissociations observed in brain-damaged subjects, therefore yields a considerable amount of information that can confirm or falsify existing theoretical models.

The incidents reported by the elderly group are more often related to name codes (NC). Our data, like the ones of Cohen and Faulkner (1986) and Burke *et al.* (1988), show that memory for names is a special problem for older subjects. This type of difficulty in the elderly group has its own particularities: there were no external factors making perception difficult: the diarist was nearly always in a reported normal slate, and he or she did not expect to meet a person. The encountered person generally did not have a special physiognomy and had not changed his or her appearance since the last encounter. As Cohen and Faulkner (1986) found, the incidents of older people were more often an inability to retrieve a particular name (75 out of 76 incidents), than a mistake about a name (i.e. production of another candidate, phonological deformation of a name, etc.). Cohen and Faulkner (1986) have also shown that the name blocks in older people more often concerned names they knew well, and that the majority of difficulties occurred when subjects try to think of, or communicate about, a person rather than when the people was met in person. Our data reveal that the difficulties of name retrieval in the elderly group occurred just as often when the person was physically encountered (context I) as when the diarist was thinking about the person (context 3). This last difference between the two studies is perhaps in line with the fact that our elderly subjects were active people, driven to encounter a certain number of persons within the context of the Third Age University. As in the studies of Cohen and Faulkner (1986) and of Burke *et al.* (1988), most names were ultimately recalled successfully. The time of resolution did not differ significantly between the three types of incidents or between the three groups of subjects. For NC incidents it varied from 5 minutes to 3 days. We also observed that the elderly group reported significantly less ISSC and FRU incidents than the two other groups. Even if we have selected elderly people having an active social life, it is nevertheless possible that these older persons have less diversified and less punctual social interactions than young people do, and thus may less frequently incur situations likely to cause FRU incidents. In addition, having more regular contact with well-known acquaintances, they experienced fewer ISSC incidents. But this hypothesis remains to be tested.

It should be noted that some problems are inherent to any diary mode of data collection and set. That clearly limits the interpretation we can draw from diary studies. According to Reason and Lucas (1984) there are three kinds of bias involved in using diaries to elicit naturally occurring cognitive failures: a volunteer bias (individuals who agreed to keep a diary, do so on the assumption that they are prone to the type of cognitive failure being investigated), a selection bias (the more bothered, or memorable incidents are likely to be recorded), and a recording bias (only certain pieces of information are recorded). However that may be, the cognitive diaries permit collection of qualitatively representative samples, even if they do not portray the general distribution of that type of incidents in the general population. More formal and experimental testing could allow type of incidents and retrieval processes to be examined with more control.

To summarize, we investigated everyday person recognition difficulties in young and older subjects employing a checklist method. We observed different patterns of problems within young subject group and between young and elderly subject groups. We believe that this type of approach can be used to help in understanding the specific mechanisms involved in normal and impaired face processing; additionally, it could be useful to adapt such a checklist for the investigation of person memory in a clinical setting.

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