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**The influence of mood on tunnel vision in crime investigation.**

Can mood decide whether we hold on to our initial beliefs?

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First came the suspect,  
then the deaths became murders.

Metta de Noo. (2010). *'Someone told me about Lucia de B. The clock, the clapper and the whistleblower'*.

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### **Abstract**

Over the past two decades there has been more and more attention for the influence of affect on decision making (Slovic et al., 2002). When comparing individuals in a happy mood to those in a sad mood, results of various studies show that happiness leads to less cognitive effort and more reliance on heuristics. In contrast, sadness promotes the gathering and systematic analyzing of all evidence and information, which costs more effort (Bodenhausen et al., 1994; Findley, 2006; Lerner & Keltner, 2000). In the present study it is investigated whether a sad mood increases the tendency to process information in a thoroughly and accurate manner, and thereby causes the individual to be less susceptible to contradictory information presented at a later stage. Fifty subjects, representing a sample of the general population, participated in this experimental study and were asked to generate causal scenarios for the disappearance of a young women. Consecutively, they received a realistic prior interpretation constructed by an investigation team, indicating that the father was involved in the woman's disappearance. Although the presented contradictory information does not provide sufficient proof of the father's guilt, it was adequate enough to make him suspicious. A 1-factor between subjects design with two levels (sadness versus happiness) was used in this study. The results show that sad participants who initially thought the young women ran away from home, were less willing to alter their initial beliefs than happy participants. However, the most probable scenario was indeed that the woman voluntarily has left her parents' home. While the interpretation of the police team makes the father suspicious, it does not provide substantial evidence for his guilt. We conclude that sad participants hold on to their initial beliefs, but only when they are correct.

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### General Introduction

On March 24, 2003, nurse Lucia De Berk was sentenced to lifelong imprisonment in the Hague. She was convicted of allegedly killing and attempting to kill several patients in two hospitals where she had recently worked. The proposed crime locations were the Rode Kruis Hospital (RKH) and the Juliana Children's hospital (JCH). At the JCH, five patients passed away. Since all five deaths occurred during De Berk's shifts, the question arose whether De Berk's presence during all the patient's deceasing, could have been a simple coincidence (Meester et al., 2007). At September 17, 2001, director Smits of the JCH and RKH hospital pressed charges against De Berk. The direct reason for this was the completely unexpected death of a baby, named Amber. Amber died because of a putative intoxication. Henk Elffers, a graduate in mathematical statistics and a Ph.D. in Psychology of Law, concluded that De Berk's presence during all five deaths could not be a coincidence. He advised the court in The Hague, that the chance a nurse would happen to be present during all five deaths would be 1 in 342 million (Meester et al., 2007).

The main goal of criminal investigation should be a fact-based exploration of the situation that occurred. This process should result in the punishment of the perpetrator and the protection of the innocent. Several events that occurred during and around De Berk's trial, indicate that the above terms did not apply to her case. The first peculiarity in De Berk's lawsuit is the description of the patient's causes of death. Initially the causes were portrayed as natural deaths. But when the investigation started, the deaths were regarded as 'incidents'. Derksen (2006) argues that in most cases the doctors did not perform an autopsy, since these deaths were initially not considered to be suspicious. Experts emphasize that not executing an autopsy, makes it extremely difficult to reach a meaningful verdict regarding the cause of death. However, the court in The Hague did not seem to consider this as relevant and nevertheless qualified the deaths as murders. Furthermore, De Berk's employment history got investigated; The hospitals she had worked for were asked to make a list of all the suspicious deaths during De Berk's presence. Before charges were pressed against De Berk, these hospitals had never mentioned any peculiarities about her (Derksen, 2006). Another striking aspect is the role statistics have played in this case. There has been much discussion among mathematicians, regarding what should have been the appropriate statistical method to apply in a case like this. No mathematician reached such an extreme conclusion, as Elffers did. The probability that a nurse could be involved in the number of incidents as De Berk did, is currently concluded to be one in nine (Meester et al., 2007). Likewise, Derksen (2006) showed that the decease rates among patients in the hospital did not indicate the presence of a serial murderer, since the number of patients that passed away at the children department, was exactly the same compared to the two

preceding years. This actually invalidates a large part of the court's assumption concerning De Berk's guilt. Moreover it is considered inhumane that immediately after the hospital pressed charges against De Berk, they released a press report which suggested that De Berk had murdered several patients. This message was picked up and spread by the national and international press. In the wake of the extraordinary number of 1-in-342 million, the national press demonized De Berk as an ice cold serial killer, not capable of showing any remorse. Furthermore, the media mentioned the 'suspicious' parts of her private life. For example, they noted she had worked as a prostitute, and that she spent some years abroad with no clear purpose. But the most 'striking evidence' they found was an entry in De Berk's diary, written on the day a patient passed away, which stated: 'I have given in to my compulsion'. The prosecution, media and therefore many other people believed that this passage referred to the murdering of patients. De Berk claimed that she was innocent throughout the whole trial, but an expert witness, who was called by the prosecution, claimed that serial killers always refuse to confess. In this way, De Berk's attempts to emphasize her innocence, resulted in the opposite. Another example of the biased interpretation of the court, was their reaction to De Berk's grief when she heard about the death of a young patient and her relief, when she heard that his parents gave permission for an autopsy; the court argued that this captured her ruthlessness perfectly. Moreover, when De Berk's colleagues made comparable mistakes, the Court regarded these as random mistakes. However, when De Berk could not remember specific data on each patient that passed during the past years, this lack of remembrance became evidence for her mendacity (Buchanan, 2007).

It can be concluded from the above text that enormous mistakes have been made concerning the collection and interpretation of information in the case of de Berk. Doctor de Noo and scientist Derksen were one of the first to notice these mistakes. Derksen published a book in 2006 that describes the trial as a miscarriage of justice (Derksen, 2006). Derksen subsequently approaches the commission of evaluated closed criminal cases (CEAS), which was created because of a previous miscarriage of justice. CEAS advised to reopen the case of the Berk, which led to the discovery that the sudden death of baby Amber was not caused by intoxication. Now the evidence had been called into question, the public opinion as expressed by the press was swiftly redirected. Many people started wondering if a miscarriage of justice could be responsible for the sentencing of an innocent woman. From that point in time, De Berk was portrayed as a 'real' normal women. An immense difference, compared to the caricature of a witch in court she used to be depicted. Finally, the Supreme Court announced in October 2008 that the case would be reopened again. The court concluded that no new evidence was found. Based on this, De Berk was acquitted on the 14<sup>th</sup> of April, 2010.

### **Theoretical Considerations**

Nurse Lucia De Berk, ‘the angel of death’, was wrongfully convicted for the inexplicable deaths of babies and elderly people. What could have caused this enormous miscarriage of justice and how could these judicial mistakes take place in a legal system which key law enforcement believe is phrased: ‘Innocent until guilt is proven’? In this chapter, we will review research that investigated why new evidence that contradicts a prior belief does not always lead to a reconsideration of that belief. Furthermore, we will explain which cognitive mechanisms underlie our tendency to ignore evidence when it does not collide with our own perception of ‘the truth’. Besides the influence of cognitive factors, human judgement is shaped by affective influences. The way an individual judges a certain target mainly depends on how that individual is feeling (Schwarz & Clore, 2007). Whether the way we feel can also influence how we perceive contradicting evidence in a criminal case, will be the main research theme in the present study. We will now give an overview of these cognitive and affective mechanisms and discuss their impact on our judgement and decision making processes.

### **Legal Decision Making**

In one’s daily interaction with the social world, one spontaneously constructs schemes that allow to make sense of the enormous flow of impressions. These schemes are predominantly constructed without any awareness (Ask & Granhag, 2005). Pennington and Hastie (1992) found that the spontaneous process of forming schemes about the social world also takes place in legal decision making. Judges, generally a random sample from the population, have the tendency to integrate new information into existing coherent structures that relate more to causal stories than a representation of the factual evidence (Ask & Granhag, 2005). Research on naturalistic judgement provides additional support for the importance of sense making in situations in which the evidence is complex (Klein et al., 1993; Klein & Zsombok, 1997; Kurtz & Snowden, 2003; Lipshitz et al., 2001). However, sense making can also bias our perception. In a world of chaotic shifting impressions, we have the tendency to construct a secure world in which we label people and objects in a thoroughly manner. In the context of legal decision making, agents of justice focus on acquiring complete information in order to prevent drawing premature conclusions. Furthermore, it is required that they have an open mind when the evidence is being presented.

However, this raises the question whether people are capable of delaying their opinion forming since wrongful convictions have been increasing in the recent years throughout the domain of legal decision making. The pressure on agents of justice to solve a case due to its high profile or because of resource and institutional factors, has been identified as one of the main reasons for

wrongful convictions. This pressure experienced by law enforcement officials, turns into a trigger that justifies 'tunnel vision': a set of preconceptions and heuristics that causes individuals to select evidence in order to build a case against a chosen suspect, while they ignore contradicting information that might prove otherwise (Henry & Shaffer, 1989; Kim et al., 2004; Martin, 2001). Besides the fact that pressure on law enforcement officials can foster tunnel vision, there are other factors that can induce it. For instance, police officers experience the most disturbing aspects of criminal cases, which makes it highly likely that they can become affected despite their effort to remain unaffected. On the one hand, when investigators become affected, this can increase their determination to solve the case. On the other hand, it can also induce a form of psychological pressure that can accelerate the development of tunnel vision (Findley & Scott, 2006). Taken together, the discussed literature offers two reasons for the development of tunnel vision: the pressure on law enforcement officials to solve a case and the psychological pressure these officials impose on themselves. In the next paragraph, we will discuss an important underlying mechanism of tunnel vision.

### **Confirmation Bias**

The tendency to hold on to initial judgements could be explained through the fact that in the majority of cases, the initial assumptions are indeed correct since they stand up to further objective evaluation. However, there is another explanation. Initial assumptions have shown to influence jurors' subsequent reasoning processes in such a way that they only search for evidence that supports their initial verdict, which will eventually lead to tunnel vision. A well-known bias related to this is the confirmation bias, which basically states that people only take evidence into account that is consistent with their current ideas, while they ignore incongruent information (Klayman & Ha, 1987; Oswald & Grosjean, 2004; Zimmerman, 2000). This is supported by a considerable number of studies, that suggest that once individuals form a judgment, they unwittingly search for, interpret, and create information in order to achieve uniformity with one's current beliefs (Kassin, 2005; Leo, 2009; Najdowski et al., 2009; Ost et al., 2006; Rassin et al., 2010). Therefore, the confirmation bias has been associated with deficits in the judgments of agents of justice, resulting in judicial blunders.

The effect of the confirmation bias expresses itself in various forms, ranging from the biased interpretation of ambiguous information, to the disregard of contradicting information (Rassin, 2010). O'Brien (2009) revealed that police trainees who were exposed to a mock murder case, judged the evidence as more reliable when it confirmed their initial hypothesis, while they judged it as less reliable when it disconfirmed their initial hypothesis. These findings were replicated in the

study of Kerstholt & Eikelboom (2007), which showed that individuals appear to judge information sources as highly important, when they provide arguments that are part of an individual's constructed story. Likewise, Pennington & Hastie (1993) found in their mock-jury experiments that participants performed better in remembering statements that were consistent with their chosen verdicts as having been presented as trial evidence, in contrast to remembering statements that were inconsistent with their initial verdicts.

Furthermore the urge to find the perpetrator, can increase one's susceptibility to the confirmation bias. For example, Ask et al. (2008) found that subjects had more confidence in identification evidence if it could convict the suspect, than when it would acquit the suspect. Similarly, Dror et al. (2005) discovered that their subjects tended to notice fingerprint matches more readily if the crime category which the suspect was accused of was considered highly criminal. Even police officers who are convinced that a particular suspect is indeed the perpetrator, cannot change their mind easily (Kassin et al., 2003).

### **The Role of Affect in Decision Making**

In addition to cognitive biases like the confirmation bias, recent studies show more interest for the role of affect in decision making (Han et al., 2007; Isen, 2001; Lerner & Tiedens, 2006; Loewenstein & Lerner, 2003; McGrath, 2006). The research field of judgement and decision making (JDM) always favoured reason-based, deliberative decision making processes over affection-based decision making, since this was primarily viewed as biased and irrational choice behaviour. However, this idea has changed over the last decade and contemporary studies refer to 'affective rationality' (Slovic et al., 2002). In this study, we will further investigate this concept of affective rationality and how it influences one's decision making. Affect has proven to be important when making a decision. It performs four distinct roles during the decision making process, which we will now discuss below (Peters, 2006).

*Affect as information.* Affect can offer us information. When we ask ourselves 'how do I feel about this?', we consult our feelings at the moment of our decision (Schwarz & Clore, 2003). The way one feels provides information about unconscious relations between prior experiences and affective reactions.

*Affect as common currency.* Furthermore without affect, it would be more difficult to determine the advantages and disadvantages of various choice options. When making a decision, one compares positive and negative feelings, rather than trying to weigh a large number of pros and cons. Affect translates complicated thinking into easier affective evaluations (Montague & Berns,

2002). To illustrate this, consider the example of comparing apples to oranges. They are both fruit, sweet and healthy, but different from one another. Based on analytic trade-offs, we cannot make a choice. However, affect allows us to compare apples to oranges, since it plays a role as a common currency: we simply choose the fruit which tastes best (Cabanac, 1992).

*Affect as a spotlight.* Moreover, affect provides us with concentration: it helps to stay or to become focused (Peters et al., 2006). The affect-as-spotlight hypothesis predicts that decision makers who feel positive about a technology, will spend more time focusing on its advantages and less time looking at its disadvantages. As a result of their focus, decision makers will remember its advantages much better than its disadvantages.

*Affect as a motivator.* Finally, affect acts as a motivator of behaviour (Chen & Bargh, 1999; Frijda, 2009). Studies show that people have the tendency to classify stimuli around them as good or bad, and that these classifications are closely connected with behavioural tendencies. For example, stimuli classified as good elicit a tendency to move towards, while those classified as bad elicit a tendency to move away (Chen & Bargh, 1999).

Taken together, affect proves to be useful. However, this does not apply to all forms of affect. Affect can roughly be divided into three categories, which we will describe in detail below.

### **Affect, Emotions, Moods and their Difference**

In the prior paragraph we already discussed the role of affect. However, in addition to this general term we will now make a distinction between affect, emotion and mood. Whilst there is a level of commonality among these terms, they can be distinguished by their cause and consequences (Ekkekakis, 2012; Morris, 1999; Peters et al., 2006; Russell, 2003; Slovic et al., 2005; 2007).

*Affect.* Affect is described as a positive or negative feeling concerning a stimulus; feelings that offer us guidance in our decision making processes (Peters et al., 2006). It is due to affect that we cannot perceive anything objectively, since we cannot see anything without affect. For example, we do not see 'a house', but we see a beautiful, ugly or pretentious house (Slovic, 2002). Affective reactions to a stimulus are the very first reactions that occur automatically and subsequently guide our information and judgment processes (Slovic, 2002; Zajonc, 1980).

*Emotion.* Emotions are elicited by the occurrence of a specific stimulus; they are reactions summoned by a stimulus (Peters et al., 2006). The cognitive appraisal, considering the meaning and possible implications of the stimulus, that is involved in the transaction between an individual and the stimulus, is regarded as a defining element (Gross, 2002; Gross & Levenson, 1999; Russell &

Barret, 1999). For example, love, fear, anger, jealousy and pride are emotions since they are all elicited by a stimulus and include a cognitive appraisal.

*Mood.* Mood is distinct from affect and emotions since it typically outlasts them. Moreover, while emotions are specific and more intense, moods are relatively stable states, do not have a visible cause and easily spread from one situation to another (Ekkekakis, 2012; Morris, 1999). Frijda (2009) defines mood as ‘the appropriate designation for affective states that are about nothing specific or about everything regarding the world in general’. Mood is originally caused by an event, but is temporally remote, while emotions follow the stimulus that elicited them (Morris, 1999). For example, a person can wake up in a bad mood and continue to feel bad the whole day, due to an interaction with a family member the previous evening.

Moreover one’s current mood state can influence one’s judgment pattern; mood can have a profound impact on the decisions we make (Clore & Huntsinger, 2007). This effect is also known as mood congruency, which refers to a match in one’s mood and one’s judgment pattern. According to mood congruency, a happy person will believe that good weather is more likely than bad weather since sunny weather is congruent with a happy mood (Bower, 1989; Mayer et al., 1992). Bower (1989) suggested that happiness causes people to perceive positive events as more likely, because their mood triggers the recall of positive memories. Likewise, sadness triggers negative memories which causes sad people to perceive negative events as more likely.

Mood has proven to have a pervasive impact on JDM. Studies show that mood is more influential over time than affect and emotion (Bless, 2001; Isen, 2000). Moreover, it colors our perception of the probability of certain outcomes and also how we perceive others (Bower, 1989; Forgas & Bower, 1987; 2001; Mayer et al., 1992). Considering the widespread use of person-perception skills in the domain of legal decision making along with the task to find out what exactly happened in a certain situation, examining affective biases in this process is obviously of considerable importance. Nevertheless, this research domain has been overlooked (Forgas & Brower, in press). This study will therefore focus on the impact of mood on judgment and decision making processes concerning a criminal case.

### **Influence of mood on heuristic and systematic information processing**

The literature provides evidence that positive and negative moods influence one’s information processing in a different manner (Mitchell & Phillips, 2007; Schwarz & Clore, 2007). When comparing individuals in a happy mood to those in a sad mood, the results of various studies show that happiness leads to less cognitive effort and more reliance on heuristics. Heuristics exist out of

judgement relevant cues that do not require cognitive effort, such as scripts and stereotypes. Eagly et al. (1991) define stereotypes as generalizations about social group-characteristics that we attribute to members of a certain group, without considering the variation that must exist among the members of that group. A script on the other hand, is a well-defined, specific schema for a particular order of expected events in a certain context. Scripts are formed by our expectations about how certain events should take place and therefore they help us to organise our everyday life (Hudson et al., 1992; Perugini et al., 2010). Reliance on stereotypes and scripts will result in a situation in which one will contentedly proceed on 'cruise control', without bothering to think and reason thoroughly (Bodenhausen et al., 1994). While these heuristic cues are time saving and reduce demands for thinking, they can lead to biases that will negatively impact the quality of our judgement (Bless et al., 1996; Bodenhausen et al., 1994; Bolte et al., 2003; Ruder & Bless, 2003; Storbeck & Clore, 2005).

Moreover, individuals who experience happiness, will work hard to maintain their positive mood (Kort & Reilly, 2002). In order to achieve this, they distance themselves from the processing of information that could be a potential threat for their current state of happiness (Petty & Smith, 1995). Happy moods also have motivational implications: if one asks oneself 'Have I committed myself enough?' a good mood might imply an affirmative answer, which will terminate the cognitive effort (Martin et al., 1993). Motivational models (Kort & Reilly, 2002) argue that this is the reason why a happy mood counteracts thorough information processing (Lemerise & Arsenio, 2000). Another explanation is given in the domain of capacity models. According to these models, happy moods reduce the cognitive capacity of the individual due to the activation of a high number of interconnected positive memories (Park & Banaji, 2000; Ruder & Bless, 2003). Therefore, people who are feeling happy might not have the cognitive resources that are required for systematic processing. Which leaves them with no other option but to rely on heuristic processing (Bless et al., 1996; Kahneman, 2002; Mackie & Worth, 1989; 1991; De Vries, 2008). In contrast, sad moods do not lead to such an effect. Since negative memories are undesirable, individuals try to regulate their mood by blocking unpleasant memories (Joormann & Siemer, 2004). Furthermore, individuals in a sad mood are more likely to make thoughtful decisions (Martin & Clore, 2001; Sinclair et al., 1994). In line with this reasoning, research shows that individuals in a sad mood engage in systematic elaboration and outweigh the advantages and the disadvantages, while happy individuals appear to respond more intuitively (Bless & Fiedler, 2006). Likewise, other research shows that individuals in a sad mood produce considerably less inconsistencies in a multi attribute decision task, compared to individuals in a happy mood (Forgas & Fiedler, 1996).

Taken together, a sad mood induces a deliberate, systematic mind-set, while a happy mood induces an intuitive, deliberate mind-set (Bolte et al., 2003).

### **The influence of mood on aspects related to legal decision making**

In this paragraph we will discuss how a happy mood (which facilitates reliance on heuristics) and a sad mood (which facilitates reliance on systematic processing) influences five domains related to legal decision making. After we discussed each domain, we will discuss its implications regarding the domain of legal decision making by providing an example found in the corresponding literature.

**Perceiving of outcomes and others.** Firstly, mood influences how we rate the probability of certain outcomes. As priory mentioned, outcomes that contain a 'happy ending' are perceived as more probable by individuals in a happy mood compared to individuals in a sad mood. This is due to the fact that happiness activates the recall of positive experiences, while sadness activates the recall of negative experiences. This effect of mood congruence is also applicable to our perception of other people. For example, happy individuals form more favorable impressions about other people than sad individuals do (Forgas & Bower, 1987; 2001). This is also applicable to the domain of legal decision making. For example, sad judges make significantly more guilty judgments, while judges in a happy mood accept significantly more denials as truthful (Bornstein & Wiener, 2010).

**Confidence in own assumptions.** Second, Bodenhausen et al. (1994) showed that happiness induces positive information about an individual's own position. This indicates that if one is in a happy mood, they believe that they are completely correct, which increases the confidence in their assumptions (Estrada et al., 1994; Gleicher & Weary, 1991). Sadness on the other hand, does not have such an effect. While happiness is associated with increasing confidence, sadness is associated with the opposite (Clore et al., 2001). Sad individuals are more careful in their judgement, which might indicate an underlying risk-averse decision approach as a feature of a sad mood. Moreover, sad mood decreases one's tendency to rely on heuristics, since it highlights the importance of a strategy that is more specific, detail-oriented and cautious (Bless et al., 1990; Schwarz & Clore, 2003). These effects are also applicable to the domain of legal decision making. For example, happy judges who had to judge the genuineness of individuals displaying negative and positive facial expressions, were more confident in their judgments about the genuineness of these expressions than sad participants. They were more confident that they performed the task well, while sad participants were not that certain about their own efforts (Forgas & East, 2008).

**Susceptibility to arguments.** Third, although the literature clearly shows that strong persuasive messages are generally more effective than weak persuasive messages, studies indicate that the quality of arguments has a weak effect on happy people (Bless et al., 1990; Mackie & Schwarz, 1992; Mitchell, 2000). Individuals in a happy mood are as easily persuaded by strong as weak arguments. This effect has found support in a large amount of studies (Bless et al., 1990; 1992;

2006; Bohner et al., 1992; Eagly & Chaiken, 1993; Isen, 2008; Martin & Clore, 2001; Petty & Cacioppo, 1986; Ruder & Bless, 2003; Schwarz, 2013; Sinclair et al., 1994; Wegener & Petty, 1994). This effect was also found in the domain of legal decision making. For example, studies show that if a police officer can induce a positive mood in jurors, these targets are easier to persuade because now they probably do not pay as close attention to the arguments made by that police agent (Bailey, 1983; Petty & Cacioppo, 1986). In this way, an agent can 'soften up' the targets for an influence attempt.

**Observational accuracy.** Fourth, individuals in a sad mood outperform happy participants in reporting testimonial inconsistencies, which indicates more substantive processing (Semmler & Brewer, 2002). Additionally, studies show that individuals in a sad mood are less susceptible for misleading details (Forgas, 2013). For example, in one experiment, participants witnessed an argument between a professor and a student (Forgas, 2005). One week later, the participants were asked questions that contained misleading details about the incident they witnessed. A sad mood significantly reduced the susceptibility to incorporate misleading details. These effects were also found in the court room. For example, Semmler and Brewer (2002) found that when jurors were in a sad mood, their accuracy in detecting witness inconsistencies and their perception of the witness trustworthiness and the suspect's guilt significantly improved.

**Stereotype-based reasoning.** Finally, happiness produces a higher reliance on beliefs about a group in judging its individual members (Park & Banaji, 2000). Happy moods promote group stereotyping, while sad moods promote an individualistic focus (Bodenhausen, 1993; Isbell, 2004). This assumption finds support in various theories, such as the mood-as-information and mood-and-general-knowledge theories (Bless & Fiedler, 2006; Schwarz & Clore, 2003). Park & Banaji (2000) showed that the chance that an individual judges another person to be a criminal, increases when the individual is in a happy mood and when the person of judgement belongs to a stereotyped group associated with crime. Likewise, the same effect is found in the domain of legal decision making. Jurors in a happy mood judged female defendants significantly as less likely to be guilty than male defendants. Thus, a happy mood can lead to leniency with a female defendant who does not meet the gender-crime stereotype, while it can lead to severe judgement when it concerns a male suspect who does meet the gender-crime stereotype (Curtis, 2013).

Overall it is evident that mood influences judgment and decision making in a profound manner, often without awareness, on various domains that are strongly related to legal decision making. What are the implications of the tendency of mood to guide our judgment processes into a certain direction?

### **Police investigations and the role of mood**

The different mechanisms that have been identified through scientific research and were discussed in this study so far, might also have been at work in the case of Lucia de B, as we described at the beginning of this chapter. In the domain of legal decision making, tunnel vision refers to the tendency to hold on to an initial belief despite the fact that other evidence challenges this belief. Tunnel vision is considered as an undesirable process, since it refers to the narrow-minded pursuit of evidence that supports a certain decision that has already been made, while other evidence that might challenge the initial decision is ignored (Snook & Cullen, 2008). The unavoidability of tunnel vision does not imply that we do not have an obligation to do all that is within our power to minimize its effects. A first step towards addressing this problem is to identify the multiple causes and expressions of tunnel vision (Findley & Scott, 2006). This study will contribute to this by focusing on the effect of one specific mechanism which has barely been the focus of studies investigating this topic, despite the fact that the probability that it can induce tunnel vision is recognized (Findley & Scott, 2006).

Findley (2006) argues that our susceptibility to common heuristics and logical fallacies makes us prone to tunnel vision. This would imply that people in a happy mood who are analyzing a criminal case, are prone to tunnel vision. Based on priory discussed research, it might seem probable to argue that people in a happy mood are more likely to develop tunnel vision, than people in a sad mood: a happy mood promotes reliance on stereotypes and schemes, while sad individuals gather more information and subsequently weigh out the evidence (Bodenhausen et al., 1994; Findley, 2006; Lerner & Keltner, 2000). Concrete examples in the above paragraph also point out that the effects of a happy mood, can negatively affect legal decision making: it increases confidence in our own assumptions, it makes us more susceptible to weak arguments, it increases our reliance on stereotypes and it makes us less attentive (Alloy et al., 1981; Bless & Fiedler, 2006; Bodenhausen, 1993; Bodenhausen et al., 1994; Forgas, 2005; 2011; 2013; Park & Banaji, 2000; Ruder & Bless, 2003; Schwarz, 2013; Schwarz & Clore, 2003).

However, an important feature of tunnel vision is that evidence is ignored that might challenge one's initial judgment (Snook & Cullen, 2008). Therefore, a distinction needs to be made between initial judgment and the update of a belief in the light of new evidence. It is precisely because a sad individual's initial judgment has a broader scope, that sad participants might not find it easy to change their initial belief as they have also invested more time and effort in creating their initial belief as compared to happy individuals. This tendency to stick to courses of action once effort, money or time has been invested is called the sunk-cost bias (Arkes & Blumer, 1985). Just because sad participants invest more effort in gathering, analyzing en weighing the evidence, the sunk-cost

bias predicts that they will be less open to alternative interpretations if these contradict their initial judgment than happy individuals (Hafenbrack et al., 2014). Happy participants on the other hand, have not invested that much since their initial judgment is based on heuristics, and will therefore be more open to alternative interpretations. As a result, sad participants will be less likely than happy participants to update their initial belief on receiving contradictory evidence. In line with this line of reasoning, research has indicated that negative emotions are associated with an increased incidence of the sunk-cost bias (Coleman, 2010; Moon et al., 2003; Hafenbrack et al., 2014; Wong & Kwong, 2007; Zhang & Baumeister, 2006).

### **The current study**

This study will examine the influence of one's mood state on their decision making processes in analysing a criminal case. To measure these effects, this study will use the legal case as used by Kerstholt & Eikelboom (2007). The case concerns the disappearance of a young woman and the main task of the participants is to come up with possible scenarios. The most probable scenario is that the woman has left her parents' home of her own accord. Based on the discussed literature, this study hypothesizes that participants in a happy mood rely more on low-effort heuristic information processing, while sad participants rely more on high effort systematic information processing which will make them prone to tunnel vision. Furthermore, we predict that mood will influence one's performance on this task also in another way.

In line with the effects of mood congruence, we expect happy participants to consider a scenario with a 'happy ending' concerning Lylian's disappearance, as most likely (Bower, 1981; Forgas & Bower, 1987; 2001; Mayer et al., 1981). For example, we expect that they will consider scenario's in which Lylian did not face any harm or in which she ran away for only a short period, as likely. On the other hand, we predict that sad participants will consider negative scenarios in which Lylian has been harmed or has run away with the intention to stay away from home for good, as likely. Likewise, since happy people make more positive judgments and form more favorable impressions about other people, we also expect them to judge the information sources as more reliable and trustworthy, while sad participants will judge them more negative (Forgas & Bower, 1987).

*H1: Participants in a happy mood will consider positive scenario concerning Lylian's disappearance as more likely than sad participants, congruent with their mood.*

*H2: Participants in a happy mood will judge the information sources as more reliable and trustworthy, than sad participants.*

Moreover, we expect that the increased reliance on heuristic processing by happy participants and the increased reliance on systematic processing by sad participants, will express itself on the next three domains.

First, as happy people rely on heuristic information processing we expect more reliance on their most likely scenario. Moreover, motivational models argue that a happy mood will lead to an termination of cognitive effort (Kort & Reilly, 2002; Martin et al., 1993). Therefore we expect happy participants to generate less scenarios. Capacity models state that happy individuals might not have the cognitive resources needed for systematic processing, which means that they will not be able to generate many scenarios (Bless et al., 1996; Kahneman, 2002; Ruder & Bless, 2003).

*H3: Participants in a happy mood come up with less (alternative) scenarios than participants in a sad mood.*

Second, since a happy mood increases confidence, we expect happy participants to be more certain of their initial scenario (Clore et al., 2001; Gleicher & Weary, 1991; Isen & Daubman, 1984).

*H4: Participants in a happy mood consider their most likely scenario as more plausible than participants in a sad mood.*

*H5: Participants in a happy mood consider the alternative scenarios as considerably less plausible than their most likely scenario, compared to participants in a sad mood who consider alternative scenarios only as a little less plausible.*

Third, the literature shows that the more confidence people have in their initial assumptions, the less information they process (Tormala et al., 2008; Weary & Jacobson, 1997). This is explained by the fact that when people feel confident, they interpret that feeling as a confirmation that they already have sufficient knowledge, which eliminates the urge to process the available information systematically (Chaiken et al., 1989). Therefore we predict that participants in a happy mood, who have more confidence in their initial scenario than sad participants, consider less information sources as important since their confidence obstructs the systematic processing of information.

*H6: Participants in a happy mood consider less information sources as important than sad participants.*

It may seem plausible to assume, based on the above hypotheses, that happy participants will be more likely to develop tunnel vision than sad participants: they construct less scenarios, have

more confidence in their initial scenario and pay less attention to information and details than sad participants do (Bodenhausen et al., 1994; Findley, 2006; Lerner & Keltner, 2000). However, we predict that happy and sad moods affect tunnel vision in distinct ways, depending on the phase of the investigation. Tunnel vision is also reflected by the fact that individuals hold on to their initial interpretation despite new information. Therefore, we make a distinction between initial judgment and update of belief. Whereas a sad mood might lead to more systematic processing, this also costs more effort. According to the sunk-cost bias, when one has invested considerable effort in processing and considering all available information, they find it hard to accept a contradicting scenario (Arkes & Blumer, 1985; Hafenbrack et al., 2014). As sad participants invested more in their judgement process we expect that it would cost them a lot to switch to a different scenario. In contrast, since heuristic processing costs significantly less effort than systematic processing, we predict that happy participants would switch more easily than sad participants.

*H7: Participants in a happy mood will be more susceptible to the interpretation of the police team than participants in the sad mood condition if it contradicts their initial interpretation.*

## Methods

### Study overview

In order to test the hypotheses, we conducted an experiment in which participants were divided into either the happiness condition or the sadness condition. During the experiment, the participants were instructed to combine two different tasks. On the one hand they had to watch several video fragments and read a criminal case file along with the corresponding witness testimonies, and on the other hand they had to answer questions associated with these videos and the criminal case. Based on the condition they were in, participants watched videos that induced either a happy or a sad mood.

The content of the scenarios participants generated (hypothesis one), their perception of the witnesses (hypotheses two), the total number of scenarios they generated (hypothesis three), the confidence they have in their own assumptions (hypotheses four and five) and how they value information sources (hypothesis six), were all measured during the first six survey questions regarding the criminal case. Their susceptibility to the interpretation of the investigation team (hypothesis seven), was subsequently measured through their score on the seventh and ninth survey question. In order to check whether participants were indeed in a happy or sad mood, we added a mood survey that measured their mood after they watched the video fragments and finished the experiment.

## Participants

After deleting two participants from the data set due to incomplete responses that were crucial for the experiment, fifty participants successfully participated in this study. The sample consisted of more women (68.0%) than men (32.0%), who were all Dutch (100%). Their age was between the age of 19 and 62, with a mean age of 32.84 (SD = 13.11). Furthermore, one respondent only completed high school (2.0%), almost a quarter completed intermediate vocational education, a few participants completed their university's first year transcript (6%), the majority completed higher vocational education or had an academic degree and one fifth had a master degree. Moreover, the vast majority did not have children (72.0%). Half of all respondents was not religious, while over a third of participants was Catholic of which most visited church one a year.

In order to control whether this succeeded in random groups, we recoded the above mentioned demographic values into nominal variables (for example: gender, male = 1 and female = 2; age, 18-25 = 1, 26-35 = 2, ... 65+ = 6). For gender, age, education, family situation and religion one-way ANOVA tests were executed. We chose for this test since it provides information that shows whether the means are equal among both conditions (Huizingh, 2007). One-way ANOVA calculated a p-value of 0.687 for gender, 0.733 for age, 0.968 for education, 0.960 for family situation and 0.969 for religion. This indicates that there is no single category overrepresented within one of these demographic variables.

## Design

A 1 factor between subjects design with two levels (sadness versus happiness) was used in this study. Each participant was assigned to one of the two conditions on a random basis. Furthermore, there were three dependent variables in our experiment that measured the aspects of scenario building: the scenarios that were generated, the subjective plausibility and certainty of these scenarios, and the reliability, consistency and importance of the information sources. The two dependent variables that measured the willingness to update a belief in the light of new information, were the likelihood of adjusting the initial judgment and the confidence in the initial judgment.

## Procedure

Participants were contacted and informed about the experiment through email via the researcher's social network. We collected the data in a time frame of twenty-one days in June and July 2015. Participants were recruited through email, via the social network of the experimenter. If participants agreed to participate in the experiment, the experimenter sent a link to the survey, including an

information letter and a consent form. First, participants were asked to read the information letter and to sign the consent form. This information letter informed the participants that they would take part in an experiment that would take about thirty minutes of their time, in which they would be performing two different tasks; watching short video fragments and reading a criminal case file. They were told that the experiment's focus would be on how well people perform in combining these two tasks. Needless to say, this was done in order to limit the transparency of the design. Furthermore, participants were asked to locate themselves in a quiet room with no distractions, to close the door and to completely focus on the task. After participants read the information letter and signed the form, they could click on the 'next page' button in the survey to start the experiment. Before the experiment started, participants were asked to follow the instructions on their computer screen. Next, participants were told that they were going to watch a short video fragment they had to watch attentively. Participants in the happy condition watched a short video fragment from the movie 'Happy Feet' while participants in the sad condition watched a short video fragment from the movie 'Sophie's Choice'. Subsequently, they had to answer two questions about the video fragment. Next, participants were asked to carefully read a criminal case file about the disappearance of a young woman. After this, they watched the second video fragment of Happy Feet if they were in the happiness condition, while they watched the second fragment of Sophie's Choice when in the sadness condition. Subsequently, they had to answer two questions about the video again. After this, participants had to carefully read seven witness statements. Next, they watched the third Happy Feet fragment when they were in the happiness condition, or the third Sophie's Choice fragment when in the sadness condition. Also, they again had to answer two questions about the video. Following the case and statements, participants were instructed to answer a total number of six questions about the disappearance of the young woman. Participants were told that there were no wrong or good answers and that they should answer each question with, in their perspective, the best suitable answer. If participants wanted to view the case file again, they could click on the 'previous page' button. Preceding to the last two questions of the experiment, participants read an announcement about the interpretation of the police team that investigated Lylian's case. In this section, participants were informed that the team concluded that Lylian's father played a key role in her disappearance. After this information was given, participants were asked to rate how likely it would be that they would adjust their initial scenario. Furthermore, they were asked how certain they felt about their initial scenario. After the participants completed the questionnaire, they had to click on 'send'. Next, participants were instructed that they almost finished the experiment and were asked to rate twenty-five adjectives based on how they felt when answering the questions regarding Lylian's case. Again, participants were told that there were no good or wrong answers and to answer

in an intuitive way. Finally, participants were told they had arrived at the last part of the survey. In this section, they were asked to fill in a demographic questionnaire. After participants completed this questionnaire and clicked on the 'send' button, they were thanked for their participation in the study. Since participants in the sadness condition were probably still experiencing the after-effects of eliciting a sad mood, they watched a video fragment from happy feet in order to eliminate such effects. All participants were offered, if desired, an overview of the results after these were obtained and fully processed.

### **Materials**

The mock case that was used in this study was supplied by the Dutch Police Academy and was also used in the study of Kerstholt and Eikelboom (2007). It concerned a realistic case of which the details were changed for privacy reasons. The case described the disappearance of a young women, Lylian, reported by her father. Furthermore, Lylian came from a religious family and had a relationship with a Tunisian man. Participants read seven witness statements: Lylian's father, neighbour, employer, best friend, boyfriend, boyfriend's employer and uncle (from her father's side).

- Witness 1.     The father: Admitted that the tension in their home became high since he could not accept the relationship between Lylian and her Tunisian boyfriend.
- Witness 2.     The neighbour: Saw Lylian leaving the house by bike and has not seen her since that moment.
- Witness 3.     Friend: Knew that Lylian has informed at the Tunisian embassy if it was possible to receive a Dutch nationality when she and her boyfriend would marry. She also told that Lylian quitted her study, she could not handle it because of her weak health.
- Witness 4.     Employer: Described Lylian as an introvert women.
- Witness 5.     Boyfriend: Said that he was working at the snack bar.
- Witness 6.     Employer boyfriend: Confirmed the story of the boyfriend.
- Witness 7.     The uncle: Told that Lylian suffered from her strict upbringing and that she was very upset about her home situation.

### **Mood manipulation**

Mood was induced by three short video clips that would either induce happiness or sadness. The effects of these video clips are relatively long-lasting and robust (Gross & Levenson, 1995). In the happiness scenario, participants watched fragments from Happy Feet, whereas participants watched fragments from Sophie's Choice in the sadness scenario. These fragments have proven to be effective

in previous mood studies (Berkum et al., 2013). All fragments were composed in such a way that they would maximally induce happiness or sadness, while they were at the same time relatively coherent as a series and would make sense regarding the terms of the larger plot. After each fragment, participants had to answer two questions about that fragment, in order to provide them with an incentive as an encouragement to watch the fragments attentively.

## Measurements

*Perceiving of outcomes and witnesses.* We examined how likely participants perceived certain outcomes and how reliable and trustworthy they judged the witnesses. First, participants constructed a scenario they considered as most likely concerning the disappearance of the young women. In order to measure the perceived reliability and trustworthiness of the witnesses, two scales were constructed with seven items regarding the seven witnesses. These items inquired about the participants judgment of all seven witnesses in terms of their reliability and trustworthiness. The possible answers ranged from 1 (very unreliable) to 7 (very reliable) for the first scale and from 1 (very untrustworthy) to 7 (very trustworthy) for the second scale. An explanatory factor analysis with the principle component method was conducted to see whether both scales consisted out of the same factor. The factor analysis extracted four factors with an eigenvalue higher than one, which explained 78.5% of the variance. However, the perceived reliability and trustworthiness of the friend did not belong to the same factor. Likewise, the same accounted for the perceived reliability and trustworthiness of the employer. Therefore, we conclude that the items of reliability and trustworthiness should not be combined into one scale. We also measured the correlations between the perceived reliability and trustworthiness of the witnesses and the Cronbach Alpha of both scales. As one can see in table 1, the internal consistency meets the requirements since almost all scales are bigger than 0.7 and the correlations between the reliability and trustworthiness of the witnesses are all above 0.5.

Table 1. *Correlation perceived reliability and trustworthiness and reliability check*

| Information source | Inter-Item correlation | Cronbach's Alpha |
|--------------------|------------------------|------------------|
| Father             | 0.525                  | 0.686            |
| Neighbour          | 0.634                  | 0.768            |
| Employer           | 0.789                  | 0.881            |
| Friend             | 0.741                  | 0.846            |
| Boyfriend          | 0.801                  | 0.889            |
| Employer boyfriend | 0.776                  | 0.872            |
| Uncle              | 0.647                  | 0.786            |

*Number of generated scenarios.* Moreover, in order to examine whether participant's mood influenced the number of scenarios they generated, we measured the total amount of scenarios they wrote down, when asked to generate minimally one and maximally three scenarios.

*Confidence in own assumptions.* Additionally, by measuring how plausible participants considered their initial, second and third scenario, we examined the confidence they held in their own assumptions. Participants were asked to judge the plausibility of the scenarios they constructed on a scale ranging from 1 (not plausible at all) to 7 (very plausible).

*Importance of information sources.* The perceived importance of witnesses was measured through asking participants to judge all seven witnesses, based on their importance. Again, participants had to judge the witnesses on a seven-point scale ranging from 1 (not important at all) to (very important).

*Susceptibility to an alternative interpretation.* In order to examine whether participants were susceptible to an alternative interpretation that contradicted their initial beliefs, we provided them with the interpretation of the investigation team. Participant's susceptibility to this interpretation was measured through their estimation of the likelihood that they would adjust their initial scenario. Furthermore, it was also examined whether the confidence in their initial scenario would decrease in the light of this new information.

*Mood.* To quantify mood, we asked participants to describe how they felt while executing the tasks. Twenty-five mood state adjectives were presented that had to be evaluated on a scale ranging from 1 (totally not) to 7 (very much). The questionnaire consisted out of ten clearly valenced mood state adjectives, of which five were strongly related to happiness: cheerful, content, good-humored, positive and good, while the other five were strongly related to sadness: negative, sad, gloomy, down and bad. To quantify mood, we calculated the average score across the above mentioned adjectives. Besides these adjectives, the questionnaire also presented fifteen less clearly valenced

adjectives in order to limit the transparency of the focus on the clearly valenced mood adjectives. These fifteen adjectives were: undisturbed, nervous, active, relaxed, focused, distracted, irritated, tired, motivated, curious, interested, scared, insecure, self-assured and uncomfortable.

We conducted an exploratory factor analysis for all twenty-five adjectives, with the principal component method. In order to make the results easy to compare between the two groups, we conducted factor analyses based on all answers given on each scale. The analysis resulted in seven factors with an eigenvalue above one, which explained 77.5% of the variance. However, the items undisturbed, curious, interested, self-assured, relaxed and positive loaded below 0.4 on each factor. Therefore, we deleted these six items and ran the analysis again. This resulted in five factors, which explained 72.6% of the variance. Table two presents an overview of the factor analysis concerning the five negative and positive valued adjectives. The first factor also shows the contrast between the positive and negative items. Since all five items associated with sadness consisted out of the same factor, we averaged all items together in order to create a single scale. The factor analysis extracted two factors regarding the four items related to happiness (as mentioned before, we deleted the item 'positive' from the analysis due to an insufficient factor loading that was less than .4). The first factor existed out of the items 'happy' and 'cheerful', which indicated an exuberant expression of happiness. Therefore, this factor was called 'Active happiness'. The second factor existed out of the items 'satisfied' and 'good', which are modest expressions of happiness. Therefore, we named this factor 'Passive happiness'. The two extracted factors both measure happiness, but in another form (exuberant versus modest). Because of this, we also averaged these four items together and created a scale. The Cronbach's alpha was 0.923 for the items related to sadness and 0.767 for the items related to happiness (the item positive was excluded). We concluded that the measurement scale of sadness and happiness are reliable, since both scores are higher than the standard Cronbach Alpha minimum of 0.70 (Streiner, 2003).

Table 2. *Factor analysis for the mood scale.*

| Item             | Sadness | Exuberant happiness | Modest happiness |
|------------------|---------|---------------------|------------------|
| I felt Negative  | .815    |                     |                  |
| I felt Sad       | .766    |                     |                  |
| I felt Gloomy    | .837    |                     |                  |
| I felt Down      | .883    |                     |                  |
| I felt Bad       | .864    |                     |                  |
| I felt cheerful  | -.463   | .650                |                  |
| I felt happy     | -.562   | .601                |                  |
| I felt satisfied | -.665   |                     | .457             |
| I felt good      | -.689   |                     | .469             |

*Note: Factor loadings < .40 are omitted.*

## Results

Once the process of data collection was completed, the results could be analyzed. We first performed chi-square tests in order to check whether the happiness and sadness condition were not significantly different from one another. Subsequently, we examined whether the mood manipulation was successful. Finally, we tested the seven hypotheses.

### Chi-square tests

Since the allocation of respondents among the two conditions has to be a random process with an equally distribution across both conditions free from any confounding factors, we conducted tests in order to find out if this was the case. The chi-square test calculated non-significant p-values for all demographic variables (  $p = 0.749$  for gender,  $p = 0.584$  for age,  $p = 0.371$  for nationality,  $p = 0.648$  for educational level,  $p = 0.827$  for family,  $p = 0.067$  for religion and  $p = 0.569$  for religion intensity). See table 3 for an overview of these results. This indicates that no significant differences were found across the happiness and sadness conditions if we used a significance level of 0.05.

Table 3. *Chi-square tests for demographic variables.*

| Demographics       | P-values |
|--------------------|----------|
| Gender             | 0.680    |
| Age                | 0.620    |
| Nationality        | 0.331    |
| Educational level  | 0.675    |
| Family situation   | 0.842    |
| Religion           | 0.078    |
| Religion intensity | 0.566    |

### Manipulation checks video fragments

An important measure was the manipulation check of the video fragments. The results show that respondents in the happiness condition scored significantly higher on the happiness scale ( $M = 5.260$ ,  $SD = 1.020$ ) than sad participants ( $M = 4.298$ ,  $SD = 1.012$ ),  $F(1, 49) = 11.193$ ;  $p < 0.01$ . Likewise, sad participants scored significantly higher on the sadness scale ( $M = 2.946$ ,  $SD = 1.514$ ) than happy participants ( $M = 1.575$ ,  $SD = 0.855$ ),  $F(1, 49) = 15.189$ ;  $p < 0.001$ . Taken together, we conclude that the manipulation of mood through the video fragments has been successful in both conditions.

### Generated scenarios

Throughout the literature review of this study, we generated seven hypotheses. In the next section, we will present the outcomes of our hypotheses testing concerning the influence of mood on the number of scenarios that participants have generated, the content of these scenarios and the subjective plausibility and certainty of these scenarios.

In order to test the hypothesis that participants in the happiness condition generate less scenarios that explain the disappearance than sad participants, we compared the average number of scenarios that were constructed by both groups. The results showed that participants in the happiness condition generated on average 2.291 scenarios, while sad participants generated an average of 2.401 scenarios. We conclude that the two conditions do not differ from each other since the difference between them was not significant  $F(1, 49) = 2.092$ ;  $p = 0.155$ .

Second, we compared the content of the scenarios happy and sad participants generated. In order to do this, we coded the scenarios they considered as most likely in roughly seven categories: 1 =

Lylian ran away, 2 = Lylian's father did something to her, 3 = Lylian's boyfriend kidnapped her, 4 = a stranger kidnapped Lylian, 5 = Lylian became the victim of a crime, 6 = Lylian's mother did something to her, 7 = Lylian ran away and her boyfriend is aware of it, 8 = Lylian ran to her friend in Utrecht. The results showed that the scenarios happy participants considered as most likely, exist out of different characteristics compared to those of sad participants. Sad participants constructed significantly more scenarios in which Lylian became the victim of a crime ( $N = 14$ ), while happy participants constructed less scenarios in which Lylian became the victim of a crime ( $N = 5$ ). Furthermore, happy participants considered it as more likely that Lylian had not been exposed to any harm whatsoever ( $N = 19$ ), than sad participants ( $N = 12$ ). See table 4 for an overview of the results. Subsequently, we compared the happiness and sadness condition based on whether they considered it as most likely that Lylian became the victim of a crime (1) or that she was fine (2). The results showed a significant difference between the mean scores of both groups: happy participants considered it as more likely that Lylian was fine ( $M = 1.792$ ,  $SD = 0.415$ ) while sad participants considered it as more likely that Lylian became the victim of a crime ( $M = 1.462$ ,  $SD = 0.508$ )  $F(1, 49) = 6.266$ ,  $p = 0.016$ .

Table 4. *Most likely scenario disappearance*

| Condition                                 | <i>Sad</i>       | <i>Happy</i>     |
|-------------------------------------------|------------------|------------------|
|                                           | <i>Frequency</i> | <i>Frequency</i> |
| Ran away from home                        | 9                | 9                |
| Ran away from home, boyfriend is involved | 3                | 8                |
| Her father has done something to her      | 6                | 2                |
| Her boyfriend kidnapped her               | 3                | 3                |
| Someone unknown kidnapped her             | 3                | 0                |
| She became a victim of a crime            | 1                | 0                |
| She went to visit her friend              | 0                | 2                |
| Her mother did something to her           | 1                | 0                |
| Lylian became the victim of a crime       | 14               | 5                |
| Lylian is fine                            | 12               | 19               |

Third, we investigated the subjective plausibility of the scenarios participants generated. As table 5 shows, participants in the happy condition considered their first scenario significantly as more plausible than sad participants did  $F(1, 49) = 5.337, p = 0.025$ . Furthermore, we hypothesized that sad participants would consider their second and third scenario as more plausible than happy participants would consider their second and third scenario. Although the mean values suggest a difference, this difference turned out to be not statistically significant.

Table 5. *Plausibility rating most likely scenario*

| Condition                                | <i>Sad</i>        | <i>Happy</i>      | F      |
|------------------------------------------|-------------------|-------------------|--------|
|                                          | <i>Mean score</i> | <i>Mean score</i> |        |
| <i>Plausibility most likely scenario</i> | 5.577             | 6.250             | 5.337* |
| <i>Plausibility second scenario</i>      | 4.750             | 4.550             | 0.187  |
| <i>Plausibility third scenario</i>       | 3.353             | 3.272             | 0.011  |

\* $p < 0.05$

However, when we compared the means between both groups regarding the plausibility ratings of the initial and second scenario, one will see that the mean score is significantly higher among the happiness condition than in the sadness condition  $F(1,49) 2.666, p = 0.017$ . See table 6. This indicates that happy participants consider their second scenario as a lot less plausible than their initial scenario, while sad participants consider it only as a little less plausible. We did not find the same effect for the mean difference between the plausibility ratings of the second and third scenario.

Table 6. *Mean difference between both conditions for scenario 1 -2*

|                                                                        | Sadness | Happiness |        |
|------------------------------------------------------------------------|---------|-----------|--------|
|                                                                        | Mean    | Mean      | F      |
| <u>Sadness condition</u>                                               |         |           |        |
| <i>Mean difference of plausibility ratings scenario 1 – scenario 2</i> | 0.917   | 1.650     | 2.666* |

\* =  $p < 0.05$

### Evaluation of information sources

Furthermore, we examined the subjective reliability, trustworthiness and importance of the information sources. The results will be presented in this paragraph. First, we asked the participants to judge the reliability of seven witness testimonies. Table 7 gives a summary of the results. Even

though the mean scores suggest a difference between the two conditions, all differences turned out to be insignificant.

Table 7. *Reliability information sources*

| Condition          | <i>Sad</i> | <i>Happy</i> | F     |
|--------------------|------------|--------------|-------|
|                    | Mean Score | Mean Score   |       |
| Father             | 4.23       | 4.33         | 0.242 |
| Neighbor           | 6.00       | 5.83         | 0.573 |
| Employer           | 5.46       | 5.71         | 1.346 |
| Friend             | 5.08       | 4.67         | 0.044 |
| Boyfriend          | 3.92       | 3.67         | 2.078 |
| Uncle              | 4.27       | 4.79         | 1.144 |
| Employer boyfriend | 5.27       | 5.67         | 0.336 |

Next, we asked participants to judge the trustworthiness of all seven testimonies. The results showed that happy participants considered the testimony of Lylia's employer as more trustworthy than sad participants  $F(1, 49) 8.601, p = 0.005$ . The other differences between both conditions were not significant. See table 8 for an overview of the results. Concerning these results, it is worth noticing that although sad participants judged Lylia's employer as less trustworthy than happy participants did, none of the sad participants considered it as highly likely that one of these information sources had something to do with Lylia's disappearance. However, a few sad participants mentioned the possibility that Lylia's employer was involved in her disappearance, but none of them could not support this claim by anything more than a 'gut feeling'.

Table 8. *Trustworthiness information sources*

| Condition          | <i>Sad</i> | <i>Happy</i> | F       |
|--------------------|------------|--------------|---------|
|                    | Mean Score | Mean Score   |         |
| Father             | 4.31       | 5.17         | 1.928   |
| Neighbor           | 5.58       | 5.79         | 0.179   |
| Employer           | 5.35       | 5.92         | 8.601** |
| Friend             | 5.19       | 5.00         | 0.044   |
| Boyfriend          | 4.31       | 4.17         | 2.539   |
| Uncle              | 5.50       | 5.71         | 0.564   |
| Employer boyfriend | 4.77       | 4.88         | 0.077   |

\*\*  $p < 0.01$

Finally, we examined how sad and happy participants judged the importance of the testimonies. The results in table 9 show that happy participants considered the father's testimony as more important  $F(1, 49) 7.636, p = 0.008$ , while sad participants considered the boyfriend's testimony as more important  $F(1, 49) 9.230, p = 0.004$ . Table 9 provides a summary of the results.

Table 9. *Importance witness statements*

| Condition          | <i>Sad</i>        | <i>Happy</i>      | F       |
|--------------------|-------------------|-------------------|---------|
|                    | <i>Mean score</i> | <i>Mean score</i> |         |
| Father             | 5.58              | 6.00              | 7.636** |
| Neighbor           | 5.08              | 4.17              | 0.054   |
| Employer           | 4.69              | 3.50              | 0.100   |
| Friend             | 6.08              | 5.46              | 0.539   |
| Boyfriend          | 5.46              | 5.29              | 9.230** |
| Uncle              | 4.92              | 4.46              | 0.131   |
| Employer boyfriend | 5.46              | 5.75              | 0.577   |

\*\*  $p < 0.01$

### Belief revision

**Susceptibility to contradicting information when father was not initially suspected.** In the final part of the experiment, we provided participants with the information that the testimony of Lylian's father was not completely based on the truth. Subsequently, we examined how this would influence their confidence in their initial scenario when did not suspected the father at first. We also measured how likely participants estimated the chance that they would adjust their initial scenario in the light of this new information. Table 10 provides an oversight of the results. Although the results suggest a difference in the mean scores between the two conditions, none of these differences has proven to be significant. It is worth noticing the fact that there were only two participants in the happiness condition suspecting the father, while there were six sad participants who mentioned the father as a suspect in their initial scenario.

Table 10. *Susceptibility to new information*

| Condition                                       | Sad               | Happy             | F     |
|-------------------------------------------------|-------------------|-------------------|-------|
|                                                 | <i>Mean score</i> | <i>Mean score</i> |       |
| <i>Not suspected the father</i>                 |                   |                   |       |
| <i>Level of confidence initial scenario</i>     | 3.35              | 3.52              | 1.087 |
| <i>Likelihood of adjusting initial scenario</i> | 57.3500 %         | 63.952 %          | 0.407 |
| <i>Suspected the father</i>                     |                   |                   |       |
| <i>Level of confidence initial scenario</i>     | 6.00              | 4.00              | 0.900 |

We also investigated whether happy and sad participants that already thought Lylian became the victim of a crime, but did not suspected the father to be involved (thus partially in accordance with the alternative interpretation), differed in their susceptibility to the alternative interpretation. The results showed that these groups did not differ in their willingness to update their initial scenario  $F(1, 10) 2.508, p = 0.437$ . Likewise, the confidence these participants held in their initial scenario did not significantly differ between both groups  $F(1, 10) 0.001; p = 0.976$ .

**Susceptibility to contradicting information when initial judgment was correct.** When participants correctly considered it as most likely that Lylian decided to leave her parent's home, we found an interesting result. Happy participants who initially thought this were significantly more willing to adjust their scenario in the light of the contradicting interpretation, while sad participants were less likely to adjust their scenario  $F(1, 17) 3.120, p = 0,039$ . See table 11. The difference between both conditions concerning the confidence in their initial scenario was not significant  $F(1, 17) 0.183; p = 0.675$ .

Table 11. *Susceptibility when initial belief was correct*

| Condition                                                          | Sad                                                         | Happy  | F      |
|--------------------------------------------------------------------|-------------------------------------------------------------|--------|--------|
|                                                                    | <i>Mean score of willingness to adjust initial scenario</i> |        |        |
| <i>Considered it as most likely that Lylian ran away from home</i> | 42.444                                                      | 71.333 | 3.120* |

\* $p < 0.05$

**Susceptibility to contradicting information when initial judgment concerned other scenarios.** Additionally, we tested whether sad and happy participants who initially did not suspected the father or thought Lylian ran away, differed in their susceptibility to the contradicting interpretation. Although the mean scores of both conditions suggest that sad participants are more likely to adjust their initial scenario ( $M = 67.917$ ,  $SD = 26.905$ ) than happy participants ( $M = 60.539$ ,  $SD = 28.716$ ), this difference turns out to be not significant  $F(1, 24) 0.437$ ;  $p = 0.515$ . See table 12. The difference between the confidence in the initial scenario also did not significantly differ among the both conditions  $F(1, 24) 0.307$ ;  $p = 0.585$ .

Table 12. *Susceptibility when initial belief concerned other scenarios*

| Condition                                                                           | Sad    | Happy  | F     |
|-------------------------------------------------------------------------------------|--------|--------|-------|
| <i>Mean score of willingness to adjust initial scenario</i>                         |        |        |       |
| <i>Did not consider the involvement father or a runaway scenario as most likely</i> | 67.917 | 60.539 | 0.437 |

## Discussion

This study was build up around the central research question: can mood decide whether we hold on to our initial beliefs? In our attempt to answer this question, we generated three sub-questions that tested the influence of mood on three different aspects related to tunnel vision. We found an effect of mood on the content of the scenarios participants generated and on the confidence participants have in their scenarios. Furthermore, we found mixed results for the effect of mood on participant's subjective witness reliability and trustworthiness. Concerning the effect of mood on the number of scenarios participants generated or the perceiving of the witnesses' importance, we did not find significant differences between the two conditions. In the next three paragraphs, we will discuss the results of these sub-questions in detail, which will eventually lead us to answer the main research question.

### **Influence of mood on the number, content and likelihood of generated scenarios**

As described in other studies, we found support for the effect of mood congruence (Bower, 1981; Forgas & Bower, 1987; 2001; Mayer et al., 1992). Sad participants generated significantly more scenarios than happy participants in which Lylian became the victim of a crime. Likewise, a few sad

participants constructed scenarios in which Lylian became the victim of a crime or a kidnapping (even by her friend or mother), while happy participants did not even mention these scenarios. Taken together, the majority of the sad participants considered it as most likely that Lylian was exposed to harm, while the majority of the happy participants considered it as most likely that she was safe and well. We also found support for the notion that happiness increases confidence: participants in the happiness condition indeed considered their initial scenario as significantly more plausible than sad participants considered theirs. This agrees with the studies of Bodenhausen et al. (1994) and Clore et al. (2001), which argue that happiness increases one's confidence in their own assumptions. Furthermore, the fact that sad participants consider their most likely scenario as less plausible than happy participants do, can be regarded as a consequence of an underlying risk-averse approach (Bless et al., 1990; Schwarz & Clore, 2003). Moreover, we found that both conditions considered their second scenario as less plausible than their initial scenario, but this difference was significantly larger within the happiness condition. This side-effect possibly indicates that the confidence happy participants have in their initial scenario, indirectly leads them to be more skeptical towards their alternative self-constructed scenarios. We found no support for the hypothesis that sad individuals generate more scenarios than their happy counterparts.

### **Influence of mood on subjective reliability, trustworthiness and importance of witness statements**

In this study, we did not find a significant difference between the both conditions concerning their subjective reliability of the witness testimonies. However, participants in the sadness condition judged the testimony of Lylian's employer as less trustworthy than happy participants did. It is worth noticing that although sad participants judged Lylian's employer as less trustworthy, none of the sad participants considered it as highly likely that the employer had something to do with Lylian's disappearance. However, a few sad participants mentioned the possibility that Lylian's employer was involved in her disappearance, but none of them could support this claim by anything more than a 'gut feeling', which could indicate an effect of mood congruence. Moreover, happy participants judged the father's testimony as more important while they judged the boyfriend's testimony as less important. Despite the fact that happy participants considered scenarios in which Lylian was fine as more plausible than scenarios in which she became the victim of a crime, they considered the criminal involvement of the boyfriend as more likely than the involvement of the father. In the description of the case and the testimony, it becomes clear that Lylian's father is a (strict) vicar and that her boyfriend is a Tunisian young man, who is in need of a residence permit. Studies show that the chance that an individual judges another person to be criminal, increases when that individual is

in a happy mood and when the person of judgement belongs to a stereotyped group associated with crime. Likewise, a happy mood can lead to extreme judgement when it concerns a male suspect who meets the gender crime profile. Therefore, the finding that happy participants judge the father's testimony as more important and the boyfriend's as less important, is supported by the literature that found that a happy mood promotes group stereotyping (Bodenhausen, 1993; Curtis, 2013; Isbell, 2004; Park & Banaji, 2000). However if the above is applicable, we would have expected such an effect as well for the subjective reliability and trustworthiness of the testimonies. Another explanation could be that sad participants are detail-oriented, which made them notice the fact that the boyfriend provides an alibi in his testimony (Bless et al., 1990; Schwarz & Clore, 2003).

### **Influence of mood on revision of belief**

When we compared all scenarios generated by both groups, we did not find a significant difference between the two conditions regarding their susceptibility to an alternative interpretation. However, there is one important outcome we need to discuss separately, that is at odds with the effect of mood congruence. The most plausible explanation for Lylian's disappearance is that she has decided to leave home at her own account. Although the interpretation and information provided by the police team suggests the involvement of the father and makes him suspicious, it does not provide the participant with substantial evidence that the father was indeed involved in the disappearance of his daughter. We found that happy participants who considered it as most likely that Lylian ran away, were more likely to adjust their scenario after they read the alternative interpretation that made the father suspicious. In contrast, sad participants who also initially thought that Lylian ran away, were less likely to revise this initial belief. When sad participants did not initially thought Lylian ran away or when they did not suspected the father in their initial scenario, they did not showed the tendency to hold on to their initials scenario. Therefore we conclude that the sad participants in this study, who considered the most plausible scenario indeed as most plausible, were less susceptible to the alternative interpretation. In other words, sad participants were less likely to update their initial scenario in the light of contradicting information than happy participants, but only when their initial scenario was in fact the correct one.

### **Can mood decide whether we hold on to our initial beliefs?**

We conclude that it is possible that mood has an indirect effect on tunnel vision, through deciding the information processing strategy the individual will use. The literature provides evidence that sadness promotes effortful systematic information processing, while happiness promotes low effort

heuristic processing. Our results support this finding. We found that sad participants read the case file thoroughly, since they considered more scenarios as likely and did not significantly favour one above the rest. Moreover, we discovered a few inconsistencies in the criminal case concerning the presentation of our data. There were six sad participants and only one happy participant who reported this to the experimenter. This supports the literature that individuals in a sad mood outperform happy participants in reporting inconsistencies, which indicates more substantive processing (Semmler & Brewer, 2002). Since systematic information processing and a detail-oriented focus cost considerably effort, we argue that it is very likely that sad participants invested more effort in thinking through their initial scenario than happy participants. This could have caused them to be less susceptible to alternative interpretations since switching scenarios would cost them more than happy participants, since they also invested more than their happy counterparts (Arkes & Blumer, 1985; Hafenbrack et al., 2014). However, it is very questionable whether we can label sad participant's tendency to hold on to their initial belief that Lylian ran away, as tunnel vision. They might be less susceptible to information that makes the father suspicious, but this information does not provide any substantial evidence for the father's guilt. In other words, sad participants make the right decision: they hold on to their initial belief that Lylian ran away, which is still the most plausible scenario.

### **Implications for legal decision making**

The detection of wrongful convictions has shaken up the domain of legal decision making. It violates the principle on which our criminal justice system is based: determining an individual's guilt in the most accurate way, in order to eliminate erroneous convictions of the innocent. The development of tunnel vision is one of the main threats to our criminal justice system, and yet it is considered to be a complicated process. Researchers describe tunnel vision as a threat to which every individual is susceptible. Therefore, scientific contributions need to be made in order to examine every possible construct related to it. A couple of studies have identified various factors responsible for the development of tunnel vision such as institutional pressure, peer pressure and deliberate policies reflected in rules throughout the system (Findley, 2006), implying that tunnel vision is a unconscious process evoked by conscious, observable factors.

Yet, in this study we argue that there might be more than meets the eye. This study showed that happy and sad moods impact one's judgment processes in a different way. We found that a happy and sad mood have an different influence on the initial phase of the investigation, and on individual's willingness to update their initial belief. For instance, we found that sadness in the initial

phase of a criminal investigation leads the individual to construct a detailed overview of the case and testimonies, including the smallest details that could potentially become meaningful. Furthermore, sad individuals consider alternative scenarios or explanations at this point as more plausible than happy participants do. Moreover, happy participants showed a tendency to generate more scenarios in which the outcomes contained a 'happy ending' whereas sad participants did the opposite. Since moods are highly unconscious processes, it is important for individuals who are working in the domain of legal decision making to be aware of the fact that their mood state colors their judgment.

However, when both conditions considered the most plausible scenario indeed as the most plausible, sad participants were less susceptible to contradicting information that did not provide any substantial evidence. As already mentioned, it is highly doubtful whether we can label this as tunnel vision. Later in this chapter, we will provide some instructions for further research that could enlighten the question whether a sad mood leads to tunnel vision or to the perseverance of an initial correct belief.

### **Limitations of this study**

Although we carefully built up this experiment, there are some limitations that we need to mention in this paragraph.

To start with, the experiment required participants to stick to the procedure as was described in the explanation form. However, we cannot check whether this actually happened since we have to rely on the assumption that participants followed the instructions. When they did not, this might have caused invalid results. For example when they did not locate themselves in a quiet room away from distractions, they might not have been able to concentrate on the experiment which could have influenced the mood manipulation or their analysis of the criminal case.

Considering the mood manipulation, we also noticed that our video fragments responsible for the mood manipulation, were considerably time consuming. The experiment required participants to watch attentively, but it is not implausible that participants could not constantly watch them with full attention. Furthermore, the survey itself took about thirty minutes. We think that this caused the considerable amount of non-response and the high level of drop-out rates.

Another limitation is the generalization of our data. We are aware of the fact that one cannot compare oranges to apples. And therefore one cannot compare a sample of civilians to a sample of individuals who are daily involved in legal decision making. Our sample did not receive training and has no experience in this area, while the opposite is true for agents of justice.

Nevertheless, the effect of mood can easily slip into one's daily judgment processes, since people are often oblivious of their mood state and its effect.

Moreover it could be that happy participants, who relied more on heuristics than sad participants, were therefore more susceptible to the status of the police team and therefore more likely to accept their interpretation. This is known as the authority heuristic and is a well-known bias often used to determine the credibility of a source (Sundar, 2008). Since sadness does not facilitate reliance on heuristics, sad individuals were probably not susceptible to the effect of this heuristic.

### **Recommendations for further research**

In this section we will present an overview of recommendations for future research, which are partially based on the discussed limitations.

In order to make sure that participants can optimally concentrate and in order to eliminate distracting factors, it would be wise to invite participants to a lab and to take place in a quiet, peaceful room when participating in the experiment. This would also prevent non-responses from happening and the chance to drop out.

Another aspect that might be subject to near further research would be the adding of more respondents in order to draw stronger conclusions about the effect of mood on decision making. Moreover by adding more respondents, the sample would probably become more diverse. This would allow researchers to examine whether there are demographic characteristics that might mediate the relationship between mood and judgment processes, such as a certain profession.

Furthermore, our study focused on the effect of mood on the judgment patterns of people who normally do not engage in legal decision making. Thus in order to increase the scope of this research theme, future research should examine the effect of mood on the judgment and decision making of people who are daily involved in legal decision making. For example, Kersholt & Eikelboom (2007) used the same criminal case in their study and found that crime analysts who had knowledge of the interpretation favored by an investigation team (that Lylian's father might be involved), arrived much more often at the same conclusion than crime analysts who did not know the team's opinion in advance. It will be of scientific relevance to investigate what the effect of one's mood state will do to this finding; will sad crime analysts for example also hold on to their initial scenario(s) and be less susceptible to alternative interpretations, like the sad participants in our study?

Regarding the effect of mood on judgment, future research should focus on the reason why individuals in a happy mood are more susceptible to the interpretation of a police team. It should be investigated whether this is because of their heightened susceptibility to the authority heuristic.

Measuring participant's susceptibility to authority after the mood manipulation, would provide more insight in this underlying process. For example, would the contradicting interpretation have the same effect when it was not provided by a police team but by a non-authority figure? Furthermore, when the sample would existed out of police officers in a happy mood, would they be just as susceptible to this interpretation, since it is provided by their direct colleagues which eliminates the authority aspect?

A final important direction for future research concerns the clarification whether a sad mood leads to the development of tunnel vision or to the perseverance of an initial belief, which is in fact correct. In order to investigate this, one can replicate this experiment and make a distinction between the level of evidence that is presented. For example, one group of participants could be exposed to the same interpretation used in this study which would provide a low-level of evidence, while another group could be exposed to a high-level of evidence, such as a testimony of a reliable eye-witness that strongly implies the involvement of a specific witness in the disappearance.

To conclude, further research is needed in order to contribute to the scholarly inquiry into the causes of wrongful convictions. Hopefully, all contributions will eventually lead to reforms designed to prevent the convictions of the innocent.



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## **The Experiments**

### **The Sadness condition – Experiment 1**

Hartelijk dank voor uw deelname aan mijn onderzoek. In dit experiment onderzoek ik hoe mensen twee verschillende taken (het kijken van een filmpje en het beoordelen van een politiezaak) combineren. Het deelnemen aan dit experiment zal zo'n 20 minuten in beslag nemen. Voordat u start met het experiment, wil ik u vragen om in een rustige kamer plaats te nemen, waar er geen dingen zijn die u afleiden en om u volledig te concentreren op het scherm van uw computer of tablet. Er zullen tijdens het experiment instructies verschijnen op uw scherm, die u de benodigde informatie verschaffen. Wanneer u klikt op 'volgende' krijgt u een formulier te zien waarin u wordt gewezen op uw rechten als proefpersoon. Graag wil ik u vragen om deze aandachtig door te lezen en om vervolgens te klikken op 'ik ga akkoord met de bovengenoemde voorwaarden'. Als u de instructies volgt, dan wijst het experiment zich vanzelf. Nogmaals hartelijk bedankt voor uw deelname.

Ik verklaar hierbij op voor mij duidelijke wijze te zijn ingelicht over de aard en methode van het onderzoek, zoals uiteengezet in de bovenstaande informatie. Mijn vragen zijn naar tevredenheid beantwoord. Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud daarbij het recht deze instemming weer in te trekken zonder dat ik daarvoor een reden hoeft te geven en besef dat ik op elk moment mag stoppen met het experiment. Indien mijn onderzoeksresultaten gebruikt zullen worden in wetenschappelijke publicaties, dan wel op een andere manier openbaar worden gemaakt, zal dit volledig geanonimiseerd gebeuren. Mijn persoonsgegevens zullen niet door derden worden ingezien zonder mijn uitdrukkelijke toestemming.

Als ik nog verdere informatie over het onderzoek zou willen krijgen, nu of in de toekomst, kan ik me wenden tot Liselotte Kraanen. Telefoon: 06-57666307 E-mail: l.s.kraanen@student.utwente.nl

Voor eventuele klachten over dit onderzoek kunt u zich wenden tot de secretaris van de Commissie Ethiek van de faculteit Gedragswetenschappen van de Universiteit Twente, mevr. J. Rademaker.  
Telefoon: 053-4894591  
E-mail: j.rademaker@utwente.nl  
Postbus 217, 7500 AE Enschede

Betreffende de onderzoeker: Ik heb toelichting verstrekt op het onderzoek. Ik verklaar mij bereid nog opkomende vragen over het onderzoek naar vermogen te beantwoorden.'

Naam onderzoeker

Handtekening onderzoeker

Liselotte Sophie Kraanen

Liselotte Sophie Kraanen

Indien u als proefpersoon het eens bent met bovenstaande voorwaarden, klikt u op 'ik ga akkoord met bovenstaande voorwaarden'.

☐ Ik ga akkoord met de bovengenoemde voorwaarden

In dit experiment krijgt u drie videofragmenten en twee stukken informatie over een politiezaak te zien. De fragmenten en de politiezaak zijn op geen enkele manier met elkaar verbonden. Na elk videofragment volgen er een aantal vragen over het desbetreffende fragment. Na het lezen van

beide stukken informatie over de politiezaak, zal u een aantal vragen worden gesteld betreffende deze zaak. In dit experiment zal u zich moeten focussen op het combineren van deze twee verschillende taken. Wanneer u op volgende klikt, zal het eerste videofragment verschijnen.



Klik op het fragment om deze af te spelen

1 Wat is de nationaliteit van de vrouw en haar twee kinderen?

- ☐ Duits
- ☐ Pools
- ☐ Nederlands

2 Waarom krijgt de vrouw 'het voorrecht' om één van haar twee kinderen te mogen houden?

- ☐ Omdat ze Duits is
- ☐ Omdat ze een jongetje en een meisje heeft
- ☐ Omdat ze geen Jodin is

Op de volgende pagina staat een algemene beschrijving van een politiezaak. Leest u deze zaak aandachtig door.

De politie zaak Op maandagochtend 10 augustus 2002 , te 09.00 uur, krijgt de wachtcommandant van de politie te Enschede een telefoontje van meneer van de Wetering. Hij meldt de vermissing van zijn dochter Lylian van 19 jaar oud. Volgens de vader is Lylian is op zondagmiddag 9 augustus 2002 , rond 16.00 uur vanaf het ouderlijk huis op haar fiets vertrokken voor een fietstochtje. Zij is nog steeds niet teruggekeerd en de vader van Lylian maakt zich erg ongerust. Lylian is nog nooit een nacht van huis gebleven zonder te laten weten waar zij is. De vader vertelde dat hij wel een aantal ziekenhuizen gebeld had, om na te gaan of zijn dochter mogelijk betrokken was geweest bij een ongeluk. Daarbij noemde de vader de namen van de ziekenhuizen die hij gebeld had. Tevens was hij zondagavond omstreeks 22.30 uur bij het NS-station geweest om te kijken of de fiets van zijn dochter daar stond. Hij kon de fiets niet vinden. De politie maakt een afspraak met de vader en start vervolgens een onderzoek.



Nu u de casus heeft gelezen, wil ik u vragen om de tweede video te bekijken. Hierboven ziet u wederom een video. Als u op dit scherm klikt, speelt de video zich af. Wanneer u de video heeft bekeken, klikt u op volgende.

3 Wat is het beroep van de onderbuurman?

- ☐ Schrijver
- ☐ Politieagent
- ☐ Hier wordt niks over gezegd

4 Wat was destijds het nummer van Sophie in het concentratiekamp?

- ☐ 11379
- ☐ 22379
- ☐ 33379

Nu volgen er zeven getuigen verklaringen. Wanneer u op volgende klikt, zullen deze verschijnen.

Hieronder staan zeven getuigen verklaringen. Leest u deze alstublieft alle zeven aandachtig door.  
De verklaringen van de getuigen

1. Proces-verbaal van verhoor van H.M. van de Wetering (vader van Lylian) Tijdens het verhoor van de vader van Lylian werd duidelijk dat Lylian enig kind is van H.M. van de Wetering en L.B. van de Wetering-Huizinga. Het gezin woont in een vrijstaande villa. Lylian woonde niet meer in de vrijstaande woning van haar ouders, maar had ongeveer 6 maanden geleden de naastgelegen garage van de woning ingericht als appartement. Het gezin is streng gelovig en er waren de laatste tijd wat spanningen binnen het gezin, omdat Lylian omgang had met een medewerker van de plaatselijke shoarmazaak, een man van 23 jaar van Tunesische afkomst. De vader van Lylian gaf tijdens het verhoor aan, dat deze spanningen af en toe hoog opliepen. De ouders verboden Lylian de omgang met deze Tunesische man. Lylian wilde echter wel met hem omgaan. Tijdens dit verhoor van de vader was de moeder van Lylian aanwezig. Zij was erg onderdanig richting haar man en heeft zich niet in het gesprek gemengd. Zij verklaarde zelfs dat zij alleen in het bijzijn van haar man gehoord wenste te worden. De vader bevestigde nogmaals dat Lylian op zondagmiddag 9 augustus 2004, rond 16.00 uur op haar fiets, een grijze Gazelle damesfiets was vertrokken richting de bosrand net buiten de villawijk waar het gezin woont. Tijdens een onderzoek van het appartement van Lylian waren de ouders aanwezig. Volgens de ouders waren er geen bijzonderheden in het appartement. Ook was er geen kleding / koffer of iets dergelijks verdwenen.

2. Proces-verbaal van verhoor van T. Willemse (buurvrouw van de familie van de Wetering) T. Willemse heeft op zondagmiddag 9 augustus rond 16.15 uur Lylian gezien. Lylian was toen op haar grijze damesfiets. Zij droeg een zomerjack en een zwart rugzakje. Zij fietste over de Dorpsstraat in de richting van het Bos. T. Willemse heeft haar nog even nagekeken en vroeg zich af waar zij naar toe fietste. Daarna heeft T. Willemse Lylian niet meer gezien.

3. Proces-verbaal van verhoor van G.H. de Vries (vriendin van Lylian) Tijdens het verhoor van de studievriendin van Lylian werd duidelijk dat er binnen het gezin van de Wetering al geruime tijd spanningen waren vanwege de relatie tussen Lylian en H. Hamoudi. Volgens G.H. de Vries is H. Hamoudi een vriendelijke en serieuze man, waarop Lylian tot over haar oren verliefd was geworden. G.H. de Vries vertelde dat zij Lylian tijdens haar studie psychologie in Utrecht had leren kennen. Lylian was na haar afstuderen op het Atheneum, naar Utrecht vertrokken voor de studie psychologie. Lylian heeft toen een tijdje in Utrecht gewoond bij een broer van haar vader. Omdat Lylian een zwakke gezondheid (fysiek) had, kon zij de studie niet aan en is zij teruggekeerd naar haar oude woonplaats en is zij weer bij haar ouders ingetrokken. Omdat er regelmatig spanningen waren tussen de ouders en Lylian, is toen besloten om de garage als appartement in te richten. Lylian woonde ongeveer 6 maanden in dit appartement. G.H. de Vries verklaarde nog dat Lylian, zonder medeweten van haar ouders, bij de ambassade van Tunesië was geweest samen met H. Hamoudi om te informeren naar de mogelijkheden om te trouwen en het verkrijgen van de Nederlandse nationaliteit voor Hamoudi. G.H. de Vries had Lylian op vrijdag 8 augustus 2002 nog gezien en gesproken. Dit gesprek ging over alledaagse dingen en er was haar niets bijzonders opgevallen.

4. Proces-verbaal van verhoor van L. de Wit (werkgever van Lylian) In dit verhoor kwam naar voren dat Lylian nadat zij uit Utrecht was teruggekeerd, bij het bedrijf Z als administratieve kracht aan de slag was gegaan. Zij is een in zichzelf gekeerde vrouw, waar je moeilijk hoogte van krijgt volgens haar werkgever L. de Wit. Lylian verrichtte haar werk naar behoren en verdere bijzonderheden waren er bij de Wit niet bekend.

5. Proces-verbaal van verhoor van H. Hamoudi (vriend van Lylian) Uit het verhoor van H. Hamoudi kwam naar voren dat hij sinds anderhalf jaar een verhouding heeft met Lylian van de Wetering. Hij is werkzaam in de shoarmazaak van O. Demir. Lylian was over haar oren verliefd op H. Hamoudi en hij is zelf ook gek op haar. H. Hamoudi heeft geen idee waar Lylian kan zijn. Op zondagmiddag 9 augustus 2004 vanaf 14.00 uur tot 22.00 uur was hij aan het werk in de shoarmazaak. Rond 15.00 uur heeft hij nog contact gehad met Lylian. Zij vroeg toen wanneer hij klaar was met werken. Toen H. Hamoudi gezegd had dat hij tot 22.00 uur moest werken, hadden ze een afspraak gemaakt voor dinsdagavond 11 augustus in de shoarmazaak. Op vrijdag 8 augustus rond 20.00 uur had hij Lylian nog gesproken. Zij hadden toen samen koffie gedronken in de shoarmazaak. Tijdens dit gesprek over alledaagse dingen was hem niets bijzonders opgevallen.

6. Proces-verbaal van verhoor van O. Demir (werkgever van H. Hamoudi) O. Demir de werkgever van H. Hamoudi bevestigde dat H. Hamoudi op zondag 9 augustus 2004 vanaf 13.30 uur tot 22.30 uur aanwezig was geweest in de shoarmazaak. O. Demir was daar zelf ook aanwezig die tijd. Er waren ongeveer 40 klanten in de zaak geweest in deze tijd. O. Demir zou de namen van deze klanten aan de politie doorgeven. O. Demir kent Lylian omdat zij regelmatig in de shoarmazaak komt. Zij was er ook vrijdagavond 8 augustus. Hij weet geen tijdstip meer, maar H. Hamoudi was er toen in ieder geval ook.

7. Proces-verbaal van verhoor van K. van de Wetering (broer van H.M. van de Wetering) De broer van de vader van Lylian verklaarde dat het gezin van zijn broer streng gelovig was en dat Lylian bijzonder streng opgevoed werd. Op het moment dat Lylian ging studeren, probeerde zij onder het juk van voornamelijk haar vader uit te komen. Dit leverde regelmatig spanningen op. Tijdens een gesprek tussen K. van de Wetering / zijn echtgenote P. van de Wetering-Jansen en Lylian was Lylian bijzonder emotioneel geworden over haar thuissituatie. Zij heeft in dat gesprek toen ook haar hart gelucht over de situatie thuis.



Nu u de getuigenverklaringen heeft gelezen, wil ik u vragen om de derde video te bekijken. Hierboven ziet u wederom een video. Als u op dit scherm klikt, speelt de video zich af. Wanneer u de video heeft bekeken, klikt u op volgende.

5 Wat gebeurde er met Poolse kinderen die 'Arische raskenmerken' vertoonden?

- ☐ Ze werden voorgetrokken in concentratiekampen
- ☐ Ze werden naar Polen teruggestuurd, om daar in concentratiekampen te werken
- ☐ Ze werden naar Duitsland gestuurd, om opgevoegd te worden als Duitsers

6 Waarom wil Sophie de Gestapo documenten niet vertalen?

- ☐ Ze vindt het te concontrerend
- ☐ Ze is bang hiermee haar kinderen in gevaar te brengen
- ☐ Ze heeft er geent tijd voor

Nu volgen er een aantal vragen over de politiezaak. Wanneer u op volgende klikt, zullen deze verschijnen.

1. Wat zijn mogelijke verklaringen voor Lylian's vermissing? Met andere woorden: welke mogelijke scenario's kunt u bedenken? Schrijf minimaal 1 en maximaal 3 scenario's op en zet deze achter elkaar als:

Scenario 1:... Scenario 2:... Scenario 3:...

Geef bij elk scenario specifiek aan wie er volgens u bij de verdwijning betrokken is.

Het antwoord typt u niet in dit scherm, maar in de onderstaande balk.

2 Hoe waarschijnlijk acht u deze scenario's? Geef voor elk scenario aan hoe waarschijnlijk u deze acht.

|                    | Ze<br>er<br>on<br>waarschijn<br>lijk | On<br>waarschijn<br>lijk | Een beetje<br>on<br>waarschijn<br>lijk | Neu<br>tra<br>al      | Een beetje<br>waarschijn<br>lijk | Waarschijn<br>lijk    | Ze<br>er<br>waarschijn<br>lijk |
|--------------------|--------------------------------------|--------------------------|----------------------------------------|-----------------------|----------------------------------|-----------------------|--------------------------------|
| Scenari<br>o A (1) | <input type="radio"/>                | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>          |
| Scenari<br>o B (2) | <input type="radio"/>                | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>          |
| Scenari<br>o C (3) | <input type="radio"/>                | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>          |

3 Welk scenario acht u het meest waarschijnlijk? Geef een korte argumentatie (2-3 zinnen).

4 Hoe betrouwbaar beschouwt u de verklaringen van de volgende getuigen?

[illegible]

5 Hoe geloofwaardig beschouwt u de verklaringen van de volgende getuigen?

[illegible]

6 In welke mate achtte u de volgende verklaringen belangrijk voor uw scenario?

[illegible]

7 Hoe groot is de kans dat u, in het licht van deze kennis, uw initiële scenario aanpast?



- 9 Hoe zeker bent u van uw initiële scenario, nu u kennis heeft van de interpretatie van het onderzoeksteam?

[illegible]

10 Tijdens het uitvoeren van de taken voelde ik mij...

[illegible]



Bij deze tweede vragenlijst vragen we u om wat demografische gegevens in te vullen. In de onderstaande vragenlijst, kunt u de optie selecteren die voor u (het meest) van toepassing is.

1 Wat is uw geslacht?

- ☐ Man
- ☐ Vrouw

2 Wat is uw leeftijd?

- ☐ 16-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-55
- ☐ 56-65
- ☐ 65+

3 Wat is uw nationaliteit?

4 Wat is uw hoogst genoten opleiding?

- ☐ Geen onderwijs / basisonderwijs / lagere school
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5 Hoeveel kinderen heeft u?

- ☐ Ik heb geen kinderen
- ☐ 1-2
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6 Hoe zou u uw geloofsovertuiging omschrijven?

- ☐ Katholiek
- ☐ Protestants
- ☐ Moslim
- ☐ Joods
- ☐ Sikh
- ☐ Andere geloofsovertuiging
- ☐ Ik geloof niet in een god

7 In welke mate beoefent u actief uw geloofsovertuiging?

- ☐ Dagelijks
- ☐ Minstens een keer per week
- ☐ Minstens een keer per maand
- ☐ Minstens een keer per jaar
- ☐ Niet relevant

Hartelijk bedankt voor uw deelname aan mijn onderzoek. Indien u geïnteresseerd bent in de resultaten van dit onderzoek, kan ik u een samenvatting van de resultaten opsturen, wanneer u hieronder uw e-mailadres achterlaat. De resultaten krijgt u binnen twee maanden opgestuurd.

**The happiness condition – Experiment 2**

Hartelijk dank voor uw deelname aan mijn onderzoek. In dit experiment onderzoek ik hoe mensen twee verschillende taken (het kijken van een filmpje en het beoordelen van een politiezaak) combineren. Het deelnemen aan dit experiment zal zo'n 20 minuten in beslag nemen. Voordat u start met het experiment, wil ik u vragen om in een rustige kamer plaats te nemen, waar er geen dingen zijn die u afleiden en om u volledig te concentreren op het scherm van uw computer of tablet. Er zullen tijdens het experiment instructies verschijnen op uw scherm, die u de benodigde informatie verschaffen. Wanneer u klikt op 'volgende' krijgt u een formulier te zien waarin u wordt gewezen op uw rechten als proefpersoon. Graag wil ik u vragen om deze aandachtig door te lezen en om vervolgens te klikken op 'ik ga akkoord met de bovengenoemde voorwaarden'. Als u de instructies volgt, dan wijst het experiment zich vanzelf. Nogmaals hartelijk bedankt voor uw deelname.

Ik verklaar hierbij op voor mij duidelijke wijze te zijn ingelicht over de aard en methode van het onderzoek, zoals uiteengezet in de bovenstaande informatie. Mijn vragen zijn naar tevredenheid beantwoord. Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud daarbij het recht deze instemming weer in te trekken zonder dat ik daarvoor een reden hoeft te geven en besef dat ik op elk moment mag stoppen met het experiment. Indien mijn onderzoeksresultaten gebruikt zullen worden in wetenschappelijke publicaties, dan wel op een andere manier openbaar worden gemaakt, zal dit volledig geanonimiseerd gebeuren. Mijn persoonsgegevens zullen niet door derden worden ingezien zonder mijn uitdrukkelijke toestemming.

Als ik nog verdere informatie over het onderzoek zou willen krijgen, nu of in de toekomst, kan ik me wenden tot Liselotte Kraanen. Telefoon: 06-57666307 E-mail: l.s.kraanen@student.utwente.nl

Voor eventuele klachten over dit onderzoek kunt u zich wenden tot de secretaris van de Commissie Ethiek van de faculteit Gedragswetenschappen van de Universiteit Twente, mevr. J. Rademaker.  
Telefoon: 053-4894591  
E-mail: j.rademaker@utwente.nl  
Postbus 217, 7500 AE Enschede

Betreffende de onderzoeker: Ik heb toelichting verstrekt op het onderzoek. Ik verklaar mij bereid nog opkomende vragen over het onderzoek naar vermogen te beantwoorden.'

Naam onderzoeker

Handtekening onderzoeker

Liselotte Sophie Kraanen

Liselotte Sophie Kraanen

Indien u als proefpersoon het eens bent met bovenstaande voorwaarden, klikt u op 'ik ga akkoord met bovenstaande voorwaarden'.

☐ Ik ga akkoord met de bovengenoemde voorwaarden

In dit experiment krijgt u drie videofragmenten en twee stukken informatie over een politiezaak te zien. De fragmenten en de politiezaak zijn op geen enkele manier met elkaar verbonden. Na elk videofragment volgen er een aantal vragen over het desbetreffende fragment. Na het lezen van

beide stukken informatie over de politiezaak, zal u een aantal vragen worden gesteld betreffende deze zaak. In dit experiment zal u zich moeten focusen op het combineren van deze twee verschillende taken. Wanneer u op volgende klikt, zal het eerste videofragment verschijnen.



Klik op het fragment om deze af te spelen

1 Wat zijn de namen van de baby pinguins?

- ☐ Gloria & Mumble
- ☐ Gloria & Memphis
- ☐ Gloria & Maurice

2 Wat antwoordt de baby pinguin wanneer zijn vader hem vraagt waarom hij huppelt met zijn voetjes?

- ☐ 'Ik weet het zelf ook niet papa'
- ☐ 'Mijn voetjes zijn ook blij' (4)
- ☐ 'Het is hier zo koud' (2)

Op de volgende pagina staat een algemene beschrijving van een politiezaak. Leest u deze zaak aandachtig door.

De politie zaak Op maandagochtend 10 augustus 2002 , te 09.00 uur, krijgt de wachtcommandant van de politie te Enschede een telefoontje van meneer van de Wetering. Hij meldt de vermissing van zijn dochter Lylian van 19 jaar oud. Volgens de vader is Lylian is op zondagmiddag 9 augustus 2002 , rond 16.00 uur vanaf het ouderlijk huis op haar fiets vertrokken voor een fietstochtje. Zij is nog steeds niet teruggekeerd en de vader van Lylian maakt zich erg ongerust. Lylian is nog nooit een nacht van huis gebleven zonder te laten weten waar zij is. De vader vertelde dat hij wel een aantal ziekenhuizen gebeld had, om na te gaan of zijn dochter mogelijk betrokken was geweest bij een ongeluk. Daarbij noemde de vader de namen van de ziekenhuizen die hij gebeld had. Tevens was hij zondagavond omstreeks 22.30 uur bij het NS-station geweest om te kijken of de fiets van zijn dochter daar stond. Hij kon de fiets niet vinden. De politie maakt een afspraak met de vader en start vervolgens een onderzoek.



Nu u de casus heeft gelezen, wil ik u vragen om de tweede video te bekijken. Hierboven ziet u wederom een video. Als u op dit scherm klikt, speelt de video zich af. Wanneer u de video heeft bekeken, klikt u op volgende.

3 Wat is de belangrijkste les die pinguïns volgen op de 'pinguïn basisschool'?

- ☐ Het pinquinlied
- ☐ Het hartenlied
- ☐ Het basisschoollied

4 Wie is mevrouw Astrakhan?

- ☐ De juf
- ☐ De buurvrouw
- ☐ De zangdocent

Nu volgen er zeven getuigen verklaringen. Wanneer u op volgende klikt, zullen deze verschijnen.

Hieronder staan zeven getuigen verklaringen. Leest u deze alstublieft alle zeven aandachtig door.  
De verklaringen van de getuigen

1. Proces-verbaal van verhoor van H.M. van de Wetering (vader van Lylian) Tijdens het verhoor van de vader van Lylian werd duidelijk dat Lylian enig kind is van H.M. van de Wetering en L.B. van de Wetering-Huizinga. Het gezin woont in een vrijstaande villa. Lylian woonde niet meer in de vrijstaande woning van haar ouders, maar had ongeveer 6 maanden geleden de naastgelegen garage van de woning ingericht als appartement. Het gezin is streng gelovig en er waren de laatste tijd wat spanningen binnen het gezin, omdat Lylian omgang had met een medewerker van de plaatselijke shoarmazaak, een man van 23 jaar van Tunesische afkomst. De vader van Lylian gaf tijdens het verhoor aan, dat deze spanningen af en toe hoog opliepen. De ouders verboden Lylian de omgang met deze Tunesische man. Lylian wilde echter wel met hem omgaan. Tijdens dit verhoor van de vader was de moeder van Lylian aanwezig. Zij was erg onderdanig richting haar man en heeft zich niet in het gesprek gemengd. Zij verklaarde zelfs dat zij alleen in het bijzijn van haar man gehoord wenste te worden. De vader bevestigde nogmaals dat Lylian op zondagmiddag 9 augustus 2004, rond 16.00 uur op haar fiets, een grijze Gazelle damesfiets was vertrokken richting de bosrand net buiten de villawijk waar het gezin woont. Tijdens een onderzoek van het appartement van Lylian waren de ouders aanwezig. Volgens de ouders waren er geen bijzonderheden in het appartement. Ook was er geen kleding / koffer of iets dergelijks verdwenen.

2. Proces-verbaal van verhoor van T. Willemse (buurvrouw van de familie van de Wetering) T. Willemse heeft op zondagmiddag 9 augustus rond 16.15 uur Lylian gezien. Lylian was toen op haar grijze damesfiets. Zij droeg een zomerjack en een zwart rugzakje. Zij fietste over de Dorpsstraat in de richting van het Bos. T. Willemse heeft haar nog even nagekeken en vroeg zich af waar zij naar toe fietste. Daarna heeft T. Willemse Lylian niet meer gezien.

3. Proces-verbaal van verhoor van G.H. de Vries (vriendin van Lylian) Tijdens het verhoor van de studievriendin van Lylian werd duidelijk dat er binnen het gezin van de Wetering al geruime tijd spanningen waren vanwege de relatie tussen Lylian en H. Hamoudi. Volgens G.H. de Vries is H. Hamoudi een vriendelijke en serieuze man, waarop Lylian tot over haar oren verliefd was geworden. G.H. de Vries vertelde dat zij Lylian tijdens haar studie psychologie in Utrecht had leren kennen. Lylian was na haar afstuderen op het Atheneum, naar Utrecht vertrokken voor de studie psychologie. Lylian heeft toen een tijdje in Utrecht gewoond bij een broer van haar vader. Omdat Lylian een zwakke gezondheid (fysiek) had, kon zij de studie niet aan en is zij teruggekeerd naar haar oude woonplaats en is zij weer bij haar ouders ingetrokken. Omdat er regelmatig spanningen waren tussen de ouders en Lylian, is toen besloten om de garage als appartement in te richten. Lylian woonde ongeveer 6 maanden in dit appartement. G.H. de Vries verklaarde nog dat Lylian, zonder medeweten van haar ouders, bij de ambassade van Tunesië was geweest samen met H. Hamoudi om te informeren naar de mogelijkheden om te trouwen en het verkrijgen van de Nederlandse nationaliteit voor Hamoudi. G.H. de Vries had Lylian op vrijdag 8 augustus 2002 nog gezien en gesproken. Dit gesprek ging over alledaagse dingen en er was haar niets bijzonders opgevallen.

4. Proces-verbaal van verhoor van L. de Wit (werkgever van Lylian) In dit verhoor kwam naar voren dat Lylian nadat zij uit Utrecht was teruggekeerd, bij het bedrijf Z als administratieve kracht aan de slag was gegaan. Zij is een in zichzelf gekeerde vrouw, waar je moeilijk hoogte van krijgt volgens haar werkgever L. de Wit. Lylian verrichtte haar werk naar behoren en verdere bijzonderheden waren er bij de Wit niet bekend.

5. Proces-verbaal van verhoor van H. Hamoudi (vriend van Lylian) Uit het verhoor van H. Hamoudi kwam naar voren dat hij sinds anderhalf jaar een verhouding heeft met Lylian van de Wetering. Hij is werkzaam in de shoarmazaak van O. Demir. Lylian was over haar oren verliefd op H. Hamoudi en hij is zelf ook gek op haar. H. Hamoudi heeft geen idee waar Lylian kan zijn. Op zondagmiddag 9 augustus 2004 vanaf 14.00 uur tot 22.00 uur was hij aan het werk in de shoarmazaak. Rond 15.00 uur heeft hij nog contact gehad met Lylian. Zij vroeg toen wanneer hij klaar was met werken. Toen H. Hamoudi gezegd had dat hij tot 22.00 uur moest werken, hadden ze een afspraak gemaakt voor dinsdagavond 11 augustus in de shoarmazaak. Op vrijdag 8 augustus rond 20.00 uur had hij Lylian nog gesproken. Zij hadden toen samen koffie gedronken in de shoarmazaak. Tijdens dit gesprek over alledaagse dingen was hem niets bijzonders opgevallen.

6. Proces-verbaal van verhoor van O. Demir (werkgever van H. Hamoudi) O. Demir de werkgever van H. Hamoudi bevestigde dat H. Hamoudi op zondag 9 augustus 2004 vanaf 13.30 uur tot 22.30 uur aanwezig was geweest in de shoarmazaak. O. Demir was daar zelf ook aanwezig die tijd. Er waren ongeveer 40 klanten in de zaak geweest in deze tijd. O. Demir zou de namen van deze klanten aan de politie doorgeven. O. Demir kent Lylian omdat zij regelmatig in de shoarmazaak komt. Zij was er ook vrijdagavond 8 augustus. Hij weet geen tijdstip meer, maar H. Hamoudi was er toen in ieder geval ook.

7. Proces-verbaal van verhoor van K. van de Wetering (broer van H.M. van de Wetering) De broer van de vader van Lylian verklaarde dat het gezin van zijn broer streng gelovig was en dat Lylian bijzonder streng opgevoed werd. Op het moment dat Lylian ging studeren, probeerde zij onder het juk van voornamelijk haar vader uit te komen. Dit leverde regelmatig spanningen op. Tijdens een gesprek tussen K. van de Wetering / zijn echtgenote P. van de Wetering-Jansen en Lylian was Lylian bijzonder emotioneel geworden over haar thuissituatie. Zij heeft in dat gesprek toen ook haar hart gelucht over de situatie thuis.

Nu u de getuigenverklaringen heeft gelezen, wil ik u vragen om de derde video te bekijken. Hierboven ziet u wederom een video. Als u op dit scherm klikt, speelt de video zich af. Wanneer u de video heeft bekeken, klikt u op volgende.



5 Hoeveel kleine pinguïns lopen er achter Mumble wanneer hij en Gloria in de kring tegenover elkaar staan?

- ☐ 3
- ☐ 4
- ☐ 5

6 Welke taal spreken deze pinguïns?

- ☐ Spaans
- ☐ Frans
- ☐ Engels

Nu volgen er een aantal vragen over de politiezaak. Wanneer u op volgende klikt, zullen deze verschijnen.

1. Wat zijn mogelijke verklaringen voor Lylian's vermissing? Met andere woorden: welke mogelijke scenario's kunt u bedenken? Schrijf minimaal 1 en maximaal 3 scenario's op en zet deze achter elkaar als:

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Het antwoord typt u niet in dit scherm, maar in de onderstaande balk.

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3 Welk scenario acht u het meest waarschijnlijk? Geef een korte argumentatie (2-3 zinnen).

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[illegible]

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- 9 Hoe zeker bent u van uw initiële scenario, nu u kennis heeft van de interpretatie van het onderzoeksteam?

[illegible]

U bent nu bij het laatste onderdeel van het onderzoek wat bestaat uit twee vragenlijsten. We vragen u bij de eerste vragenlijst om te beschrijven hoe u zich voelde tijdens het uitvoeren van de taken. Op onderstaande schaal, die loopt van 1 (nooit) tot 7 (zeer vaak), kunt u aangeven in hoeverre u bepaalde gevoelens heeft ervaren.

10 Tijdens het uitvoeren van de taken voelde ik mij...

[illegible]



Bij deze tweede vragenlijst vragen we u om wat demografische gegevens in te vullen. In de onderstaande vragenlijst, kunt u de optie selecteren die voor u (het meest) van toepassing is.

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