13.1 Introduction

It is an unfortunate fact that most crimes are never solved, regardless of where in the world they occur (e.g. the Netherlands: Centraal Bureau voor de Statistiek, 2014; the United Kingdom: Home Office Statistical Bulletin, 2014; South Africa: Leggett, 2003). Whether a crime is solved will often depend on the quality and quantity of information obtained from eyewitnesses (Fisher, 1995; Kebbell & Milne, 1998). Over the past three decades, psychologists have helped to improve the collection and use of evidence from eyewitnesses during multiple stages of the process from statement taking to conviction or acquittal (e.g. Wells et al., 2000). An important set of interventions has been the design and testing of various interviewing methods to help witnesses remember more and better. Two well-known examples are the Cognitive Interview (Fisher & Geiselman, 1992; Geiselman et al., 1984) and the National Institute of Child Health and Human Development (NICHD) interview protocol (Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007;
Orbach et al., 2000). These interviewing procedures have proven to be highly effective at improving memory for events, yielding up to 35% more information in field settings (Fisher, Geiselman, & Amador, 1989).

Unfortunately, these complex interviewing procedures have also proven difficult to implement in practice. For example, Clarke and Milne (2001) found that the Cognitive Interview had not been used in 83% of investigations in field settings (Fisher, Geiselman, & Amador, 1989). Along with some colleagues, we have recently explored a very simple alternative to the Cognitive Interview, which we call the Eye-Closure Interview (ECI; Vredeveldt, Tredoux, Nortje et al., 2015). The crux of this procedure is getting eyewitnesses to attempt memory retrieval with their eyes closed – one of the optional components of the Cognitive Interview and one shown in a number of laboratory investigations to be an effective aid in memory retrieval. The present chapter will briefly review evidence from laboratory studies showing that eye-closure improves memory for events, but our main focus will be on the applied value of the Eye-Closure Interview in improving evidence obtained from eyewitnesses. Specifically, we will review empirical evidence addressing (a) whether Eye-Closure Interviews can be effective in naturalistic settings, (b) whether Eye-Closure Interviews are feasible and effective when interviewing eyewitnesses in field settings and (c) whether Eye-Closure Interviews can improve facial identification performance.

### 13.2 Laboratory Studies of Eye-Closure Effectiveness

Readers of this chapter will likely share the common experience of closing one's eyes when performing difficult cognitive tasks. Does this everyday habit make our mental work any more accurate, though? Glenberg, Schroeder, and Robertson (1998) empirically tested whether such eye-closure is functional. In a series of experiments, they corroborated the everyday observation that people spontaneously close their eyes for more difficult tasks. They also found evidence that participants instructed to close their eyes recalled more words correctly in a memory task. Replications and extensions of this work were reported by Wagstaff and colleagues (2004), who found that eye-closure improved memory for a public event that was televised 5 years earlier, and by Doherty-Snoddon and colleagues (Doherty-Snoddon, Bonner, & Bruce, 2001; Phelps, Doherty-Snoddon, & Warnock, 2006), who found that children perform better on a range of cognitive tasks when they are instructed to close their eyes or to avert their gaze from the interviewer's face. These studies do appear to show that the commonplace tendency to close one's eyes whilst thinking is functional: It improves our performance on cognitive tasks.

Notwithstanding the cognitive effectiveness of closing one's eyes, it is clearly not always easy or appropriate to do so. One important context of particular concern to us is that of the eyewitness interview. Eyewitnesses may well feel uncomfortable closing their eyes during a police interview (cf. Nash, Nash, Morris, & Smith, 2015), for many reasons.* Indeed, witnesses are unlikely to spontaneously close their eyes during police interviews (Vredeveldt, Tredoux, Nortje et al., 2015), but it could nevertheless be beneficial to encourage them to close their eyes in order to help them better remember the events they witnessed. Perfect and colleagues (2008) tested the effectiveness of the eye-closure instruction for memory of recently witnessed events. In five laboratory studies, interviewees who closed their eyes under instruction remembered significantly more about events that they had just witnessed than interviewees in a control condition who were not instructed to close their eyes. Moreover, information retrieved by participants who closed their eyes was significantly more accurate. In a subsequent study, Vredeveldt, Baddeley and Hitch (2014) found that eye-closure was still effective when witnesses were interviewed after a one-week delay and repeated recall attempts. The finding that eye-closure improves the quantity and quality of event memory has now been replicated in many laboratory studies and is thus robust to variations in materials and procedure (e.g. Mastroberardino, Natali, & Candel, 2012; Nash et al., 2015; Vredeveldt, Baddeley, & Hitch, 2012; Wagstaff, Wheatcroft, Burt et al., 2011).

Why does memory improve when witnesses close their eyes? There is evidence for several possible mechanisms, and these might operate independently or in concert. On the one hand, eye-closure reduces cognitive load, thereby freeing up resources for the task at hand (Glenberg, 1997; Glenberg et al., 1998; Perfect et al., 2008). Support for this conjecture comes from studies showing that eye-closure can improve recall of both visual and auditory stimuli (e.g. Nash et al., 2015; Perfect et al., 2008), and can even reduce the cross-modal impairment caused by auditory distractions (Perfect, Andrade, & Eagan, 2011), suggesting that eye-closure results in general cognitive benefits. On the other hand, eye-closure reduces modality-specific interference from visual stimuli in the environment, thus facilitating visualisation of witnessed events (Baddeley & Andrade, 2000; Baddeley & Hitch, 1974; Vredeveldt, Hitch, & Baddeley, 2011). Support for this conjecture comes from studies that show that eye-closure may selectively enhance recall of visual (but not auditory) information (Mastroberardino & Vredeveldt, 2014; Vredeveldt et al.,

*A recent national probability survey of South Africans, for instance, found that 35% of South Africans fear the police (FutureFact, 2012). They may presumably carry this fear into an interview situation, and thus be reluctant to close their eyes during the interview.
together, this suggests that the eye-closure effect involves both general and modality-specific processes (Vredeveldt et al., 2011).

An additional potential mechanism through which eye-closure may improve memory is that of ‘mental context reinstatement’. Context reinstatement can be a powerful memory aide: Witnesses asked to mentally place themselves back into the context surrounding the event, and to re-experience the sights, sounds, smells, feelings and emotions that they experienced at the time of the event, remember more about the witnessed events (Clifford & George, 1996; Hammond, Wagstaff, & Cole, 2006; Wagstaff, Wheatcroft, Caddick, Kirby, & Lamont, 2011). When witnesses close their eyes, this seems to shift the focus to internal mental processes (cf. Vredeveldt & Sauer, 2013), which may facilitate mental reinstatement of context. Indirect support for this idea comes from studies showing that eye-closure leads to enhanced mental simulation of hypothetical events (Caruso & Gino, 2011) and an enhanced rating of emotionality for negative music (Lerner, Papo, Zhdanov, Belozersky, & Hendler, 2009). Importantly, Caruso and Gino found that eye-closure encouraged mental simulation of events in the absence of mental-simulation instructions. Thus, it is possible that eye-closure improves eyewitness memory through spontaneous mental reinstatement of context. We will return to this issue in the next section.

In sum, the finding that eye-closure improves memory for events has proven to be robust, replicating across laboratory studies that use different materials and methods. This is promising from the perspective of investigative interviewing: Because information from eyewitnesses plays a crucial role in police investigations, we must develop optimal procedures for interviewing witnesses. Although several more complex interview protocols were effective in the laboratory, they have proven difficult to implement in practice. The Eye-Closure Interview could serve as a simple alternative, with the significant added attraction that it does not require much extra training or time in addition to that presently spent by police officers on witness interviews. In the remainder of the chapter we explore the practical utility of the Eye-Closure Interview in police interviews. We discuss three studies that involved realistic settings when implementing the Eye-Closure Interview and addressed some important applied questions in the area of psychology and law that emerged during the course of the studies.

### 13.3 Naturalistic Experiment

Nearly all studies showing that eye-closure improves event memory have used videotaped or televised events as stimulus material. An exception is the research reported by Perfect and colleagues (2008; Experiments 4 and 5), who examined memory for live events. It is fair to say, however, that they used a somewhat mundane live event as stimulus material: A confederate in an adjacent waiting room received a phone call, and then left the room. People who witness crimes are likely to be exposed to events that are considerably more arousing, and it is important to show that eye-closure can be effective with such witnesses. To simulate more closely the type of event witnessed by real eyewitnesses (but simultaneously observing ethical standards of research), Vredeveldt and Penrod (2013) staged a live altercation on a street in New York City. They invited students from a local university to participate in a study on ‘social interactions’. One to four participants per session arrived in the laboratory, and an experimenter told them that they needed to walk, with the experimenter, to a different building in order to commence the experiment. The experimenter then guided the participants along several streets in an area of New York City, where they met up with two research assistants on a street corner, whose ostensible role was to guide participants to the actual building where the experiment was to take place. The research assistants started addressing the participants but almost immediately started arguing. The argument was at first about the assignment of locations, and then escalated into an argument about something that ‘happened this morning at Starbucks’. After a heated exchange, one of the research assistants threw her clipboard onto the ground in a fit of apparent displeasure, then walked off.

This closely scripted event was staged 38 times, for 96 witnesses in total. To obtain an independent record of what happened on each occasion (e.g., who walked by during the event and whether the participants interfered in the argument), each incident was unobtrusively videotaped from a nearby phone booth. Immediately after they had witnessed the event, the participants were separated. Each participant was taken to a different interview location by one of the researchers, where they were interviewed about the event, either with their eyes open or with their eyes closed. The interview consisted of a free-recall phase, in which participants were asked to report everything they could remember about the event, and a cued-recall phase, in which participants were asked 16 predetermined questions about the event (8 questions about visual aspects and 8 about auditory aspects).

The primary finding in Vredeveldt and Penrod’s (2013) study was that the eye-closure effect replicated in a naturalistic setting (see Table 13.1). In the free-recall phase, participants who closed their eyes remembered 38% more correct visual information and 19% more correct auditory information than the control group. In the cued-recall phase, eye-closure significantly increased the number of precise correct responses about visual details, by 24% ($d = 0.43$), but had no significant effect on auditory details ($d = -0.25$). Thus, closing the eyes helped participants to remember an altercation witnessed on a busy street in New York.

Although police officers typically interview witnesses at the police station or in the witness’s home, it is sometimes necessary to conduct interviews
In this case, indoors, on a quiet corridor. The findings provided more support for the latter hypothesis than for the former. There was a marginally significant interaction between eye-closure and interview location for free-recall performance, suggesting that eye-closure was more effective for participants interviewed indoors (d = 0.88) than for participants interviewed outdoors (d = 0.16). Thus, the eye-closure instruction was most effective when the retrieval context was highly different from the encoding context, which provides indirect support for the idea that closing one's eyes facilitates mental context reinstatement.

In sum, Vredeveldt and Penrod (2013) extended the eye-closure effect to a more realistic eyewitness setting. Their setup provided nearly the same level of experimental control as in laboratory settings (e.g. they obtained an independent record of what happened during each staged event), yet simulated conditions experienced by real eyewitnesses more closely than previous research. Nevertheless, it will always be difficult to ethically simulate the arousal component of real-world crimes, which frequently involve a high degree of violence. It is thus not clear whether Vredeveldt and Penrod's findings would extend to real-life situations. To examine the applied value of the Eye-Closure Interview further, specifically for crime events that contain high degrees of violence and arousal, Vredeveldt, Tredoux, Nortje et al. (2015) followed up Vredeveldt and Penrod's naturalistic experiment with a field study.

### 13.4 Field Study

To evaluate the effectiveness of the Eye-Closure Interview with real eyewitnesses, Vredeveldt, Tredoux, Nortje et al. (2015) conducted a large-scale field study in collaboration with the South African Police Service (SAPS). We chose to work with the Facial Identification Unit (FlU) of the SAPS, since this unit routinely interviews eyewitnesses and is considered by the Investigative Psychology Unit of the SAPS to be a well-run and well-trained team. All 12 of the police officers who work in the FlU in the Western Cape region of South Africa were trained in a one-day workshop to implement the study procedure and video- and audio-record their interviews (conditional on witnesses' consent to participate in the project). Interviewers were informed that the project concerned an evaluation of a new interview procedure, and that half of them would be trained to use the procedure immediately, whereas the other half would be trained at the end of the project. Participating interviewers were assigned to six pairs matched on gender, age and years of experience, and each pair member was randomly assigned to the Eye-Closure Interview condition or the control condition (which involved no eye-closure instruction). After data collection had been completed, all police interviewers again attended a workshop, during which those in the control condition were trained in the use of the Eye-Closure Interview, and the researchers presented some preliminary findings and a set of general interviewing guidelines.

Over a period of seven months, we collected 95 video- and audio-recorded witness interviews, conducted by police interviewers at five police stations in the Western Cape region. Witnesses who were interviewed had been exposed to crimes ranging in seriousness: 20% of the crimes involved rape or murder, 49% armed or violent robberies, 28% unarmed or non-violent robberies and 3% other crimes. Forty interviews were collected in the Eye-Closure Interview condition and 55 in the control condition. Analysis of

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**Table 13.1 Effectiveness of the Eye-Closure Interview**

<table>
<thead>
<tr>
<th>Study</th>
<th>Dependent Variable</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Recall</td>
<td>d</td>
<td>95% CI</td>
</tr>
<tr>
<td>Naturalistic experiment</td>
<td>Number correct (free recall)</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td>Number correct (cued recall)</td>
<td>0.05</td>
</tr>
<tr>
<td>Book-theft experiment</td>
<td>Number correct (free recall)</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td>Number correct (cued recall)</td>
<td>0.76</td>
</tr>
<tr>
<td>Field study</td>
<td>Number of details</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>Forensic relevance</td>
<td>0.48</td>
</tr>
<tr>
<td></td>
<td>Person identification</td>
<td>OR</td>
</tr>
<tr>
<td>Book-theft experiment</td>
<td>Lineup accuracy</td>
<td>1.31</td>
</tr>
<tr>
<td>Face-recognition experiment</td>
<td>Recognition accuracy</td>
<td>0.98</td>
</tr>
</tbody>
</table>

**Note:** Cohen's d greater than 0 and odds ratio (OR) greater than 1 reflect higher scores in the eyes-closed condition than in the eyes-open condition.

a Vredeveldt and Penrod (2013).

b Vredeveldt, Tredoux, Kempen et al. (2015).

c Vredeveldt, Tredoux, Nortje et al. (2015).
Video-recordings of the interviews showed that witnesses in the Eye-Closure Interview condition kept their eyes closed during 97% of the relevant portions of the interview. This finding should assuage potential worries that witnesses in real life might have difficulty or be unwilling to close their eyes during a police interview. At least in this sample, witnesses adhered to the eye-closure instruction extremely well. Additionally, the analysis showed that witnesses in the control condition closed their eyes during only 0.2% of their descriptions. This suggests that witnesses rarely close their eyes spontaneously, and that the introduction of the Eye-Closure Interview, if found to be effective, could thus make a real difference.

To evaluate the amount of information reported by witnesses, all interviews were transcribed verbatim and coded by two independent coders. On average, witnesses reported 33 details about the perpetrator, 24 details about the modus operandi, 4 details about other witnesses present during the crime and 23 details about other aspects of the crime. Contrary to expectation, the Eye-Closure Interview did not significantly affect the overall amount of information reported (see Table 13.1). However, there was a significant interaction between interview condition and type of detail: Witnesses in the Eye-Closure Interview condition tended to report more details about the perpetrator and fewer other details than witnesses in the control condition (see Figure 13.1).

Because there was no independent record of what had happened during the crime, it was impossible to assess the accuracy of the information reported by witnesses in the field study. We did however assess the extent to which the interviews yielded quality information, namely, the forensic relevance of reported information in terms of its value to the police investigation or in court (cf. Roberts & Higham, 2002). Two independent coders – a senior police officer and the lead researcher – rated the forensic relevance of each interview transcript on a 7-point Likert scale, blind to experimental condition. Interestingly, transcripts in the Eye-Closure Interview were rated as significantly more forensically relevant than transcripts in the control condition (see Table 13.1). Thus, introduction of the Eye-Closure Interview appeared to elicit more valuable information from witnesses.

Of course, the field study had some limitations. Unlike in laboratory research, there was little control over the behaviour of the interviewers (e.g. the types of questions asked), and the accuracy of witness reports could not be verified. However, unlike laboratory studies, the field study involved real eyewitnesses reporting about highly arousing, objectively dangerous events. To establish whether a new interview protocol is effective at helping witnesses remember more, we should rely on a combination of laboratory research findings, which involve high levels of experimental control, and field research findings, which involve high levels of realism. In the case of the Eye-Closure Interview, converging evidence suggests that eye-closure increases the amount and accuracy of event memories in the laboratory and enhances the forensic value of reported information in the field. Based on these findings, we would recommend that witnesses are instructed to close their eyes whilst they are trying to remember a witnessed event.

Extant evidence on the effectiveness of eye-closure as a memory aide appears solely relevant to recall memory. It is important to improve the ability of witnesses to recall details of an event, but it is also important to find ways of improving recognition memory. In the next section, we examine whether the Eye-Closure Interview can also help witnesses to recognise a perpetrator in identification procedures typically used by law enforcement agencies.

### 13.5 Eyewitness Identifications

In addition to reporting what happened during a crime, eyewitnesses are often faced with an additional task, namely, identifying the perpetrator from a line-up. Analyses of the many cases in which falsely convicted perpetrators were later exonerated reveal that the majority of wrongful convictions involved mistaken identifications made by eyewitnesses (e.g. Connors, Lundregan, Miller, & McEwen, 1996; Gross & Shaffer, 2012). In light of the influential role, both positive and negative, of eyewitness identifications in legal systems, Vredeveldt, Tredoux, Kempen, and Nortje (2015) investigated whether the Eye-Closure Interview could assist witnesses to recognise perpetrators of crime.

We recruited 192 participants for a study ostensibly about 'ethical dilemmas'. Participants watched a video in which a student steals a book from a...
shop after haggling about its price. After watching the video, participants completed a filler task and were interviewed about what happened during the videotaped event. At the end of the interview, they were asked to ‘think about the face of the book thief’ for 30 seconds. Half of the participants were instructed to keep their eyes closed during the interview and the subsequent mental rehearsal of the perpetrator’s face, whereas the other half received no eye-closure instruction. Once the rehearsal period had passed, participants viewed a nine-person line-up that either contained the perpetrator (target-present) or not (target-absent). They were asked to indicate which member of the line-up (if any) was the book thief. We hypothesised that eye-closure during mental rehearsal of a face would improve subsequent line-up identification performance, either by helping participants conjure a more vivid mental image of the face or by helping them assign more helpful verbal labels to the face.

Replicating previous findings, participants who closed their eyes during the interview remembered significantly more correct information about the witnessed event than participants who kept their eyes open (see Table 13.1). The main variable of interest, however, was performance on the line-up task. Eye-closure during the interview and during mental rehearsal of the face had no significant effect on participants’ accuracy on the subsequent line-up task. A more targeted analysis of correct identifications in target-present line-ups revealed that 54% of the participants who closed their eyes made a correct identification, compared to 42% in the control condition. This difference was not statistically significant. Thus, these data provided no evidence for the idea that the Eye-Closure Interview might improve subsequent line-up performance.

Because absence of evidence is not the same as evidence of absence, Vredeveldt, Tredoux, Kempen et al. (2015) did a follow-up experiment in which they increased statistical power. Although the line-up study had sufficient power to detect a medium-sized effect ($d = 0.40$), the population effect of the Eye-Closure Interview on recognition accuracy may be small, partly due to the dichotomous scale used to assess performance. Therefore, Vredeveldt and colleagues conducted a simple face recognition experiment with a sample size that allowed them to detect even a small effect ($d = 0.13$), if it existed. One-hundred-and-forty-four participants took part in 20 trials in which they viewed a photo of a face, completed a filler task, mentally rehearsed the face with eyes open or closed, were presented with another photo of a face and were asked to indicate whether this was the same person as the one they had seen 2 minutes earlier. Despite the high power of the study, the authors again found no significant effects of eye-closure during mental rehearsal of the face on subsequent accuracy rate, discrimination accuracy ($d'$) or response criterion ($c$).

When considered alongside the other studies we have discussed in this chapter, the Vredeveldt, Tredoux, Kempen et al. (2015) findings suggest that the Eye-Closure Interview improves recall of events but does not improve performance on line-up identification tasks. From a practical perspective, these findings are disappointing: one would have hoped that the Eye-Closure Interview improves both recall and recognition memory. Nevertheless, if there are limits to the effectiveness of the technique, it is equally important that these be made clear. Recently, a legal practitioner asked the first author whether eye-closure improves face recognition. An attorney in a legal case had argued that the police had followed the correct procedures in administering a line-up, since the detective had asked the witness to close her eyes before attempting to make an identification. Presumably, the attorney in question had read about the effectiveness of eye-closure for recall memory (it has been covered to some extent in the popular press in various countries), and had made the understandable but mistaken inference that eye-closure is also effective for facial identification. This question illustrates the importance of investigating the boundary conditions of investigative techniques such as eye-closure. Although the Eye-Closure Interview can be used to help witnesses remember more about events, it does not seem to help them identify a perpetrator from a line-up with greater accuracy.

### 13.6 Conclusions and Future Directions

Since Glenberg and colleagues’ (1998) pioneering research, various studies have documented the benefits of eye-closure for memory performance (e.g. Doherty-Sneddon et al., 2001; Perfect et al., 2008; Wagstaff et al., 2004). The series of studies discussed in this chapter enhanced the ecological validity of this research by examining the Eye-Closure Interview in eyewitness contexts. Vredeveldt and Penrod (2013) examined memory for a staged altercation witnessed on the street and found that the benefits of eye-closure extended to this naturalistic setting. Vredeveldt, Tredoux, Nortje et al. (2015) conducted a field evaluation of the Eye-Closure Interview and found that eye-closure enhanced the forensic relevance of information reported by witnesses. Vredeveldt, Tredoux, Kempen et al. (2015) examined the Eye-Closure Interview for a different type of memory task faced by eyewitnesses, namely, line-up identification and face recognition, and found benefits of eye-closure for event recall but not for facial identification. Taken together, these findings provide robust support for the effectiveness of the Eye-Closure Interview in helping witnesses remember events.

We propose at least two directions that future research on the Eye-Closure Interview could take. First, eyewitnesses are often exposed to misleading
information – for example, from the news, from other witnesses or from police investigators (e.g. Loftus, 2005; Paterson & Kemp, 2006). Therefore, it is important to investigate whether the Eye-Closure Interview can mitigate the impact of misleading information on memory. Previous research shows that witnesses who close their eyes typically report fewer errors than witnesses who keep their eyes open, but it is not clear whether this would also apply to erroneous information adopted from other sources encountered after the event. Second, future research could investigate the applied value of the Eye-Closure Interview in other settings. For example, in medical settings, patients often need to provide an accurate and complete medical history. Similarly, in educational settings, students need to be investigated.

In conclusion, we believe it is important that psychologists working in the applied area of psychology and law, particularly on the specific topic of eyewitness memory, use their knowledge and research to aid in both the conviction of the guilty and the acquittal of the innocent. Some critics have pointed to a strong tendency for psychologists to appear as expert witnesses for the defence and have questioned whether this reveals a bias on the part of psychologists. These interviews may contribute to both the prosecution and the defence is to improve the quantity and quality of evidence obtained from eyewitnesses. Pioneers of this approach have developed sophisticated interview protocols that adduce information from eyewitnesses that is demonstrably better than regular police interviews (cf. Fisher, Milne, & Bull, 2011). These protocols are rigorous and well-tested, but research in situ has shown a low uptake in some police forces, due to their complexity and length. In this chapter we have reported on the first decade of research on a simple alternative, the Eye-Closure Interview. This disarmingly simple interview technique requires witnesses to close their eyes when attempting to recall information about an event, and we have reviewed evidence here from laboratory and field studies that shows its effectiveness across a range of materials and methods. We believe that there is enough evidence for it to be used in practice by police officers, but simultaneously concede that a ‘study space analysis’ of the kind outlined by Malpass and colleagues (2008) would undoubtedly show that research on eye-closure is still at an early stage of elaboration. We see continued work on the Eye-Closure Interview as an important line of applied psychology and law research for the next decade.

References


Understanding False Memories

14

Dominant Scientific Theories and Explanatory Mechanisms

JULIÀ SHAW

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14.1 Introduction

False memories are a form of illusory recollection where an individual believes they have a memory of something that never actually occurred. Their recollection does not fit with reality. Individuals can have false memories of small details, such as whether a word was mentioned as part of a list (Roediger & McDermott, 1995), but they also have the potential to develop richly detailed false memories of entire autobiographical events. These can include relatively benign events such as getting lost in a shopping mall as a child (Loftus, 1997). They can also include highly emotional