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# Humanity and Dominance in Police Interviews: Causes and Effects

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## Humanity and Dominance in Police Interviews: Causes and Effects

This experimental study examined whether a humanitarian and a dominant interviewing style, respectively, had any causal effect on 146 interviewees' memory performance, as well as the interviewees' psychological well-being. Independent-samples *t*-tests showed that participants interviewed in a humanitarian style reported a larger amount of information altogether, including, as defined, more peripheral and central information, compared to those interviewed in a dominant style. The amount of false reported information was statistically invariable regardless of interviewing style. A mixed between-within analysis of variance showed an interaction effect between the interviewing style and the interviewees' anxiety level before and after interview, thus, partly supporting the hypothesis that a humanitarian interviewing style promotes greater psychological well-being among interviewees. Factors influencing the results are discussed, including the main implications, which are that a humanitarian interviewing style promotes rapport building and provides the interviewees with adequate time to find retrieval paths and cues to memories.

One of the most important and powerful investigative tools the police possess and employ for gathering information from crime victims, witnesses and suspects is the police interview. Interviewing techniques have been the focus of numerous research studies aimed at increasing our understanding and knowledge of various factors affecting the outcome of an interview (see, e.g., Clifford & George, 1996; Fisher, Geiselman & Amador, 1989; Williamson, 1993). The outcome of a successful interview, in terms of the amount of information elicited and the psychological well-being of the interviewee, is associated with the interviewing style used by the interviewer (see, e.g., Holmberg, 2004; Holmberg & Christianson, 2002; Wright & Alison, 2004; Vrij, Mann & Fisher, 2006). The reported effects and conclusion of the majority of these studies rely on correlated data suggesting a relation between two or more variables, and while correlational data are interesting, they cannot be used as the basis for drawing conclusions about causal relationships. The main purpose of the present experimental study is to investigate possible causal relations between the interviewing style employed and the interview outcome in terms of the memory performance by the interviewee, and the interviewee's psychological well-being.

### *Police interviewing techniques*

The trend in police interviewing techniques over the past decades has shifted from interrogation with an aim to obtain confessions towards an interviewing style that takes a more enquiring approach. Thus, the interview is more focused on examining and adding information and crime-related circumstances to existing evidence (Williamson, 1993). However, although police interviewing techniques have improved over time, there is still need for further improvements of police officers' interviewing skills and their ethical approach towards the interview (see, e.g., Ask, 2006; Walsh & Milne, 2008; Wright & Alison, 2004).

The *standard police interview* was defined by Clifford and George (1996). They concluded that the standard police interview was characterized by an abundance of closed, connecting or clarifying questions. Thus, open questions were rare; the interview had a more interviewer-led focus and consequently offered less space for the interviewee's narration. The *cognitive interview* (CI), developed by Fisher and Geiselman, is a memory enhancing technique built on cognitive and social psychology, and has been found to enhance the recollection abilities of crime victims and witnesses (e.g., Fisher, Geiselman & Amador, 1989). The concept of CI recognizes the importance of the interviewee's narrative and provides the interviewee with adequate time and space to depict the event (Shawyer et al., 2009). Fisher (1995) suggested that the CI was useful for interviewing victims and cooperative witnesses. However, the CI may also be suitable for interviewing cooperative suspects (Fisher & Perez, 2007). In a meta-analytic review, Memon, Meissner and Fraser (2010) found that the CI produced a large increase in correct information and a small increase in errors (incorrect details). However, their review revealed no differences in the rate of false reported information.

Another interviewing technique, developed by Shepherd, is *Conversional management* (CM), which is aimed at equipping the interviewer with the social and communicative skills required to maximize the information gathered from uncooperative interviewees (Shawyer et al., 2009).

*Investigative interviewing* is a concept developed in the early nineties as a response to miscarriages of justice in the UK (Williamson, 1993). This interview model is known by the acronym PEACE: *Planning and preparation; Engage and explain; Account; Closure; and Evaluation*. Investigative interviewing does not stipulate the use of any particular interview technique, and the CI as well as the CM can be used (Shawyer et al., 2009). Similar to the CI, investigative interviewing puts the interviewee's narrative in focus.

#### *The relationship between the interviewer and the interviewee*

Establishing and maintaining a relationship, including an understanding communication between the interviewer and the interviewee, are of crucial importance to obtaining a successful interview outcome. Such a relationship is also known as *rapport* (St-Yves, 2006). In their conceptualization of rapport, Tickle-Degnen and Rosenthal (1990) identified and described the non-verbal components associated with the relationship between two individuals. These interconnected components can be described as *mutual attentiveness*, which helps create a focused and cohesive interaction, *positivity*, which manifests itself in experiences of mutual friendliness and caring, and *coordination* in terms of balance and harmony. St-Yves (2006) argued that it is essential for an interviewer to: a) keep an open mind and remain objective, b) build up a rapport, c) pay attention, d) keep a professional attitude, and e) know when to conclude in order to improve his or her communication skills and subsequently establish mutual rapport.

Another way of seeing a relationship between two interacting parties is in terms of a *working alliance* (WA), a term used within psychotherapy (Bordin, 1979; Horvath, 2001). The authors defined WA as containing three main features: *an agreement on goals, an assignment of task(s), and the development of bonds*. Bordin argued that use of WA is not restricted to psychotherapy and can occur or be applied to relationships or situations outside the psychotherapeutic field (e.g., relations between a student and teacher, or a prisoner and a prison guard). In the psychotherapeutic field, WA between

the patient and therapist is seen as a key factor in the change process and in achieving transformation (Bordin, 1979; Horvath, 2001).

#### *Various interviewing styles*

In a study of 80 London police detectives' views on interviewing suspects, Williamson (1993) identified four preferred interviewing styles. Two of the questioning styles were aimed at securing a confession: *collusive* was characterized as cooperative, helpful, ingratiating, paternalistic and problem-solving, and the other, *dominant*, was characterized as confrontational, impatient and emotional. The remaining two questioning styles were aimed at securing evidence: *counselling* was characterized as cooperative, unemotional and non-judgmental, whereas *business-like* was characterized as confrontational, brusque, factual and formal.

In Canada, Wright and Alison (2004) analysed the questioning sequence used in 19 police interviews with witnesses. Their analysis revealed a lack of interviewing skills, characterized by interviewers who frequently interrupted the interviewees and asked mainly closed questions as opposed to open-ended questions. Moreover, across the interviews, a pattern of questioning sequences appeared in which the interviewer initially helped the witnesses reconstruct the event. This reconstruction was followed by a sequence of rapid, closed questions (e.g., 'yes' and 'no' style) aimed at confirming the previous account. Wright and Alison suggested that the described questioning style mirrors the interviewer's assumption about the events, and may therefore influence the interviewee's narrative. In another study of how interviewers' behaviour may be affected, Copeland and Snyder (2004) used students to investigate whether counsellors in a psycho-therapeutic environment were affected by their preconceptions about clients. Results from this study indicated that counsellors, who were motivated by diagnosis concerns, elicited behavioural confirmations in clients. Thus, presumptions based on interfering information may affect the behaviour of the interviewer.

In an experimental study, Vrij et al. (2006) compared the effects of information-gathering and accusatory interviewing styles on 80 undergraduate students. The dependent variables were the students' perception of discomfort and cognitive demand, and to what extent they felt they had been listened to. The study showed that the respondents perceived the information-gathering style as more cognitively demanding. The information-gathering style was also the interviewing style in which the subjects felt more listened to. The accusatory interviewing style was perceived by respondents as more uncomfortable compared to the information-gathering style.

In Sweden, Holmberg and Christianson (2002) investigated 83 convicted murderers' or sexual offenders' experiences of police interviews. Factor analyses revealed that the offenders perceived the interviewers' attitudes as being characterized by either humanity or dominance. The study further showed that interviews marked by a humanitarian approach were associated with offenders' admission of crimes, and interviews marked by a dominant approach showed a tendency (not significant) towards being associated with offenders' denials.

In another study concerning 178 crime victims' experiences of police interviews, Holmberg (2004) found similar results regarding crime victims' inclination to provide or omit information during interviews. The crime victims perceived the interviewers' attitudes as either marked by humanity or dominance, which were found to relate to victims' feelings of being respected or feelings of anxiety. Interviews marked by a humanitarian approach and feelings of being respected were significantly associated with

crime victims who provided information. Moreover, the dominant approach and feelings of anxiety were significantly associated with crime victims who omitted information.

#### *A humanitarian and dominant approach in interviews*

In their studies, Holmberg and Christianson (2002) and Holmberg (2004) defined a number of communicative elements associated with a humanitarian and a dominant interviewing style, respectively. A humanitarian approach was characterized by the interviewees' perception of the interviewer as showing empathy, being co-operative, and creating a personal atmosphere during the interview. Interviewers perceived as humanitarian also showed helpfulness, a positive approach and obliging manners. These perceptions were found to be associated with offenders' feelings of being respected and their inclination to admit to crimes. Holmberg and Christianson (2002) argued that, when respected, offenders may gain confidence and experience feelings of being acknowledged as human beings. This may lead to a more obliging manner and thus to an increased inclination to admit to the crime. Likewise, offenders' feelings of respect may give them the sense that it is possible to admit to criminal behaviour without being condemned as human beings. In line with this, Holmberg (2004) found a humanitarian approach to be associated with crime victims' feelings of being respected and feelings of being co-operative, and their inclinations to provide information during the interview. Holmberg argued that the association between feelings of being respected and cooperative and crime victims' inclinations to provide information was due to a reduction of the psychological toll that is involved in the narration of a traumatic event. The author suggested that a police interview could, if conducted in a humanitarian way, contribute to crime victims' healing, rehabilitation and psychological well-being.

A dominant interviewing approach was characterized by the interviewees' perception of the interviewer as being aggressive, impatience, brusque, obstinate and condemning, and as not leaving sufficient time for reflection (Holmberg & Christianson, 2002; Holmberg, 2004). The dominant style was found to be associated with offenders' feelings of anxiety and their inclination to deny crimes, as well as with crime victims' inclination to omit information during the interview. For example, 49% of the crime victims reported that they omitted information during the interviews, which was found to be significantly correlated with the crime victim's perception of the interviewer as being dominant (Holmberg, 2004). Moreover, Christianson and Holmberg (2008) argued that crime victims' and offenders' feelings of anxiety may lead to limited and minimized narrations.

In Australia, Kebbell, Hurren and Mazerolle (2006) investigated 44 sex offenders' perceptions of their own most recent police interview, and how these offenders believed an effective interview should be conducted in order to elicit a confession from a guilty interviewee. The study examined seven interviewing strategies with five questions in each category, including humanity (e.g., my police interviewer showed sympathy towards me) and dominance (e.g., my police interviewer was aggressive towards me). Results showed that sex offenders who had confessed their offences also perceived that their interviewers had displayed more humanity, while deniers perceived less interviewer humanity. Moreover, confessing offenders reported that their interviewer had displayed less dominance compared to the level of interviewer dominance reported by denying offenders.

Vanderhallen, Vervaeke and Holmberg (2010) investigated the role of the working alliance (WA) between the police officer and the interviewee in 126 police interviews in Belgium. The study's main focus was to examine factors that influenced the WA, and how the WA and its influencing factors were perceived by the interviewee. The factors under study included various characteristics concerning the interviewer (e.g., empathy and hostility), the interviewee (e.g., hostility and reactions such as respect or anxiety), and the interview (e.g., a humanitarian or dominant style). The results showed that a humanitarian interviewing style significantly predicted a better working alliance between the interviewer and the interviewee. Moreover, a dominant interviewing style was predictive of a poorer working alliance.

A humanitarian and a dominant interviewing style may also have implications for the psychological well-being of the interviewee. An extended analysis of a previous study by Holmberg (2004) revealed that crime victims who provided all information remembered during the interview, in comparison with crime victims who consciously omitted information, reported a higher *sense of coherence* (SOC) as measured by Antonovsky's (1984) short form of SOC (Holmberg, 2009). Similar results were reported by Holmberg, Christianson and Wexler (2007) who, based on the Holmberg and Christianson (2002) study, showed a relation between feelings of being respected and murderers' and sexual offenders' psychological well-being. Those who perceived a higher degree of being respected, or admitted to the crime, showed a significantly higher SOC in comparison with those who perceived a lower degree of being respected, or denied the crime. However, it is important to point out that these relations do not reveal any causal directions.

#### *Therapeutic Jurisprudence and psychological well-being*

Developed in the late 1980s, Therapeutic Jurisprudence (TJ) has been expanded to different areas of the law, and aims at executing legal procedures in such way that they promote the *psychological well-being* of the individuals involved (Stolle, Wexler, Winick & Dauer, 2000). Given the purpose of TJ, legal actors can be seen as therapeutic agents (Winick, 2006). For instance, Holmberg (2009) argued that the distinction between a humanitarian or dominant approach in interviews provides an excellent example that can be nicely situated within the conceptual framework of TJ. The TJ literature is lacking in descriptions of how to define and measure psychological well-being. However, Auhagen (2000) suggested that questions concerning whether one's life makes sense relate to a multidimensional construct of an individual's perception of his or her life, which is positively correlated with psychological well-being. Further, Auhagen argued that Antonovsky's construct *sense of coherence* (SOC) offers an appropriate way to define and measure the meaning of life and, consequently, psychological well-being. Moreover, Gana (2001) showed that adversity and stressful experiences had no direct effect on psychological well-being, but had an indirect effect through SOC, where SOC served as a mediator of and buffer to psychological well-being. To measure psychological well-being, Pallant and Lae (2002) investigated Antonovsky's short 13-item form for SOC and found that the form had high reliability, construct validity and incremental validity as a measure of psychological well-being.

Antonovsky (1984) described SOC as being made up of three components: *comprehensibility*, *manageability* and *meaningfulness*. These components refer to the extent to which individuals perceive information about themselves and their social environment as structured, predictable and understandable. SOC measures whether individuals

perceive that their personal and social resources are adequate for dealing with existing demands, and to what extent individuals perceive that their life makes sense from an emotional point of view. Moreover, the instrument also measures to what extent the individual finds it worthy to invest his/her time, energy and effort in stressful experiences.

Another often-used scale for measuring psychological well-being in term of anxiety is the *State-Trait Anxiety Inventory* for adults (STAI), developed by Spielberger and colleagues in the 1970s. As defined by Spielberger et al. (1983), trait anxiety refers to differences between people in the extent to which they perceive stressful situations as dangerous or threatening. The STAI measures the intensity of individuals' state anxiety responses to stressful situations. In a dangerous or threatening situation, people with a stronger anxiety trait are more likely to perceive more intense elevations in their state anxiety. Thus, ultimately, a therapeutic jurisprudential humanitarian interviewing style may be associated with higher psychological well-being, which, in turn, may be related to extended narration based on improved memory performance.

#### *The impact of interviewing styles on memory retrieval*

Retrieving memories during narration puts a strain on the cognitive ability of the interviewee, and the cognitive processing resources of human beings are limited (Holliday, Brainerd, Reyna, & Humphries, 2009). Accordingly, it seems reasonable to assume that the questioning or interviewing style will have an impact on memory retrieval. For instance, frequent interruption of an interviewee's narration interrupts the interviewee's train of thought. The interviewee may interpret such interruptions as meaning that he or she only has a short amount of time in which to provide an answer (Fisher, 1995).

The conditions under which memories are encoded are just as important as the memory retrieval process. Tulving and Thomson (1973) outlined *the principles of encoding specificity*, according to which the memory trace of an event is determined by the specific encoding operations performed on the input stimuli. Basically, *what* can be retrieved depends on what has been stored, and *how* it can be retrieved depends on how it has been stored. The retrieval process and the characteristics of effective retrieval cues are crucial to eliciting as much information as possible from an interviewee. For example, frequent use of what the interviewer believes to be appropriate cues may not necessarily mirror the way in which the event was encoded. The use of inappropriate cues may explain why an interviewee fails to produce a desired memory outcome.

Biased questioning can also cause what in memory theory is known as *retrieval-induced forgetting* (Anderson, Bjork, & Bjork, 1994). Information in jeopardy of being forgotten includes items associated with the same cues that are guiding retrieval. For example, one-sided questioning about the description of a perpetrator, but not about his or her utterances or about an accomplice, may result in poorer memory performance with regard to the thing not asked about.

Craik, Govoni, Naveh-Benjamin and Anderson (1996) examined the effects of *divided attention* at encoding and retrieval in a free recall, a cued recall and a recognition experiment. Their result showed that divided attention at retrieval resulted in a small or no reduction in memory performance. In contrast, if participants were subjected to a concurrent secondary task, the reaction-time during free recall increased. Their results indicate that the retrieval process in free recall conditions requires substantial cognitive resources and that interference may affect a memory performance negatively, if sufficient time is not provided for the retrieval process.

The aim of the present experimental study is to investigate whether a humanitarian and a dominant interview style, respectively, as defined by Holmberg and Christianson (2002) and Holmberg (2004), have any causal effects on the interviewee's memory performance. Here memory performance refers to a greater or a lesser amount of information provided by the interviewee. Moreover, the study also investigates whether these interviewing styles have an effect on interviewees' psychological well-being, as measured by Antonovsky's (1984) short form of SOC and Spielberger et al.'s (1983) STAI.

In the present study, it is predicted that the humanitarian interviewing style, compared with a dominant style, will affect interviewees' memory performance positively, that is, it will result in a greater amount of information without increasing the amount of false reported information.

In addition, it is also hypothesized that a humanitarian interviewing style, in comparison with a dominant interviewing style, will promote a higher sense of psychological well-being in the interviewees, that is, the interviewees will after the humanitarian interview report a higher SOC and a lower level of anxiety, respectively, in comparison to before the interview. Consequently, in the dominant condition, the interviewees will report a lower SOC and a higher level of anxiety, respectively, after the interview in comparison to before the interview.

## Method

### *Participants*

Participants in this study were partly recruited at Kristianstad University through word of mouth and partly through a web-banner on the university's home page containing a link to information regarding the project and an encouragement to participate in the study. Moreover, the general public was informed about the project and encouraged to participate in the study through an article in a local newspaper (Kristianstadsbladet). Thus, the data sample used is one of convenience. Participants who completed all required parts (exposure and data collection phases) of the experiment could win one of two Dell lap-tops in a lottery once the data collection phases were completed. Apart from that, no payment or compensation was offered.

Originally, 186 registered to participate in the study. Thirty-five were excluded for various reasons (e.g., not providing sufficient contact information on application, or failing to reply to phone calls or e-mails when contacted to make appointments) before they took any active part in the experiment. Five participants performed the first phase of the experiment (computer simulation), but were subsequently excluded for the following reasons: four cut off communication with the researcher for reasons unknown, and one chose to quit because she was disgusted by the pictures displayed in the computer simulation.

Participants who took part in and completed the experiment consisted of 88 women and 58 men ( $N=146$ ) between the ages of 16 to 70 years ( $M=35.7$ ,  $SD=13.3$ ). Seventy-five of the participants were students, 56 were working in different areas and the remaining 15 were classified as 'other' (e.g., retired people or unemployed). As regards to education level, two of the participants had passed elementary school, 18 had passed high school, and 126 had university studies as their highest education level.

A priori calculation of an estimated power of .85 and an effect size of .40 based on  $t$ -test suggested the use of 186 participants. A retrospective estimation of power for in-

dependent *t*-tests based on 146 participants indicated a power of .85 with a medium effect size (.50).

### *Materials*

In the computer simulation, two computer lap-tops were used that were interconnected in an ad-hoc network. The computers had specially developed software<sup>1</sup> installed, and the ad-hoc network allowed the participants to interact simultaneously in the same computer simulation.

The software used included a set of pictures which originated from *The International Affective Picture System (IAPS)*, developed by Lang, Bradley and Cuthbert (2005). The pictures in IAPS are standardized and emotionally-evocative, on a scale ranging in between 1-9, and cover a wide range of semantic categories. The set of pictures included in the software were 32 pictures with a negative valence, 4 pictures with a neutral valence, and 25 pictures with a positive valence, thus, a total of 61 pictures with a mean arousal between 3.10 and 6.82. Depending on how the simulation developed, participants was exposed to between 37 to 42 different pictures ( $M=38.5$ ).

The computer simulation was based on the following theme: the fresh water system in a fictive city inhabited by two fictive classes of populations, Espetians and Teppetians, with some genetic difference, was infected by an unknown bacteria, which was increasingly growing and causing illness and even death among the inhabitants. Medical scientists were perplexed, but had found that one bacteria strain could act as an antidote for one class of the population, and another bacteria strain could act as an antidote for the other class of population. A third bacteria strain was found to have a limited positive effect on both classes. Researchers had concluded that the only way to neutralize the illness-causing bacteria was to add benign bacteria to the water systems.

Thus, the task of the participants was to save as many people as possible based on their own decision. At their disposal participants had a game pad on the computer screen, including two pie-charts displaying health status in each class of population, respectively, and one pie-chart that displayed health status in the water systems. The game pad also included two frames showing shifting pictures, which simulated TV news broadcasting and mirrored events and health status in the classes of the population. Moreover, on the screen, participants even had a set of regulators for administering benign bacteria or choosing to do nothing, as well as visual information indicating their supply of benign bacteria. Due to the ad-hoc interconnected computers, the participants interacted simultaneously, for example, interpreted information on health status in the water systems and decided whether to administer benign bacteria, on a day-to-day basis during the computer simulation. The computer simulation was programmed to stop working when 48 days had passed. All actions (e.g., participants administering of benign bacteria, pictures shown, etc.) in the computer simulation were logged and saved.

Moreover, unknown to the participants, the software was pre-programmed to act in certain ways regardless of what actions the participants took. On the one hand, the participant who represented the Teppetians had access to significantly less antidote, which inevitably, in combination with a higher portion of illness-causing bacteria, fatally affected that class of the population. Thus, the bacteria in the water system and the reduced amount of antidote led to the near extinction of the Teppetians. Not even the combined effort of both participants could alter this scenario. Additionally, the partici-

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<sup>1</sup> The software was developed by Daniel Block, Master of Engineering.

pants representing the Teppetians, without exception, received four messages during the simulation stating that their delivery of new antidote had been stolen.

Participants representing the Espetians had a choice of either exclusively helping themselves, and as a result achieving exceptionally good health status, or acting in a more altruistic manner. To act altruistically, the Espetians had the option of helping the Teppetians, which led to moderate illness and death among the Espetians. Additionally, the Espetians were given four chances to steal or not to steal the opponent's delivery of antidotes.

Thus, the aim of this computer simulation design was to evoke affective emotions and participants' feelings of being a victim or a perpetrator of a crime at the same time as they were observing, deciding on and acting upon unfolding events.

The experiment has been approved of by the Regional Ethical Review Board in Lund (Dnr. 2009/212).

Antonovsky's (1984) 13-item form for measuring sense of coherence (Swedish version) were used to measure psychological well-being, and for measuring anxiety (arousal), the participants completed the Trait-Trait Inventory for Adults (Swedish version), developed by Spielberger et al. (1983).

In order to investigate to what extent the participants perceived their interviews as being humanitarian or dominant, as defined by Holmberg (2004) and Holmberg and Christianson (2002), a 17-item inventory was used (e.g., questions: to what extent did the interviewer act aggressively towards you during the interview; to what extent did the interviewer act friendly towards you during the interview (see appendix A, Swedish version as used in study), where the responses could range from 'not at all' to 'very much' on a 7-point Likert scale.

All interviews were conducted and recorded by the experiment leader and experiment assistant.

#### *Operationalization of the experimental variables*

The two interviewing styles were operationalized based on previous research by Holmberg and Christianson (2002) and Holmberg (2004), who defined factors that constitute a humanitarian and dominant interview respectively.

A humanitarian interviewing style is characterized by interviewers' expression of the following conduct; to *act calm and give time to comment, being co-operative, helpful, friendly, obliging, empathic, express a positive attitude* towards the interviewee and show *personal interest and make efforts to create a personal conversation*. In the present study, this was essentially manifested by the interviewer making efforts to establish and maintain rapport with the interviewee. Moreover, the interviewee was encouraged to use a free recall, and given adequate time to retrieve memories and reflect on answers. Connecting and clarifying questions were open and asked in conjunction with the subject at hand, thus resulting in the questioning being memory compatible.

A dominant interviewing style is characterized by interviewers' expression of the following conduct; to *act indifferently and unemotionally, dissociating, aggressive, unfriendly, impatient, brusque and obstinate* and *show a formal and a non-accessible, negative, condemning attitude* towards the interviewee. In the present study, this was essentially manifested by the interviewer making no efforts to establish and maintain rapport with the interviewee. The latter was straight out asked to depict their memories from the computer simulation. If, or whenever, the interviewee hesitated or showed uncertainty in their depiction, the interviewer cut in and asked connecting or clarifying

follow-up questions, mainly closed. No additional information regarding the event was introduced by the interviewer, however.

#### *Experimental design and procedure*

The experiment consisted of two parts. First, two participants at a time interacted in a computer simulation in which they were randomly assigned to represent one class of the population. Prior to the computer simulation, the participants filled out inventories regarding demographic information, the SOC, STAI Y-State and STAI Y-Trait. Additionally, participants were informed that the computer simulation was a memory test and given basic verbal instructions regarding computer simulation functionality along with a written background story. During the computer simulation, participants were unable to communicate with each other. After the computer simulation, participants filled out the SOC and STAI Y-State inventories. No feedback was given.

Approximately one week later, participants were randomly assigned to one of two conditions, to either be individually interviewed in a humanitarian style or in a dominant style regarding their memories of the computer simulation. Interviews ended when interviewee themselves stated that they could not remember anything more. During the interview, and depending on the condition, the interviewer behaved either in a way that characterizes a humanitarian interviewing style or in a dominant style, as defined by Holmberg (2004) and Holmberg and Christianson (2002). Humanitarian interviews lasted between a maximum of 30 minutes 30 seconds and a minimum of 11 minutes 0 seconds ( $M=21.39$  minutes,  $SD=4.28$  minutes), and dominant interviews lasted between a maximum of 20 minutes 0 seconds and a minimum of 6 minutes 0 seconds ( $M=12.19$  minutes,  $SD=2.55$  minutes).

Immediately after the interview, the interviewee filled out the instrument determining whether he/she perceived the interviewing style as humanitarian or dominant. The SOC and STAI Y-State inventories were filled out prior to and after the interview.

#### *Observation, coding and inter-observational agreement*

Participants' memory of particular details of events from the computer simulation and the gamepad was observed and coded in 146 interviews, half by the experiment leader and half by the experiment assistant. The gamepad had a total of 40 items and 38 pictures depicting news to be remembered and the computer simulation itself included 48 decisions and related actions taken. Each correct recollection was allocated 1 point, apart from information regarding the background picture (game pad), pictures (news broadcast), information related to participants' decisions and actions, and number of times the participant stole or was robbed of his or her antidote, where participants' memory was assessed in *three levels*, and 1, 3 or 6 points were allocated depending on the level: *low*, *good* or *very good recollection*. Participants' fabled recollections were coded as false information and allocated 1 point each. Variables regarding play phase 1-3, classes of population, participants own class of population and computer simulation story was not observed and coded for false information.

The total amount of information reported by participants was summarized in a variable. To enable deepened analyses, the information in the total score variable was also broken down and defined as either being of a *central* or a *peripheral* kind. Central information was categorized as being of *central visual kind*; information regarding class of population's health status and handling of regulators for executing benign bacteria, or *central information related to participants' decisions and actions*; information regarding strategic decisions and actions taken regarding how and for which class of the popu-

lation benign bacteria were executed. *Peripheral information* was defined as information regarding health status in water system, benign bacteria supply (barrels, containers), pictures (news broadcast) and background picture on gamepad (see appendix B).

In order to analyse inter-observational agreement of the observed and coded interviews, 49 interviews (33% overlap) were observed and coded by both raters. Tinsley and Weiss (1975) argued that intraclass correlation is a more suitable method for analysing continuous interval data between raters. Fleiss (1975) argued that the intraclass correlation coefficient (ICC)  $R_3$  is equivalent to Cohen's Kappa Coefficient. Watkins and Pacheco (2000) provided interpretative guidelines regarding the Kappa coefficient where values  $<.40$  are poor, values of  $.40$  to  $.60$  suggest fair agreement, values of  $.60$  to  $.74$  represent good agreement, and values  $>.75$  represent excellent agreement.

Inter-observational agreement of the observed and coded interviews was computed using an ICC based on a two-way mixed model, where consistency was measured on the variable that summarized the participants' total score. Based on single measures, the ICC coefficient ( $R_3=.82$ ,  $df=48$ ,  $48$ ,  $p <.001$ ) suggested excellent agreement.

#### *Validity of participants' perception of a humanitarian or a dominant interviewing style*

The humanitarian scale (8 items) has good internal consistency with a Cronbach's alpha coefficient of  $.89$ . The dominant scale (9 items) also shows good internal consistency with a Cronbach's alpha coefficient of  $.84$ .

An independent-samples  $t$ -test showed that those interviewed in a humanitarian style perceived their interviewer as being humanitarian to a higher extent ( $M=5.78$ ,  $SD=.86$ ) in comparison with those interviewed in a dominant way ( $M=4.16$ ,  $SD=1.15$ ),  $t(135.05)=9.71$ ,  $p <.001$ ,  $d=1.61$ . Cohen's  $d$  indicated a large effect size. Moreover, the result also showed that those interviewed in a dominant style perceived their interviewer as being dominant to a higher extent ( $M=1.97$ ,  $SD=.89$ ) in comparison with those interviewed in a humanitarian way ( $M=1.21$ ,  $SD=.34$ ),  $t(93.86)=6.85$ ,  $p <.001$ ,  $d=1.13$ . Cohen's  $d$  indicated a large effect size.

## Result

A number of statistical analyses were conducted to investigate the data. The results of these analyses will be addressed beneath each subheading.

#### *Participants' memory performance*

An independent-sample  $t$ -test showed that participants interviewed in a humanitarian style reported more information altogether from the computer simulation in comparison with those interviewed in a dominant way (see Tab. 1). Cohen's  $d$  indicated a medium effect size. Moreover, independent-samples  $t$ -tests also showed that participants interviewed in a humanitarian style reported more central visual information, more central information related to the interviewees' decisions and actions as well as more peripheral information (as defined) in comparison with those interviewed in a dominant way. Cohen's  $d$  indicated a small effect size and medium effect sizes respectively.

Thus, as shown below in Table 1, the results showed that participants reported a greater amount of information altogether, including information of central and peripheral kind, when interviewed in a humanitarian way.

Tab.1

Mean, standard deviation and effect size in computed *t*-tests regarding a humanitarian or dominant interviewing style and amount of information of various kinds. *N* = 146.

Type of information	Interviewing style				<i>t</i>	<i>d</i>
	Humanitarian		Dominant			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Total sum of recalled information	51.50	15.82	40.97	13.82	4.29***	0.71
Central visual information.	10.94	3.07	9.34	4.04	2.71**	0.45
Peripheral information	22.21	11.42	15.88	10.02	3.56***	0.59
Central information related to participants decisions and actions	10.51	4.87	8.18	3.88	3.20**	0.53

Note. \*\**p* <.01, \*\*\**p* <.001

Moreover, several two-way analyses of variance were conducted using all combinations of a humanitarian or dominant interviewing style, participants' gender and participants' class of the population as independent variables, and in turn the total sum of information, central visual information, peripheral information and central information related to participants' decisions and actions as dependent variables. No significant interaction effects were found.

#### *False memories*

Independent samples *t*-tests showed no statistically significant differences in respect to the amount of false reported information regarding peripheral and central visual information as well as the total amount of reported information altogether, regardless of interviewing style. Cohen's *d* indicated small effect sizes (see, Tab. 2).

Tab. 2

Mean, standard deviation and effect size in computed *t*-tests regarding a humanitarian or dominant interviewing style and amount of false memories. *N* = 146.

Type of information	Interviewing style				<i>t</i>	<i>d</i>
	Humanitarian		Dominant			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Total sum of false memories.	1.57	1.90	1.81	1.90	0.77 <sup>ns</sup>	0.13
False central visual information.	0.44	0.71	0.47	0.83	0.22 <sup>ns</sup>	0.04
False peripheral information.	1.11	1.60	1.34	1.56	0.87 <sup>ns</sup>	0.15

Note. <sup>ns</sup> = not significant.

#### *Participants' psychological well-being*

In order to assess the impact of the two interviewing styles on participants' scores on psychological well-being before and after the interview measured with SOC & STAI, a mixed between-within analysis were conducted. The analysis revealed a interaction effect between the interviewing style and the participants psychological well-being in terms of STAI, Wilks Lambda =.97 *F*(1, 142)=4.09 *p*=.05, partial eta squared =.03.

An inspection of Figure 1 shows that participants interviewed in a humanitarian style perceived a lower level of anxiety ( $M=30.17$ ,  $SD=9.28$ ) after the interview in comparison to before the interview ( $M=31.00$ ,  $SD=9.53$ ). Participants interviewed in a dominant style perceived a higher level of anxiety ( $M=30.66$ ,  $SD=11.12$ ) after the interview in comparison to before the interview ( $M=29.62$ ,  $SD=9.80$ ). The main effect comparing groups on STAI was not significant; nor did analyses of SOC reveal any significant statistical differences.

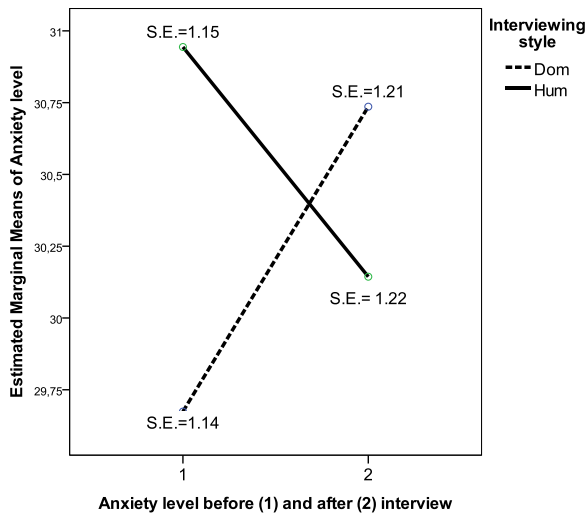


Figure 1. The profile plot shows the estimated marginal means of anxiety level (STAI) as measured before (1) and after (2) the interview respectively, when interviewed in a humanitarian (hum.) and dominant (dom.) way.

## Discussion

The aim of the present experimental study was to investigate whether a humanitarian and a dominant interview style, respectively, have any causal effects on interviewees' memory performance in terms of the amount of information provided. Moreover, the purpose was also to examine whether the interviewing styles had a causal effect on interviewees' psychological well-being.

The study showed that participants reported more information altogether, including information of central and peripheral kind (as defined), when subjected to a humanitarian interviewing style in comparison to a dominant interviewing style. The interviewing style did not have any statistically significant impact on the amount of false information reported by the interviewees.

Moreover, the present study showed an interaction effect between the interviewing style and the interviewees' psychological well-being. When subjected to a humanitarian interviewing style, interviewees reported a lower level of STAI (anxiety) after the interview in comparison to before the interview.

### *A humanitarian interviewing style*

The result showing that participants reported a greater amount of information when interviewed in a humanitarian style, in comparison to a dominant interviewing style, may be a result of the interviewers' successful efforts to establish and maintain rapport with the interviewees when using the humanitarian approach. The importance of creat-

ing rapport with the interviewee has been emphasized by, among others, St-Yves (2006), who also makes a link between the interviewer's communication skills and the establishment of mutual rapport. Especially important, according to St-Yves, is for an interviewer to keep an open mind, pay attention and show an empathic attitude. These essentials are accommodated and facilitated by the humanitarian interviewing style defined by Holmberg and Christianson (2002) and Holmberg (2004), and subsequently contribute to the development of rapport. Tickle-Degnen and Rosenthal (1990) described rapport as consisting of non-verbal interconnected components that emphasize a focused and cohesive interaction, built on mutual friendliness and caring, which manifests itself in terms of harmony and balance between the individuals involved. This theoretical approach is nicely accommodated within a humanitarian interviewing style. Thus, rapport can be seen as an important factor that facilitates and promotes fruitful communication between, for instance, an interviewer and interviewee. Moreover, interviewers' communication skills can be related to the interviewing style and therefore, ultimately, it can be argued that development of an understanding relationship (rapport) is affected by the interviewing style chosen. In line with this, Vanderhallen, Vervaeke and Holmberg (2010) found that a humanitarian interviewing style predicts rapport and a better working alliance between the interviewer and interviewee. Walsh and Bull (2010) emphasized the importance of rapport building in the PEACE model of compatible interviewing. They examined the impact of interviewing manners on interview outcomes, measured in terms of suspects' responses in five stages, ranging from no comments to a full account or confessions, and in terms of interviewers' interviewing skills. Rapport building yielded the largest significant difference and effect size when interview quality and outcomes were considered.

An additional factor affecting the present results is that a humanitarian interviewing style encourages the interviewees' narrative and puts it in focus. This has several implications for the narrative and for amount of reported information. First, surrendering control of the interview to the interviewee most likely encourages him or her to give a more exhaustive narration, as opposed to when the interviewee is frequently interrupted (Fisher, 1995; Holliday et al., 2009). Fisher (1995) argued that frequent interruption of the interviewee narrative may cause him or her to shorten answers and, thus, provide less detailed information. Second, human cognitive processing resources are limited (Holliday et al., 2009) and retrieving memories puts a strain on cognitive ability. As a result, frequent questions may interrupt the interviewee's train of thought, which may prevent more elaborate answers. Third, interviewers' choice of interviewing style may affect interviewees' willingness and ability to narrate an experienced event. For example, crime victims' inclination to provide information during the interview and their feelings of being respected and co-operative are associated with a humanitarian interviewing approach (Holmberg, 2004). Narrating a traumatic event may involve a psychological strain, as various powerful emotions may be evoked during the interview, which may obstruct the interviewee's ability to narrate certain details. Holmberg argued that this psychological toll may be reduced by crime victims' feelings of being respected and co-operative, which may increase the amount of information provided. Similarly, an offender's inclination to confess to crimes and feelings of being respected are associated with a humanitarian interviewing style (Holmberg & Christianson, 2002; Kebbell et al., 2006). Admitting to criminal behaviour may evoke, among other things, feelings of alienation and of being less worthy as a human being. These are powerful emotions that in some cases may considerably obstruct an offender's narrative. Holmberg and Chris-

tianson suggested that interviewers showing an obliging, helpful and positive manner may give offenders a sense that it is possible to admit to criminal behaviour without being condemned as a human being. In the end, it seems plausible that offenders' admission to crimes also depicts their behaviour in a more elaborated way and subsequently provides a greater amount of information.

Another explanation for participants reporting a greater amount of information when interviewed in a humanitarian way involves memory-related findings. The encoding specificity principle, as outlined by Tulving and Thomson (1973), suggests that only what has been encoded can be retrieved at recall, and how it can be retrieved depends on how it was encoded. Holliday et al. (2009) argued that every human has a unique mental representation of an experienced event. Memory works in an associative way (Tulving, 1985), and is accessed by use of various cues or retrieval paths to participants' memories (Fisher, 1995). Memories of visual and emotional significance that are richly encoded and perhaps rehearsed over time (e.g., information that is central to participants) can be retrieved through several search paths and, thus, are more easily accessed. Information of a peripheral kind or related to participants' decisions and actions may be less richly encoded and is subsequently accessible by fewer search paths or cues (Christianson, 1992; Porter, Campbell, Birt & Woodworth, 2003). As the present results show, participants reported substantially more peripheral and central information related to decisions and actions when interviewed in a humanitarian way. A feasible explanation may be that less accessible information strains participants' cognitive ability more, and a higher motivation and adequate time is required to retrieve such memories. Cues and retrieval paths are best generated by the interviewee during his or her free recall and when given adequate time to reflect on answers to open questions. Because the events experienced by participants are uniquely encoded, interviewers' attempts to support interviewees' narration, for instance by frequently interrupting and asking questions, may provide inadequate cues and, consequently, result in less elicited information. Thus, a humanitarian interviewing style encourages and facilitates a way of eliciting information that is compatible with human memory. The results confirmed the predicted hypothesis and are in line with previous studies (Clifford & George, 1996; Holliday et al., 2009; Holmberg, 2004; Holmberg & Christianson, 2002; Fisher, 1995; Fisher et al., 1992; Fisher & Perez, 2007; Kebbell et al., 2006).

The result of the present study showed that a humanitarian interviewing style produced a greater amount of information without increasing the amount of false reported information. Similar results have been found e.g. by Memon et al., (2010) regarding the CI, an interviewing style with which the humanitarian interviewing style share features and to a certain extent resembles.

#### *A dominant interviewing style*

The study showed that participants reported a lesser amount of information when subjected to a dominant interviewing style in comparison to a humanitarian interviewing approach. This result is implicated by several factors. A dominant interviewing style is characterized by the interviewer acting impatiently, brusque and aggressively towards the interviewee (Holmberg 2004; Holmberg & Christianson, 2002). These attitudes may manifest themselves in so far as interviewers frequently interrupt interviewees with questions based on incorrect assumptions (Copeland & Snyder, 2004; Wright & Alison, 2004), and do not give interviewees sufficient time to reflect on their answers. Such behaviour may be perceived as an accusatory interviewing style by the interviewee and

is anti-rapport building. Vrij et al. (2006) concluded that an accusatory interviewing style made interviewees feel more uncomfortable and less listened to in comparison to an information-gathering interviewing style. Vanderhallen, Vervaeke and Holmberg (2010) found that a dominant interviewing style predicted a poorer working alliance between the interviewer and interviewee. This may have an impact on the amount of information provided by interviewees. For example, feelings of being uncomfortable may intimidate interviewees or otherwise cause them to abstain from narrating certain parts of the event. The latter is also plausible if the interviewee's emotional experience is that nobody is listening. In line with this, Holmberg (2004) found a dominant interviewing style to be significantly associated with crime victims' feelings of anxiety and inclination to omit information during the police interview. Similar findings were obtained by Kebbell et al. (2006) regarding offenders' confessions or denials during police interviews. Results showed that offenders' denials were related to their perception of interviewers as dominant. Even though offenders' denials do not necessarily mean less information provided during the interview, it seems plausible that offenders' denials in general are related to less elaborated answers during interviews. Moreover, the dominant interviewing style reassembles features of what Clifford and George (1996) defined as the standard police interview. The latter includes few open-ended questions and is characterized by an abundance of closed, connecting and clarifying questions. In a field test of police interviewing techniques, Clifford and George found that participants interviewed with the standard interview produced less general information in comparison to those interviewed using a more interviewee-led approach, the cognitive interview.

The reasons why interviewers employ a dominant interviewing style may vary. Feasible explanations may involve interviewers' presumptions of the suspects' guilt, or that interviewers already prior to the interview have created a conceivable mental scenario of what has happened, a mental representation that he or she then tries to validate during the interview (see, e.g., Copeland & Snyder, 2004; Kassin & Gudjonsson, 2004; Shawyer et al., 2009; Williamson, 1993). Another reason may be interviewers' cognitive need for closure (NFC). NFC may manifest itself as interviewers who, based on inconclusive evidence, jump to conclusions and show an unwillingness to consider opinions other than their own. Ask (2006) hypothesized that police investigators under a heavy workload and with a limited amount of time to spend on each case may activate closure goals. A speculative notion here is that these kinds of closure goals may even be a reality for interviewees. For example, on average and up to the point where the present interviewees reported that they could not remember anything more, the humanitarian interviews lasted almost twice as long as the dominant interviews. The cognitive need for closure is intimately related to the concept of directional goals. Thus, once activated, a need for closure may transform into a directional goal.

Unfortunately, the consequence of utilizing a dominant interviewing style is not only less reported information, but such a style may also affect the accuracy of the elicited information in various ways. For instance, it is a natural tendency for humans to validate the initial perception of an event, for example information that is already known (St-Yves, 2006). By frequently interrupting the interviewee and asking mostly closed questions, the interviewer may, perhaps unwittingly, set the course of the interview in a certain direction and focus on information that fits the interviewer's assumptions about what happened. If applied, such a procedure may result in interviewees' narration being influenced by interviewers' opinions. An example similar to this was

provided by Wright and Alison (2004), who analysed police interviews conducted by detectives in Canada. In the initial part of the interviews, detectives seemed to help the interviewees construct the event. This was followed by a sequence of rapid questions of a 'yes' or 'no' style, which was aimed at confirming interviewees' previous accounts. However, the study was based on a small sample ( $N=19$ ), which limits generalizing the results outside the sample.

Further plausible explanations for why a dominant interviewing style, as shown in this study, might cause interviewees to report less information involves memory-related findings. Interviewers who, for instance, have preconceptions about the interviewee or seek to validate an initial perception of events may focus on certain questions and information and, thus, engage in biased questioning. This may cause retrieval-induced forgetting (Anderson et al., 1994) and result in less elicited information. One-sided questioning about certain items may result in poorer memory performance regarding things not asked about. Items related to the same cues that are guiding retrieval are in danger of being forgotten.

Moreover, an interview marked by a dominant approach, among other things, is characterized by frequent use of closed questions, which at first glance may produce cues for the interviewee. However, such a questioning style may interrupt the interviewees' train of thought, thereby obstructing the quest for suitable search paths and cues. In line with this notion, Craik et al. (1996) found that when subjected to a concurrent task during free recall, participants increased their reaction time. The results indicated that the retrieval process requires substantial cognitive resources and that interference may affect interviewees' memory performance negatively if sufficient time is not provided for the retrieval process.

#### *Interviewees' psychological well-being*

This study used two different and widely used inventories (SOC & STAI) to measure interviewees' psychological well-being before and after the computer simulation, and before and after the following interview. The results revealed a statistically significant interaction effect between the interviewing style and interviewees' perception of anxiety in terms of STAI. Interviewees subjected to a humanitarian style reported a lower anxiety level after the interview in comparison to before the interview. Interviewees interviewed in a dominant style reported a higher anxiety level after the interview in comparison to before the interview. The interaction effect was in line with, and partly supported the research hypothesis. As for the rest, analyses showed no statistically significant effects on SOC or STAI which contradicts the predicted hypothesis.

There may be several speculative explanations for this result. One explanation is that the interviewers were less successful in executing a dominant interviewing style in full. This was indicated by answers in the instrument in which participants were asked to rate to what extent they perceived that interviewers acted in a humanitarian versus a dominant manner. In general, results for the behaviour that constitutes a dominant interviewing style were less decisive in comparison to results for a humanitarian interviewing style.

Furthermore, it may be that authentic crime victims and suspects develop and perceive stronger emotions in connection with their interview and the interviewing style they are subjected to. Thus, one could argue that the experimental conditions failed to produce enough negative emotions to affect participants' SOC.

Previous studies (Holmberg, 2009; Holmberg et al., 2007) have reported an association between interviewing style and interviewees' perception of respect, which in turn was associated with interviewees' psychological well-being. However, participants' perception of respect was not measured in the present study.

#### *Limitations and strengths*

There may be a few limitations in terms of the ecological validity to this study. First, it is based on a sample of convenience and, second, it does not involve victims and suspects of actual crimes; however, subjecting such individuals to an experiment such as this would have been unethical in several respects. It may be that authentic crime victims and suspects develop and perceive stronger emotions in connection with their interview and the interviewing style they are subjected to, which may affect their narration. On the other hand, it may be argued that the amount of information reported by participants is a function of well-established findings in social (importance of rapport) and cognitive (memory-related) psychology, which apply to the human population in general. The latter enables the results on the amount of reported information to be generalized beyond the examined population.

However, because actual crime victims and suspects are not examined here, it is doubtful whether the, mainly lacking, association between interviewees' psychological well-being and the interviewing style can be generalized outside the sample.

In addition, the present study did not investigate the amount of incorrect details produced during the two interviewing conditions as this was not our main research focus.

The study shows strength in terms of its statistical power with a post-hoc estimated power based on 146 participants, indicating a power of .85 at a medium effect size level.

#### *Conclusions*

The present study showed a causal link between the interviewing style employed and the amount of information reported. Interviews conducted in a humanitarian way elicited a larger amount of total information, including, as defined, information of central and peripheral kind, whereas a dominant interviewing style resulted in less reported information. Moreover, it is argued that the humanitarian interviewing style promotes the establishment of rapport between the interviewer and interviewee. The humanitarian style provides interviewees with adequate time to find retrieval paths and cues to memories, as opposed to a dominant interviewing style that hinders retrieval. The results may be applicable to *all situations* in which interviews are conducted for information-gathering reasons. This includes the entire legal system, particularly crime victims' and suspects' *legal rights*.

## References

- Anderson, M. C., Bjork, R. A. & Bjork, E. L. (1994). Remembering Can Cause Forgetting: Retrieval Dynamics in Long-Term Memory. *Journal of Experimental Psychology*, 20, 5, 1063-1087.
- Antonovsky, A. (1984). The sense of coherence as a determinant of health, in J. D. Matarazo, S. M. Weiss, J. A. Herd, N. E. Miller & S. M. Weiss (eds.), *Behavioral health; a handbook of health enhancement and disease prevention*. Chichester: John Wiley & Sons.
- Ask, K. (2006). *Criminal Investigation: Motivation, Emotion and Cognition in the Processing of Evidence*. Doctoral dissertation, Department of Psychology, Göteborg University, Sweden.
- Auhagen, A. E. (2000). On the psychology of meaning of life. *Swiss Journal of Psychology*, 59, 1, 34-48.
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, research and practice*, 16 (3), 252-260.
- Christianson, S.Å. (Ed.), (1992). *Handbook of emotions and memory: Research and theory*. Hillsdale, N.J.: Erlbaum Associates Publishers.
- Christianson, S. Å. & Holmberg, U. (2008). Utredande intervjuer och förhör, in P. A. Granhag & S Å Christianson (eds.): *Handbok i rättspsykologi*. Stockholm Liber AB, 1, 257-274.
- Clifford, B. R. & George, R. (1996). A Field Evaluation of Training in Three Methods of Witness/Victim Investigative Interviewing. *Psychology, Crime & Law*, 2, 231-248.
- Copeland, J. & Snyder, M. (2004). When counselors confirm; A functional analysis, in R.M. Kowalski & M. R. Leary (eds.), *The interface of social and clinical psychology; Key readings*, 225-238. New York: Psychology Press.
- Craik, F. I. M., Govoni, R., Naveh-Benjamin, M. & Anderson, N. D. (1996). The Effects of Divided Attention on Encoding and Retrieval Processes in Human Memory. *Journal of Experimental Psychology: General*, 125, 2, 159-180.
- Fisher, P. R. (1995). Interviewing victims and witnesses of crime. *Psychology, Public Policy and Law*, 1, 732-764.
- Fisher, P. R., Geiselman, R. E. & Amador, M. (1989). Field Test of the Cognitive Interview: Enhancing the Recollection of Actual Victims and Witnesses of Crime. *Journal of Applied Psychology*, 74), 722-727.
- Fisher, R. P., Perez, V. (2007). Memory-enhancing techniques for interviewing crime suspects. In S. Å. Christianson (ed.), *Offenders' memories of violent crimes*, 329-354. Chichester: John Wiley & Sons Ltd.
- Fleiss, J. L. (1975). Measuring agreement between two judges on the presence or absence of a trait. *Biometrics*, 31, 651-659.
- Gana, K. (2001). In sense of coherence a mediator between adversity and psychological well-being in adults? *Stress and Health*, 17, 77-83.
- Holliday, R. E., Brainerd, C. J., Reyna, V. F. & Humphries, J. E. (2009). The Cognitive Interview: Research and Practice across the Lifespan, in R. Bull, T. Valentine & T. Williamson (eds.): *Handbook of Psychology of Investigative Interviewing: Current Development and Future Directions*. Wiley-Blackwell, 137-160.

- Holmberg, U. & Christianson, S. Å. (2002). Murderers' and Sexual Offenders' Experiences and Their Inclination to Admit or Deny Crimes. *Behavioral Sciences and the Law*, 20, 31-45.
- Holmberg, U. (2004). Crime victims' experiences of police interviews and their inclination to provide or omit information. *International Journal of Police Science & Management*, 6, 3, 155-170.
- Holmberg, U., Christianson, S. Å. & Wexler, D. (2007). Interviewing Offenders: A Therapeutic Jurisprudential Approach, in S. Å. Christianson (ed.), *Offenders' Memories of Violent Crimes*. Chichester: Wiley, 355-371.
- Holmberg, U. (2009) Investigative interviewing as a therapeutic jurisprudential approach, in T. Williams, R. Milne & S. Savage (eds.): *International Developments in Investigative Interviewing*, 149-174. London: Willan Publishing.
- Horvath, A. O. (2001). The Alliance. *Psychotherapy*, 38, 4, 365-372.
- Kassin, S. M. & Gudjonsson, G. H. (2004). The Psychology of Confessions: A Review of the Literature & Issues. *Psychological Science in the Public Interest*, 5, 2, 33-67.
- Kebbell, M., Hurren, E. & Mazerolle, P. (2006). An investigation into the effective and ethical interviewing of suspected sex offenders. *Trends & Issues in crime and criminal justice*, 327. Australian Government: Australian Institute of Criminology.
- Memon, A. Meissner, C.A. & Fraser, J. (2010). The Cognitive Interview: A Meta-Analytic Review and Study Space Analysis. *Psychology, Public Policy, and Law*, 16, 4, 340-372.
- Pallant, J. F. & Lae, L. (2002). Sense of coherence, well-being, coping and personality factors: further evaluation of the sense of coherence scale. *Personality and Individual Differences*, 33, 39-48.
- Porter, S., Campbell, M., Birt, A. R. & Woodworth, M. T. (2003). "He Said, She Said": A Psychological Perspective on Historical Memory Evidence in the Courtroom. *Canadian Psychology/Psychologie Canadienne*, 44:3.
- Shawyer, A., Milne, B. & Bull, R. (2009). Investigative interviewing in the UK, in T. Williamson, B. Milne and S. P. Savage (eds.), *International Developments in Investigative Interviewing*. Devon: Willan Publishing, 24-38.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R. & Jacobs, G. A. (1983). *State-Trait Anxiety Inventory for Adults*. Palo Alto, CA: Consulting Psychologists Press.
- Stolle, D. P., Wexler, D. B., Winick, B. J. & Dauser, E. A. (2000). Integrating preventive law and therapeutic jurisprudence: A law and psychology based approach to lawyering. In D. P. Stolle, D. B. Wexler & B. J. Winick, *Practicing therapeutic jurisprudence; Law as a helping profession*. Durham, NC: Carolina Academic Press.
- St-Yves, M. (2006). The psychology of rapport: five basic rules, in T. Williamson (ed.), *Investigative Interviewing; Rights, research, regulation*. Devon: Willan Publishing, 87-106.
- Tickle-Degnen, L. & Rosenthal, R. (1990). The Nature of Rapport and Its Nonverbal Correlates. *Psychological Inquiry*, 4, 285-293.
- Tinsley, H. E. A. & Weis, D. J. (1975). Interrater reliability and agreement of subjective judgements. *Journal of Counselling Psychology*, 22(4), 358-376.
- Tulving, E. (1985). How many memory systems are there? *American Psychologist*, 40(4), 385-398.
- Tulving, E. & Thomson, D. M. (1973). Encoding Specificity and Retrieval Processes in Episodic Memory, *Psychological Review*, 80, 5, 352-373.

- Walsh, D. & Bull, R. (2010). What really is effective in interviews with suspects? A study comparing interviewing skills against interview outcomes. *Legal and Criminological Psychology*, 15, 305-321.
- Walsh, D. W. & Milne, R. (2008). Keeping the PEACE? A study of investigative interviewing practices in the public sector. *Legal and Criminological Psychology*, 13, 39-57.
- Vanderhallen, M., Vervaeke, G. & Holmberg, U. (2010, June). *The working alliance in police interviewing*. Paper presented at the 4<sup>th</sup> International Investigative Conference, Brussels
- Williamson T. M. (1993). From Interrogation to Investigative Interviewing; Strategic Trends in Police Questioning. *Journal of Community & Applied Psychology*, 3, 89-99.
- Winick, B. (2006). Therapeutic Jurisprudence: Enhancing the Relationship between Law and Psychology, in B. Brooks-Gordon & M Freeman (eds.) *Law and Psychology*. Oxford University Press, 9, 30-48.
- Wright, A. M. & Alison, L. (2004). Questioning Sequences in Canadian Police Interviews: Constructing and Confirming the Course of Events? *Psychology, Crime & Law*, 10 (2), 137-154.
- Vrij, A., Mann, S. & Fisher P. R. (2006). Information-gathering vs. accusatory interview style: individual differences in respondent's 'experiences'. *Personality and individual differences*, 42, 589-599.

### Hur upplevde du förhöret/intervjun?

Här följer 17 frågor som handlar om hur du upplevde din förhållsledare/intervjuarens beteende under förhöret/intervjun, d.v.s. hur du tycker att han genomförde förhöret/intervjun och hur han förhöll sig till dig? Varje fråga har 7 möjliga svar. Du kan endast markera ett svarsalternativ per fråga.

I vilken utsträckning var din förhållsledare/intervjuare **lugn** och gav dig tid att tänka efter, prata och föra fram dina upplevelser under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **hetsig** mot dig och gav dig inte tid till att tänka efter under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **aggressiv** mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **vänlig** mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **avståndstagande** mot dig och din upplevelse under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **ovänlig** mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **tillmötesgående** mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **negativ** mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning skapade din förhållsledare/intervjuare en **personlig atmosfär** under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhållsledare/intervjuare **nonchalant** mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning visade din förhållsledare/intervjuare **empati** och förståelse under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning visade din förhållsledare/intervjuare en **positiv** inställning mot dig under förhöret/intervjun?      Inte alls        Mycket

I vilken utsträckning var din förhørsledare/  
intervjuare **samarbetsvillig** under förhöret/  
intervjun?

Inte alls         Mycket

I vilken omfattning var din förhørsledare/  
intervjuare **hjälpsam**?

Inte alls         Mycket

I vilken utsträckning var din förhørsledare/  
intervjuare **fördömande och skuldbelägg-**  
**ande** mot dig under förhöret/intervjun?

Inte alls         Mycket

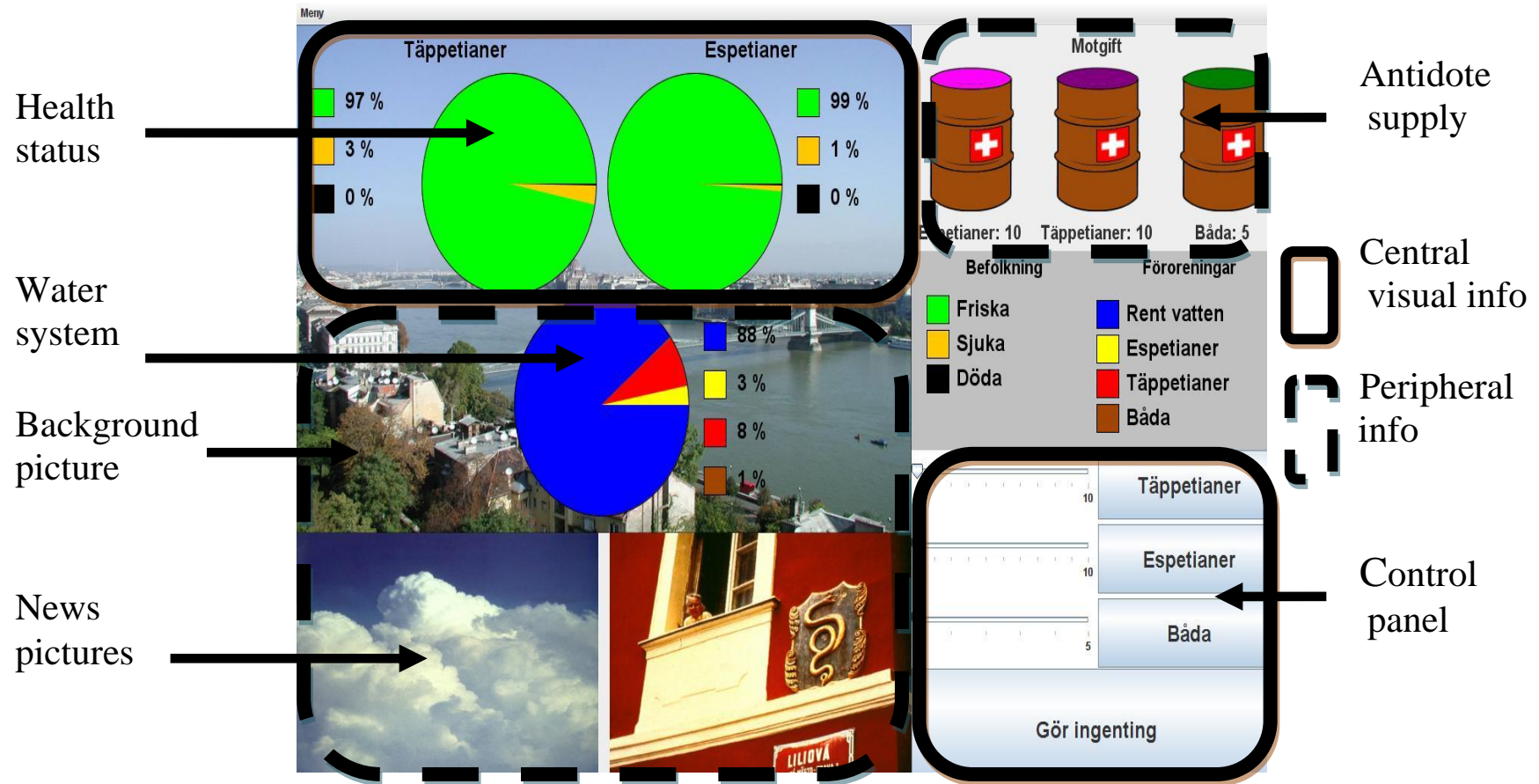
I vilken utsträckning upplevde du att din  
förhørsledare/intervjuare var **otålig** under  
förhöret/intervjun?

Inte alls         Mycket

I vilken utsträckning var din förhørsledare/  
intervjuare **brysk och tvär** mot dig under  
förhöret/intervjun?

Inte alls         Mycket

### The game pad of the computer stimulation



Items possible to remember

40 items of the screen, 38 news pictures, 48 decisions and actions = a total of 126 items.