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PREFACE AND ACKNOWLEDGMENTS

The path to a doctorate can be long and winding, and at times a lone endeavour. The end goal from the onset may be far from obvious. In hindsight, I have come to realise that my journey began during my time in the police service; a line of work, which offers opportunities to reflect on the grief that criminality often brings about for those affected: victims as well as perpetrators. Eventually, in 2005, I began to study forensic psychology alongside a full-time job. Later, as my studies progressed, I left the police service for academia. Now, just over a decade later, I have finally managed to write these long-awaited words that signify an important milestone: the defence, or *viva voce*[1], of my thesis. During the thesis work, I have frequently come to reflect upon what many before me probably also struggled with; the thought that the more you learn and the more experience you gain, the more you realise how little you really know and understand. A logical interpretation of what has just been said may give cause to view the present achievement as a starting point for a continued acquisition of knowledge rather than the end goal. It also suggests, perhaps more implicitly, that adequate supervision as well as support from friends and colleagues, amongst others, are indispensable for a successful outcome.

The materialisation of the present thesis would not have been possible without the help and support of others, of which I will name a few. First, I am very grateful to my supervisor Professor Pekka Santtila, not least for accepting me as a Ph.D. student; but also, whose solid knowledge gave structure and depth to the present thesis; Pekka, you were always well prepared and gave excellent guidance when needed. Secondly, I am also grateful to my assistant supervisor Dr Ulf Holmberg, who not only inspired me from the beginning of my studies and onwards, but who also very generously let me be a significant part of his research; Ulf, I would not be where I currently am without you. In addition, I would like to express my gratitude to the official reviewers, Dr. Kask and Dr. Stobbs, for their constructive feedback. Furthermore, I would also like to thank Professor Ray Bull and Judge Leslie Cuthbert for kindly taking the time to review a draft of the thesis; your comments helped improve the content considerably. I would also like to thank my colleague Dr Marcus Johansson for excellent cooperation in everyday work alongside many interesting discussions and laughs; my dear friends, Dr Brendan O'Mahony and Leslie Cuthbert for good times and many laughs; Dr Mats Dahl for all his help and consideration in connection to being accepted as a Ph.D. candidate; additionally, I am also grateful to Kristianstad University and Åbo Akademi University for financial support. Last, but not least, a sincere thought of gratitude to all of those of you, unnamed, whom I in the course of life have crossed

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[1] Latin for "by live voice".

paths with, and who left a lasting impression on me; you all, in one way or another, have implicitly contributed to this thesis.

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Kent Madsen

ABSTRACT

The present dissertation adopted a therapeutic jurisprudential approach and experimentally investigated the effects of a humanitarian rapport-orientated and a non-rapport orientated interview approach on adults' memory performance and psychological well-being in the context of investigative interviews. The effects were found to be moderated by the interviewees' personality. Therapeutic jurisprudence sees the law and legal procedures as a social force that produces therapeutic and anti-therapeutic consequences, and aims to execute legal processes in ways that promote the psychological well-being of those involved. Individual legal actors, for example police interviewers, have the power and discretion to influence how their legal work is conducted, and can be seen as therapeutic agents. The investigative interviewing concept is research based and guided by a truth-seeking and ethical framework that applies to all types of interviewees, including suspects. An important component for gaining trust and ensuring an effective communication is rapport, which denotes a positive interaction between the interviewer and interviewee. In the present thesis, the humanitarian rapport-orientated and the non-rapport orientated approach were operationalised based on previous explorative findings of authentic crime victims' and offenders' (suspects at the time of their interview, subsequently convicted) perception of their interviewers as acting either in a humanitarian or in a dominant manner. The humanitarian interview style was associated with crime victims reporting having felt respected and thus having tried to be cooperative and report everything that they could remember. In addition, they reported a higher sense of coherence, that is, an increased psychological well-being, in comparison to those who were interviewed in a dominant manner (Holmberg, 2004, 2009). Moreover, offenders also reported having felt respected, as well as having experienced an increased inclination to admit to the crime (Holmberg & Christianson, 2002). Those offenders admitting to a crime reported a higher sense of coherence in comparison to those who denied the crime (Holmberg, Christianson & Wexler, 2007). In contrast, the dominant interview style, when compared with a humanitarian interview style, was associated with crime victims omitting information, as well as offenders feeling anxious, that is, decreased psychological well-being. The interviewees' responses to each interview approach are most likely affected by their personality. The present thesis consists of four research reports based on a single collection of experimental data consisting of three phases: exposure, interview I ($N = 146$) conducted approximately one week after exposure, and interview II ($N = 127$) conducted approximately six months after exposure.

The results in both interviews (Study I) showed that those interviewees who were interviewed in a humanitarian rapport-orientated approach reported significantly more information in comparison to those interviewed in a non-rapport orientated approach. The pattern of recall for the defined memory subcategories (central visual, decision and action, and peripheral) was similar between interviews, although the second interview showed a decline in comparison to the first.

In Study II, the results in the first interview showed an interaction effect between time (pre- and post-interview) and interview approach on the interviewees' anxiety. Subsequent analyses showed that interviewees in the non-rapport orientated approach reported marginally higher levels of anxiety post-interview than those in the humanitarian rapport-orientated approach. The second interview showed an interaction effect between time and interview approach on the interviewees' sense of coherence. Interviewees in the humanitarian rapport-orientated approach reported a higher sense of coherence, that is, increased psychological well-being post-interview as compared to pre-interview.

In Study III, in the first interview, neuroticism predicted an increased recall of decision and action memories, and more so for those interviewed with the humanitarian rapport-orientated approach compared to the non-rapport orientated approach. In the second interview of Study III, openness to experience predicted a decreased recall of decision and action memories, whereas extraversion predicted a decreased recall of peripheral memories. Bivariate correlations between the Five Factor Model and the sum of memory subcategories (both interviews added together) showed the following results: a negative association between neuroticism and recall of central visual memories in the non-rapport orientated approach, a negative association between conscientiousness and recall of decision and action memories in the humanitarian rapport-orientated approach, and a positive association between openness to experience and recall of confabulated central visual memories. Moreover, in both interviews, extraversion and agreeableness predicted a higher sense of coherence and a lower state anxiety, whereas neuroticism predicted a lower sense of coherence and a higher state anxiety. Across both interviews, trait anxiety predicted a lower sense of coherence and this was more so for those interviewed with a non-rapport orientated approach in comparison to those interviewed with the humanitarian rapport-orientated approach. Trait anxiety also contributed to an increased state anxiety in both interview approaches. Interestingly, this was more so in the first interview with the humanitarian rapport-orientated approach in comparison to the non-rapport orientated approach.

In Study IV, in the second interview, three full mediation models emerged. In the first, it was found that the indirect effect of the interview approach on

interviewees' recall of central visual memories was mediated by the humanitarian index (interviewers' demeanour), increasing recall. In the second and third models, the indirect effects of the interview approach on interviewees' recall of central visual memories and decision and action memories, respectively, were mediated by the dominant index, decreasing recall. Follow-up analyses of the individual items assessing the interviewers' demeanour revealed two full mediation models involving interviewers' friendliness and cooperation in the humanitarian index, and four full mediation effects involving the interviewers' negative attitude, nonchalance, impatience as well as brusqueness and obstinacy in the dominant index. This suggested that these variables contributed to the original findings. In addition, results showed an interaction effect involving interviewees' personality in the second interview. The relationship between the interview approach and the interviewees' recall of confabulated memories was moderated by the FFM factor openness to experience; the higher trait scores being associated with increased recall.

Basically, the humanitarian rapport-orientated approach in comparison with the non-rapport-orientated approach, in all essential parts, facilitated the interviewees' recall as well as their psychological well-being. In contrast, the non-rapport orientated approach, in comparison with a humanitarian rapport-orientated approach, also in all essential parts, hampered the interviewees' recall as well as contributed to his or her decreased psychological well-being.

LIST OF STUDIES

This doctoral dissertation is based on the following four studies, which in the text are referred to by their Roman numerals:

Study I Holmberg, U., & Madsen, K. (2014). Rapport Operationalized as a Humanitarian Interview in Investigative Interview Settings. *Psychiatry, Psychology and Law, 21*(4), 591-610.

Study II Madsen, K., & Holmberg, U. (2015a). Interviewees' Psychological Well-being in Investigative Interviews: A Therapeutic Jurisprudential Approach. *Psychiatry, Psychology and Law, 22*(1), 60-74.

Study III Madsen, K., & Holmberg, U. (2015b). Personality Affects Memory Performance and Psychological Well-Being in Investigative Interviews: A Therapeutic Jurisprudential Approach. *Psychiatry, Psychology and Law, 22*(5), 740-755.

Study IV Madsen, K., & Santtila, P. (submitted). Interview styles, adult's recall, and personality in investigative interview settings: mediation and moderation effects. Manuscript submitted for publication.

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ABBREVIATIONS

A   FFM; Agreeableness
C   FFM; Conscientiousness
CI   Cognitive Interview
CM   Conversation Management
E   FFM; Extraversion
EU   European Union
FFM   Five-Factor Model
GSS   Gudjonsson Suggestibility Scale
N   FFM; Neuroticism
O   FFM; Openness to Experience
PCA   Principle Component Analysis
PEACE **P**lanning and Preparation; **E**ngage and Explain; Obtain an **Ac**-count; **C**losure; **E**valuation
PTSD Post-Traumatic Stress Disorder
PWB Psychological Well-being
SOC   Sense of Coherence
STAI-S State-Trait Anxiety Inventory (state version)
STAI-T State-Trait Anxiety Inventory (trait version)
SUE   Strategic Use of Evidence
TJ   Therapeutic Jurisprudence
UK   United Kingdom
UN   United Nation

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1. CRIMINALITY, GRIEF AND INTERVIEW IM-PLICATIONS

A long career in the police service has given the present author frequent opportunities to reflect on the grief and emotional difficulties that criminality involves. Victims may experience various forms of psychological stress, for example, anxiety, fear, and post-traumatic stress disorder (Dahl, 1992; Frieze, Hymer & Greenberg, 1987; Kilpatrick & Acierno, 2003), as may offenders (Friel, White & Hull, 2008; Pollock, 1999; Welfare & Hollin, 2012). For example, in a sample of 80 homicide offenders, Pollock (1999) found support for reactive violence being related to the development of PTSD symptoms associated with involvement in the homicide. In addition, narrating a traumatic event may reactivate the interviewees' psychological stress when describing memories both in writing (Pennebaker & Beall, 1986; Petrie, Booth & Pennebaker, 1998), and verbally in police interviews (Risan, Binder & Milne, 2016). This may result in a limited narrative, and victims' lack of interest in participating in the investigation if costs thereof are perceived to exceed the benefits of participating in the investigative process (Doerner & Lab, 2012; Fisher, 1995). It has been suggested that the style of interviewing can moderate psychological stress (Fisher & Geiselman, 2010; Holmberg, Christianson & Wexler, 2007; Shepherd, Mortimer, Turner & Watson, 1999), and that an extended narrative following a stressful event can increase the mental health of the person relating it (Pennebaker, 1997; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). Hence, police interviews offer an opportunity to not solely focus on eliciting relevant case facts, but also promote the interviewees' psychological well-being (European Union, 2012; United Nation, 1985). This view has not always prevailed.

In 1908, Roscoe Pound (Dean of Harvard Law School, 1916-1936) criticised the, at the time, prevailing view of the criminal justice system and its objectives, which he termed *mechanical jurisprudence*. The essence of his critique was that the law and legal procedures were practiced with disregard to how individuals were affected by legal decisions and rulings (Pound, 1908). In response, Pound (1911) developed *sociological jurisprudence*, which, briefly, emphasised the social effects of legal institutions and practices. Sociological jurisprudence coexisted and evolved in interplay with *legal realism* (see e.g., Frank, 1930/2009; Llewellyn, 1962/2008), and subsequently came to be replaced by the latter. Emanating from this, *therapeutic jurisprudence* (TJ) aims at executing legal processes in a way that promotes the psychological well-being (PWB) of individuals involved in juridical actions (Slobogin, 1995; Stolle, Wexler, Winick & Dauer, 2000; Wexler, 1996). This objective should be viewed as including, following, for example, Winick (1997), one of the founders of TJ, all legal rules, legal procedures, and the roles of legal actors (such as lawyers

and judges). Critics of TJ argue that a weak theoretical anchoring and lack of a solid definition of PWB hamper empirical testing (Roderick & Krumholz, 2006; Slobogin, 1995), which is noteworthy as TJ claims to be reliant on empirical research (e.g., Winick, 1997). In the absence of empirical evidence, courts instead can base their decisions on speculative thoughts about what a TJ perspective should entail (Winick, 1997). This leaves it to the professional to determine what is best for the individual in question which, in turn, allows opportunities for paternalistic decision making (Finkelman & Grisso, 1994; Petrila, 1996; Roderick & Krumholz, 2006). Few studies concerning investigative interviews have adopted a TJ perspective.

In a separate but somewhat parallel process, the concept of investigative interviewing began to be developed in the United Kingdom during the early 1990s as a reaction to several high-profile miscarriages of justice caused partially by inappropriate interrogation strategies (Gudjonsson, 2003a; Milne & Bull, 1999; Shepherd & Griffiths, 2013). Investigative interviewing is a broad term encompassing "interrogation", and whose principles postulate a truth-seeking approach as opposed to having a focus on confessions. Also, one of the main principles of investigative interviewing is that investigators must act fairly when questioning victims, witnesses and suspects (Milne & Bull, 1999; Shepherd & Griffiths, 2013). In this view, investigative interviews involve a complex, dynamic positive interaction between interactants labelled *rapport* (Fisher & Geiselman, 2010; Kelly, Miller & Redlich, 2015), the importance of which is emphasised in the forensic literature for achieving important investigative interview goals; for example, gaining the interviewees' cooperation, and/or increased recall (see e.g., Abbe & Brandon, 2012; Kieckhaefer, Vallano & Schreiber Compo, 2013; St-Yves, 2006; Vallano & Schreiber Compo, 2011, 2015; Walsh & Bull, 2010). Previous research shows that *rapport-orientated* and *non-rapport orientated* interview styles result in differences in interviewees' memory performance (Collins, Lincoln & Frank, 2002; Holmberg, 2004; Vallano & Schreiber Compo, 2011), and in their PWB (Holmberg, 2009; Holmberg et al., 2007; Vrij, Mann & Fisher, 2006). However, the literature on investigative interviewing lacks an empirically based definition of rapport (Borum, Gelles & Kleinman, 2009), and a detailed description of how to establish rapport, as well as empirical evidence that determines how rapport contributes to interview outcomes with adults (Abbe & Brandon, 2012) (but see Walsh & Bull, 2012 on rapport).

Accordingly, the aim of the current thesis was to expand previous, explorative research conducted with a retrospective design, and to experimentally investigate the causal effects of two empirically substantiated interview styles, defined as a humanitarian (rapport-orientated) and a dominant (non-rapport orientated) approach (Holmberg & Christianson, 2002; Holmberg, 2004) on adults' memory performance and PWB; and thereby respond to called upon

theoretical and empirical shortcomings of the literature on rapport (Borum et al., 2009; Abbe & Brandon, 2012). An additional aim was to contribute to the theoretical basis of TJ especially regarding defining and measuring PWB in an investigative interview context (Roderick & Krumholz, 2006; Slobogin, 1995).

Our expectation was that a humanitarian rapport-orientated approach would contribute to an extended narration, which has two important practical implications. The first implication being the need to ascertain the circumstances of relevance for the criminal investigation and legal process (Diesen, 2012; Willén & Strömvall, 2012). The second implication being, given that criminality often involves psychological stress for crime victims and offenders (Frieze et al., 1987; Holmberg & Christianson, 2002; Pollock, 1999), to contribute to a decrease in mental suffering for the interviewees (Pennebaker, 1997; Pennebaker et al., 1988). An increased PWB may in turn lead to economic benefits for society in terms of reduced absenteeism and health care costs.

2. THERAPEUTIC JURISPRUDENCE

2.1. The emergence of Therapeutic Jurisprudence

American *legal realism* is a legal philosophy, which began emerging in the late 19th century. One of its first advocates, Holmes (1881/2000) stated that the workings of the law could not merely be understood by considering the technical and logical aspects of its rules and procedures, but also how humans (e.g., judges, lawyers) interact and make decisions needed to be considered. As pointed out above, Pound (1908) described the contemporary practice of law as mechanical jurisprudence. Inspired by Holmes, Pound (1911) developed his theory on sociological jurisprudence; a methodological approach that emphasises the social effects of legal institutions and practices. In the following decades, Pound's work was developed and coexisted in interplay with that of the legal realists; for example, Llewellyn (1930; 1962/2008), who advocated for a positivistic, behaviouristic form of legal realism and the study of the behaviour of legal practitioners (Chriss, 2008). Early traces of TJ can be discerned in Llewellyn's empirical orientation, and Pound's reference to social effects can be thought of as therapeutic effects (Finkelman & Grisso, 1994). Another prominent legal realist who explicitly involved psychology in his work was Jerome Frank (White, 1972) who (1930/2009) argued that the decisions of judges and juries, to a large extent, are influenced by psychological prejudices, meaning that decisions are often made on personal and subjective grounds. However, Frank's interest seemingly focused on judges' need for psychoanalysis (Frank had undergone his own psychoanalysis in 1927) rather than applying psychological theories to legal issues (Finkelman & Grisso, 1994). Legal realism lost momentum in the 1950s due to the general perception

that its implications had been implemented in the juridical system (Finkelman & Grisso, 1994).

In the 1960 and 70s, the USA saw a growing concern regarding the legal rights of mentally disordered people. Legislative efforts to protect and secure the rights of the mentally disordered awarded this group rights similar to those of the incarcerated population (Carson & Wexler, 1996), and a doctrinal, constitutional-orientated scholarship became a contemporary driving force within Mental Health Law (Wexler, 1993). This in turn actualised a conflict between competing values; the therapeutic mission of the mental health system and the individual's protected liberty. For example, therapeutic efforts might be constrained when in conflict with individual's protected liberty, and the latter, regardless of potential gains or losses to each value, is given priority (Schopp, 1993).

The term TJ first emerged in 1987 in the USA in conjunction with a paper written by professor Wexler for a National Institute of Mental Health workshop. The paper as originally drafted used the term juridical psychotherapy, but was due to criticism revised to therapeutic jurisprudence immediately after the presentation (Wexler, 2013). The founders, professors David Wexler and Bruce Winick, had for a long time interested themselves in *law as therapy* within the field of Mental Health Law where they both were active (Wexler, 2013).

2.2. Therapeutic Jurisprudence; main definitions and aims

TJ sees the law and the judicial process as dynamic and affected by the particular culture in which they operate (Winick, 1997). Moreover, in order to understand the functions of the law, other disciplines and approaches such as political science, economics, anthropology, sociology, and psychology must be applied to it (Winick, 1997). Situated within these interdisciplinary traditions and appreciating the behavioural sciences including psychological theory as a tool to examine the law, TJ focuses on the mental and physical health of people involved in legal actions (Winick, 1997). Slobogin (1995, p. 196) offers a widely-accepted definition of TJ: "the use of social science to study the extent to which a legal rule or practice promotes the psychological or physical well-being of the people it affects."

For the benefit of this introduction, some of the salient aspects of TJ are addressed in order to help describe and clarify its boundaries. First, TJ's approach is multidimensional and comprises aspects related to legal rules, legal procedures and the roles of various legal actors. All of these aspects, intended or unintended, produce *therapeutic* or *anti-therapeutic consequences* (Wexler, 2011; Winick, 1997). Pragmatically, anti-therapeutic consequences can be ascertained by identifying so called *psycholegal soft spots* and, presumptively reduced by applying a TJ approach (Small, 1993; Wexler, 2000; Winick, 1997).

The concept of psycholegal soft spots has been described as "the identification of social relationships or emotional issues that ought to be considered in order to avoid conflict or stress when contemplating the use of a particular legal instrument" (Stolle et al., 2000, p. 35). Furthermore, as an example of what constitutes therapeutic consequences, Winick (2009) suggested that considerations to victims' emotional well-being must be taken seriously in the criminal justice process and identified three ways to achieve this: (1) giving victims a voice in the court process as opposed to playing a subsidiary role may reduce feelings of being marginalised and powerless, (2) all legal actors (e.g., judges, lawyers, and police officers) within the criminal justice system who are in contact with victims must be sensitised to and educated about the emotional responses victims are likely to experience in order to treat them with empathy and understanding, (3) a future risk for victims to develop post-traumatic stress disorder can be reduced, if victims during the investigation are given opportunities to share what happened to them and how they feel. Importantly, TJ is not restricted to victims only and may extend to also encompass criminal defendants (Wexler, 1995). Related to the last point are the therapeutic and anti-therapeutic consequences of police interviews; it is suggested that interviews characterised by rapport may have therapeutic effects by facilitating crime victims' and offenders' narration, whereas a dominant non-rapport approach may be anti-therapeutic by hampering narration (Fisher & Geiselman, 2010; Holmberg, 2009).

Second, although the promotion of well-being is a prominent feature in TJ, this is not synonymous to claiming that in TJ the promotion of well-being is the law's main role. Instead, all things being equal, the TJ approach asserts that the law and legal processes, as far as possible, should avoid causing harm (Richardson, Spencer & Wexler, 2016; Wexler, 1995). In the TJ literature, psychological well-being has been defined and described in different ways. For example, Barkworth and Murphy (2016) empirically investigated one aspect of procedural justice; the impact contact with the police (e.g., were the police polite/respectful/courteous?) had on crime victims' emotions and quality of life. Findings from the study showed that victims who felt greater levels of procedural justice from police were significantly less likely to feel shame, anxiety or anger, and were more likely to feel socially included, and less likely to feel that their quality of life had been impacted by a fear of crime. Moreover, victims with higher levels of shame, anxiety and anger had a greater fear of crime, thus a decreased quality of life, and those with greater levels of shame and anxiety felt more isolated (less socially included). In the context of police interviews of suspects, Holmberg et al. (2007) in retrospect investigated the impact of interview styles (humanitarian vs. dominant) on alleged murderers' and sexual offenders' PWB related to their police interview. Results revealed

that a humanitarian approach was related to offenders' feelings of being respected, whereas the dominant approach was related to offenders feeling anxious. Furthermore, offenders who felt highly respected during interviews in comparison to those who felt less respected reported a higher level of PWB, as measured with Antonovsky's (1984) sense of coherence.

Third, while TJ is reliant on the social sciences for empirical evidence, Winick (1997) argues that it may be difficult to address empirical questions relevant in the legal context. Under the latter view, courts decisions on legal matters might instead be based on speculations on what the result of empirical TJ research might show (Winick, 1997). Not surprisingly, TJ's key features and concepts have been subject to criticism.

2.2. Therapeutic Jurisprudence; critique and expansion

The main criticisms of TJ have revolved around concerns that to various degrees are interrelated with each other. A first concern is about its lack of novelty, and TJ's resemblance to other modern jurisprudences has led critics to question to what extent TJ brings something new to the field, perhaps even being redundant (e.g., Finkelman & Grisso, 1994; Petrila, 1996; Slobogin, 1995). TJ shares a considerable overlap with other jurisprudences, for instance *legal realism* and its later derivate *social science in law*, *law and economics*, *critical legal studies* and *feminist theory*. However, it appears that the focus on promoting psychological well-being without restrictions to a particular group is what distinguishes TJ from other jurisprudences (Slobogin, 1995; Winick, 1997). A second concern relates to a lack of theoretical base (Roderick & Krumholz, 2006), and definitional issues; for instance, TJ's inadequate definitions of key concepts such as psychological well-being, as well as what is considered to be therapeutic (Finkelman & Grisso, 1994; Petrila, 1996; Slobogin, 1995). For example, what is considered therapeutic, besides partly being a question for policy-makers, is deliberately formulated in vague terms in order to avoid a doctrinal focus and in order not to exclude incentives to influence legislators, administrators and courts (Wexler, 1993, 1995). A third concern applies to TJ's empirical uncertainty (Finkelman & Grisso, 1994; Roderick & Krumholz, 2006; Slobogin, 1995). In spite of TJ's explicitly stated reliance on empirical evidence provided by the social sciences (Winick, 1997), critics argue that its aforementioned definitional and theoretical shortcomings hamper empirical testing as the TJ construct cannot sufficiently predict relevant outcomes, for instance, psychological well-being, and form a base for formulating testable hypotheses (Roderick & Krumholz, 2006). A fourth concern targets TJ's lack of clarity regarding its application to legal decision-making (Petrila, 1996; Roderick & Krumholz, 2006; Slobogin, 1995); a proposal that is considered therapeutic for a particular individual may both be in conflict with other interests within the same individual, or another individual involved, and the TJ framework does

not resolve this balancing process (Slobogin, 1995). As an anecdotal example, a murder suspect experiencing severe emotional distress due to the criminal act committed might be urged to narrate the events of the crime in order to feel relief. However, providing a detailed account is likely at the same time to benefit the prosecution and lead to a conviction and a long prison sentence for the suspect in question, which can be considered as anti-therapeutic. Embedded within this lie paternalistic concerns, for instance, it is left to professionals to decide if a certain therapeutic proposal is implemented or not (Finkelman & Grisso, 1994; Petrila, 1996; Roderick & Krumholz, 2006), and this process does not take into account the wishes of the individuals involved (Petrila, 1996).

Despite criticism (for a response to the criticism, see Stobbs, 2014), legal scholars, practitioners, social scientists, as well as lawmakers and judges have in many areas of policy embraced TJ (Freckelton, 2008; Roderick & Krumholz, 2006; Wexler, 2008), and practical examples appear more or less across the entire legal spectrum: for instance, correctional law, criminal law as well as lawyering (Wexler & Winick, 1996; Wexler, 2000, 2008). Moreover, TJ has gained a wide international spread and now involves studies from all continents (Western cultures and democracies) and literature on therapeutic jurisprudence is available in several languages other than English (Wexler, 2008). Given TJ's aims, it would be expected that police interviews and other legal interviews would have attracted the interest of scholars within this field. However, to date, only a few studies have adopted a therapeutic jurisprudential approach in the context of investigative interviews (Fisher & Geiselman, 2010; Holmberg & Christianson, 2002; Holmberg et al., 2007; Holmberg, 2004, 2009; Leone, 2015).

3. RAPPORT

3.1. The emergence of Investigative Interviewing

The United Kingdom (UK) saw several miscarriages of justice and the acquittals of convicted individuals in high profile cases in the late 1980s and early 1990s; in part, due to shortcomings in how the police conducted interviews with suspects (Gudjonsson, 2003a).

In the early 1990s, the Home Office and Association of Chief Police Officers in England and Wales initiated and supported research that identified severe shortcomings in police officers' approach to interviewing. For example, the predominant use of closed and extension/clarification questions as well as the use of leading questions when interviewing witnesses on the one hand and a confession-orientated approach when questioning suspects on the other. This led to the development of the *investigative interviewing* code and the *PEACE*

training approach (Milne & Bull, 1999). The term "interrogation" that was associated with a confession-orientated approach was abandoned and replaced with a truth-seeking, research rooted investigative interviewing approach governed by an ethical framework applying to all types of interviewees (victims, witnesses and suspects). Basically, the principles stipulated that in order to obtain accurate and reliable information on the matters under investigation, interviewers must act fairly, should seek the truth, have an open mind-set, and show particular consideration for vulnerable people. PEACE is an acronym for the following: Planning and Preparation, Engage and Explain, Obtain an Account, Closure, and Evaluation. It is designed to provide an interview structure in which interview techniques such as *the cognitive interview* (CI; Fisher & Geiselman, 1992) or *conversation management* (CM; Shepherd, 1993; Shepherd & Griffiths, 2013) can be incorporated (Milne & Bull, 1999). A CI comprises of three psychological processes: cognition, social dynamics and communication. The cognitive component refers to memory enhancing features (e.g., mental reinstatement, being aware of limited mental resources), while the social dynamics element denotes the importance of creating and maintaining rapport. The communication component emphasises the importance of an interviewee-led approach, for instance, by way of free recall (Fisher & Geiselman, 1992, 2010). The CI can benefit the recall of crime victims and witnesses (Fisher, Geiselman & Amador, 1989) and co-operative suspects (Fisher & Perez, 2007). CM consists of three phases, a pre-interview phase (planning and preparation) and a within-interview phase (greeting, explanation, mutual activity, close) and a post-interview phase (interview summary and analyses) corresponding to those of PEACE (Milne & Bull, 1999). CM sees interviewing as a conversation with a special purpose in which the interviewer must be aware of and manage his or her own, as well as the interviewee's, verbal and non-verbal behaviour (Milne & Bull, 1999). Regarding the within-interview behaviours, greeting refers to a rapport-building phase, and the explanation denotes a phase where the aims and objectives to be followed by the interviewer and interviewee are outlined, as well as defining the working relationship between interviewer and interviewee. Mutual activity is the elicitation and questioning phase in which both the interviewer and interviewee should be active. The close refers to closing the interview in an appropriate way and, if possible, leaving the interviewee in a positive frame of mind (Milne & Bull, 1999).

Both the CI and PEACE emphasise the importance of putting the interviewee in control of the information flow during interviews (Fisher & Geiselman, 1992; Milne & Bull, 1999). This can be achieved by providing the interviewee with an opportunity to give a *free recall/narrative* (henceforth, called free recall) and the use of *open, information-seeking* questions. The investigative interviewing literature holds different definitions of question typologies (for

an overview, see Oxburgh, Myklebust & Grant, 2010). A free recall typically refers to an invitation to the interviewee to provide an uninterrupted account of the event to be remembered in a narrative format (Milne & Bull, 1999; Fisher & Geiselman, 1992), for example, "Tell me all about what happened yesterday". Open-ended questions denote questions that are formulated in a way that permits the respondent to give a more encompassing and elaborate answer; for example, "Describe the get-away car", in comparison to a closed question; "What colour was the [get-away] car?" Eliciting information by use of free recall and open-ended questioning is associated with more full and accurate accounts (Fisher, 1995; Fisher & Geiselman, 1992; Milne & Bull, 1999; Lipton, 1977; Odinot, Wolters & van Koppen, 2009; Shepherd & Griffiths, 2013; Snook, Luther, Quinlan & Milne, 2012). In contrast, closed questions are associated with shorter answers and an increased probability of errors in the answers provided (Fisher & Geiselman, 1992; Fisher, Geiselman & Raymond, 1987; Milne & Bull, 1999). Closed questions, including probing, are appropriate to use after the free recall and open-ended question stages (Milne & Bull, 1999), whereas other types of questions such as [mis]leading and multiple and forced-choice questions should be avoided (Milne & Bull, 1999; Snook et al., 2012).

Several researchers and training protocols, for example, the CI and PEACE, have emphasised the importance of rapport in investigative interviewing for facilitating communication (e.g., Abbe & Brandon, 2014; Alison, Alison, Noone, Elntib & Christiansen, 2013; Borum et al., 2009; Bull, 2013; Fisher & Geiselman, 1992; Kelly, Miller, Kleinman & Alison, 2013; Meissner, Kelly & Woestehoff, 2015; Milne & Bull, 1999; Shepherd & Griffiths, 2013; St-Yves, 2006; Walsh & Bull, 2010, 2012).

3.2. Rapport: underlying factors and previous research

Beyond investigative interviewing, rapport is considered essential for gaining trust and for ensuring effective interactions in many settings and professions, for instance, in counselling for establishing a working alliance (Horvath, 2001) and motivating change (Miller & Rollnick, 2002), human intelligence gathering (Department of the Army, 2006), medicine (Hall, Roter, Blanch & Frankel, 2009), negotiations (Drolet & Morris, 2000), and in nursing (Casella, 2015). At a general level, Bernieri (2005) suggested three defining features; "(a) rapport is defined at the dyad or group level; it refers to the quality of the relation or connection between individuals, (b) rapport is evaluatively positive for interactants, and (c) critical aspects of rapport involves the gestalt principle of unity, a feature that finds expression in such terms as harmony, coordination, and accord" (p. 347).

In relation to the latter, Argyl (1990) and Buck (1990) suggested that rapport involves an adaptive, biological function of evolutionarily value for humans based on the biological purpose of creating social integration and gaining mutual help and support by establishing relationships; these are processes in which synchronic nonverbal signals are important (Argyl, 1990). This perception-behaviour link refers to a tendency to act the same way as we see others acting. The perceptual and behavioural representation for the same action is shared and often results in an automatically activated response (Dijksterhuis & Bargh, 2001). For example, think back to a moment when you received a smile from a stranger on the street and you instantly, without reflection, returned the smile. The causal effect is bi-directional, with greater imitation producing greater liking and rapport, and greater liking/rapport producing greater mimicry (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001). However, this tendency is not imperative, and does not always occur, and two possibilities are suggested to explain this. The first suggests that in order to elicit an action, a facilitating mechanism in excess of perception is required. For example, a consciously made decision or a motivation may act as such a facilitator. In contrast, the second possibility suggests that perceptual activity in itself is sufficient to elicit an action, but is inhibited or controlled (Dijksterhuis & Bargh, 2001).

In particular, three aspects of social perception are of interest for the focus of the present thesis. First, we perceive the gestures and movements of others, as well as facial expressions, accents and tone of voice. Second, based on observation, behaviour trait inferences (e.g. honest, intelligent) are made; that is, these inferences are not literally perceived, but spontaneously made regarding the perception of the observed behaviour. As an illustration in a police interrogation context, for example, Alison et al. (2013) found that the interrogator's minimal expression of maladaptive behaviour (e.g. judgemental, demanding) directly resulted in a reduced yield of information from the suspect. This could suggest that the suspect perceived the interviewer as hostile, and responded accordingly. Third, the activation of social stereotypes makes the social perceivers go beyond actual, present information. This takes place in a three-step process: first the trait concept associated with the observed behaviour is activated, followed by the behavioural representation and the actual behaviour (Dijksterhuis & Bargh, 2001). Moreover, research supports the presence of unconscious processes such as contextual priming; this means that the mere presence of a particular event or person automatically activates our representations of them, including the relevant information needed for a response (Bargh & Morsella, 2008; Dijksterhuis & Bargh, 2001).

Rapport has predominantly been dealt with in a descriptive way in the investigative interviewing literature (for a review, see Abbe & Brandon, 2012), with starting points in the various aspects described above. For example, at a

higher abstraction level, Fisher and Geiselman (2010) emphasised the importance of being aware of how the interviewee and interviewer influence one another in the social interaction, with similar thoughts being put forward in Shepherd's CM. More specifically, the importance of the interviewer paying attention (Milne & Bull, 1999; St-Yves, 2006), as well as keeping an open mind, being objective and acting professionally (St-Yves, 2006) are emphasised in the investigative interviewing literature on rapport. Furthermore, Fisher and Geiselman (1992) stressed the importance of the interviewer creating a personal atmosphere (treating the interviewee as a person with individual needs, e.g., by referring to him/her by name) along with active listening and an empathic approach, views which are shared by Shepherd and Griffiths (2013). Collins et al. (2002) pointed to the importance of allocating adequate time when developing rapport. In general, and perhaps not surprisingly, most interviewing protocols and researchers emphasise the importance of rapport being developed at the onset of the interview, while the significance of rapport during the continuation of the interview is less explicit. However, to be fair, some of the above-mentioned aspects implicitly suggest the importance of rapport throughout the interview. In fact, for example, Walsh and Bull (2012) found that it was important to sustain rapport throughout interviews with suspects. In contrast, the study by Vallano and Schreiber Compo (2011) consisted solely of initial rapport building in the form of uni- (interviewee) and bi-directional (interviewee and interviewer) self-disclosure. Empirical studies concerning rapport with adults in the investigative interviewing context have found rapport to increase recall of information (Alison et al., 2013; Collins et al., 2002; Walsh & Bull, 2010), as well as decrease interviewees' susceptibility to misinformation (Kieckhaefer et al., 2013; Vallano & Schreiber Compo, 2011) and increase suspects' cooperation (Kelly et al., 2015).

In summary, the literature on investigative interviewing lacks an empirically based definition of the essence of rapport (Borum et al., 2009). Additionally, the review by Abbe and Brandon (2012) identified several research gaps; such as, that few existing empirical studies show (1) how rapport contributes to the interview outcome, (2) how rapport is best established, and (3) how to use rapport for instrumental purposes in investigative interviews. Moreover, the descriptions of rapport found in the investigative interviewing literature show weak theoretical foundations (Abbe & Brandon, 2014); however, for exceptions see Alison et al. (2013) and Vanderhallen, Vervaeke and Holmberg (2011).

3.3. A theoretical framework of rapport

The conceptualisation of rapport by Tickle-Degnen and Rosenthal (1990a) is derived from an examination of interactions in a social psychological context; it is theory-driven and focuses on the nonverbal correlates associated with

rapport, and how they behaviourally manifest themselves. According to Tickle-Degnen and Rosenthal, rapport exists only in interactions between individuals, and rapport is experienced as a result of qualities that develop from each individual during interaction, that is, reciprocity is essential. Even though recognising the possibility that one individual's deceptive exhibition of attention and positivity could cause the other individual to experience rapport, Tickle-Degnen and Rosenthal argue that genuine rapport is made up of mutual feelings. This distinguishes the construct of rapport from empathy which can be expressed one-sidedly (Tickle-Degnen & Rosenthal (1990b).

Rapport is a dynamic structure that has been construed as being made up of three interrelating components *mutual attentiveness*, *positivity* and *coordination* (Tickle-Degnen & Rosenthal, 1990a). The first component, mutual attentiveness, refers to the degree of involvement the interviewer and interviewee experience. It is suggested that when interactants experience a high degree of rapport their focus is other-involved, and an interest in what the other is saying and doing is shown. Mutual attentiveness helps form a focused and cohesive interaction. For example, as an illustration in the investigative interview context in which the interviewer is seen as ultimately responsible for establishing rapport, the interviewers' active listening gives interviewees the impression of being listened to, which, in turn, fosters their narration. The second component, positivity, manifests itself in feelings of mutual friendliness and caring when interactants experience rapport, and more readily so when a high degree of mutual attentiveness is also present. Positivity signals a willingness to communicate, and might manifest itself, for instance, as smiles and eye contact (Bernieri, Gillis, Davis & Grahe, 1996). The third component, coordination, refers to a balance and harmony between interactants when experiencing rapport, or in other words accommodation, or a mutual responsiveness, for example, an interviewer who refrains from immediately asking a question when the interviewee becomes silent, although clearly showing he/she is making an effort to elaborate on an answer, or an interviewer showing empathy for the interviewee's situation when appropriate.

The three components are to some degree present throughout the interaction, but their weighted importance is expected to vary. Early in the interaction rapport is indicated by high levels of positivity and attention, whereas later in the interaction it is expressed more through attention and coordination. The rationale being that encounters initially involve strong evaluative forces, which suggests that positivity, including feelings of warmth and friendliness, is important for developing rapport. As the interaction progresses, the communicative efficiency is expected to increase. The latter is dependent on the responsiveness of the interactants towards each other (Tickle-Degnen & Rosenthal, 1990a).

Tickle-Degnen and Gavett (2003) suggested that interpersonal relationships in various forms could be conceived as involving the development and maintenance of rapport and a working alliance (a term used in therapeutic relationships which involves forming bonds and agreement regarding tasks and goals, see e.g., Horvath, 2001). Rapport can be seen as being part of a working alliance (Sharpley & Ridgway, 1992; Tickle-Degnen, 2002). Vanderhallen et al. (2011) investigated the perception of witnesses and suspects regarding the working alliance in police interviews, as well as the relation between working alliance and interview style. The results showed that a humanitarian interview style increased the likelihood of a functioning working alliance, whereas a dominant interview style hindered the establishment of a good working alliance. This suggests links between rapport/working alliance and the interview style in the investigative interviewing context.

3.4. Rapport in relation to a humane and dominant interviewing style

In general, research on police interviewing (here in a broad sense) can be categorised into information-gathering versus accusatorial approaches; however, both of these approaches can utilise rapport (for a comprehensive review, see Kelly et al., 2013). A humane interview style can be conceptualised as an information-gathering style in which rapport is established for use in positive confrontations by way of open-ended, exploratory questions in order to elicit fuller accounts. In contrast, a dominant interview style can be placed in the accusatorial category in which rapport might be used for establishing control over the interviewee, for example, by the use of psychological manipulation, close-ended and/or confirmatory questions. A primary goal of dominant interview style in interviews with suspects is to obtain a confession (Kelly et al., 2013; Meissner et al., 2014).

In connection with a humane or dominant interviewing style, Holmberg and colleagues collected questionnaire responses retrospectively from Swedish crime victims ($M = 33$ months), and offenders ($M = 32$ months) after their police interview. Principle Component Analysis of descriptors for the interviews revealed that both crime victims (Holmberg, 2004; the solution explained 74.0% of the variance) and offenders (Holmberg & Christianson, 2002; the solution explained 79.0% of the variance) perceived their interviewers as acting either in a *humanitarian* (rapport-orientated) or a *dominant* (non-rapport orientated) way. In the humanitarian approach, the interviewers were perceived as cooperative, helpful, friendly, obliging and emphatic. In addition, they expressed a positive attitude, showed personal interest and made an effort to create a personal conversation. A humanitarian interview style was associated with crime victims reporting having felt respected and having tried to be cooperative and reporting everything that they could remember

(Holmberg, 2004), and offenders also reporting having felt respected, and in addition having experienced an increased inclination to admit to the crime (Holmberg & Christianson, 2002). Several items in the factor that make up the humanitarian style are congruent with what other researchers have stressed as important for developing rapport, for example, showing a personal interest and personalising the interview are in line with Fisher and Geiselman's recommendation (1992, 2010) and Tickle-Degnen and Rosenthal's (1990a) theoretical prototype attention. Positive attitude, friendliness, helpfulness and empathy are in line with Shepherd and Griffiths' (2013) view, as well as Tickle-Degnen and Rosenthal's positivity component. In addition, a cooperative and obliging manner may be seen as congruent with Tickle-Degnen and Rosenthal's coordination component.

In contrast, in the dominant approach interviewers were perceived as indifferent and unemotional, dissociating, aggressive, unfriendly, impatient, brusque and obstinate, as well as showing a formal and non-accessible, negative, condemning attitude towards the interviewee. Furthermore, a dominant interview style, compared with a humanitarian interview style, was associated with crime victims omitting information (Holmberg, 2004), as well as offenders reporting having experienced increased anxiety (Holmberg & Christianson, 2002). These results suggest that, on the one hand, a humanitarian approach could result in increased memory performance (Holmberg, 2004), and, on the other hand, a dominant style could increase the interviewees' anxiety levels (Holmberg & Christianson, 2002). The concept of anxiety is relevant both in terms of state and trait. The latter is related to aspects of the individual's personality.

4. PERSONALITY

4.1. Five Factor Model

The Five Factor Model (FFM; see e.g., McCrae & Costa, 2008) of personality describes the basic tendencies of individuals in the five traits of *neuroticism, extraversion, openness, agreeableness* and *conscientiousness*. These traits are seen as having a biological base (e.g., genes, brain structures) as well as being influenced by external factors (e.g., life events, culture norms, situations). Furthermore, the individual's basic tendencies are interrelated with and form his or her characteristic adaptations (e.g., personal strivings, attitudes, habits, roles, skills, relationships) and self-concept (self-schema, personal myths) in dynamic processes. In any given situation, characteristic adaptations help form the individual's complex functions, for example, emotional reactions, and behaviours evoked by a particular situation. External influences affect the individual's characteristic adaptations, and interact bi-directionally with the

individual's behaviour/emotional reactions, illustrating the dynamic organisation of the model. FFM's main focus is on distinctions between basic tendencies and characteristic adaptations, and, for example, external influence is assumed to be self-evident (McCrae & Costa, 2008).

With reference to the founders of FFM, Costa and McCrae (see e.g., Costa & McCrae, 1992, 1995; McCrae & Costa, 2008), neuroticism (N) is the opposite of emotional stability, and refers to the individual's tendency to experience emotional distress. N is measured on the facets of anxiety, angry hostility, depression, self-consciousness, impulsiveness and vulnerability. For example, N characteristic adaptations include low self-esteem, irrational perfectionistic beliefs and pessimistic attitudes. Extraversion (E) refers to the individual's sociability and tendency to experience positive emotions; it is measured on the facets of warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions. For example, the characteristic adaptations in relation to E are social skills, numerous friendships, enterprising vocational interests and participation in social activities. Openness to experience (O) refers to the individual's intellectual side, and individuals high in this trait are intellectually curious, flexible in both behaviour and mind, as well as imaginative. O is measured on facets of fantasy, aesthetics, feelings, actions, ideas and values. For O, the characteristic adaptations include an interest in travel, many hobbies, knowledge in foreign cuisine, various vocational interests, and friends who share similar tastes. Agreeableness (A) refers to a dimension of interpersonal behaviour; agreeable vs. antagonistic. Individuals high in agreeableness are trusting and sympathetic and cooperative as opposed to individuals low in agreeableness who are cynical, callous, and antagonistic. A is measured on facets of trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness, and characteristic adaptations in relation to A are, for example, a forgiving attitude, belief in cooperation, inoffensive language, and a reputation as a pushover. Conscientiousness (C) can be described as referring to a will to achieve; it contrasts well-organised vs. disorganised individuals as measured on facets of competence, order, dutifulness, achievement striving, self-discipline, and deliberation. Related characteristic adaptations include leadership skills, long-term plans, organised support network, and technical expertise.

4.2. Trait and state anxiety

Anxiety is an aversive emotional and motivational state of mind that arises under (perceived) threatening conditions (Eysenck, Derakshan, Santos & Calvo, 2007), and is made up of subjective feelings of tension, apprehension, nervousness, and worry, as well as an arousal of the autonomic nervous system (Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983).

Trait anxiety (STAI-T) refers to relatively stable individual differences in anxiety-proneness as a personality trait defined as "differences between people in the tendency to perceive stressful situation as dangerous or threatening and to respond to such situations with elevations in the intensity of their state anxiety (S-Anxiety) reactions" (Spielberger et al., 1983, p. 5). State anxiety (STAI-S) refers to the emotional state that exists within an individual at any particular time and at any particular intensity. Hence, the individual's proneness to experience anxiety (trait-anxiety) and situational stress interactively determines the level of state anxiety the individual experiences in a given situation (Eysenck et al., 2007). Generally, correlations between STAI-T and STAI-S are relatively high under neutral conditions. Spielberg et al. (1983) reported a median of .65 in a normative sample of working adults, students and military recruits, while Eysenck and Calvo (1992) reported correlations of around .70. Typically, this applies to situations where individuals are being evaluated or perceive a threat to their self-esteem. Correlations are lower in situations that are characterised by physical danger (Spielberger et al., 1983), for example, most individuals who find themselves in a situation that involves an immediate threat to life would probably experience high levels of state anxiety regardless of their anxiety-proneness as an individual.

Personality and anxiety can be expected to affect the individual's memory performance and psychological well-being, and implications of both these constructs will be addressed in the following two sections.

5. MEMORY PERFORMANCE

5.1. Human memory system

The human memory system consists of multiple, interacting systems that in various ways contribute to, and to different degrees are active at the stages of encoding, storage and retrieval (Baddeley, 2010; Rutherford, 2005; Schacter & Tulving, 1994; Tulving, 1985). Our memory storage system can roughly be divided into *short-term memory* and *long-term memory*. Short-term memory is limited and transitory and holds information in a verbal and visuospatial form, whereas long-term memory is an unlimited, more stable storage where information is coded in terms of meaning (Baddeley, 2012; Hitch, 2005), and interconnected nodes (Reisberg, 2014). Thus, memory of a particular event will result in a connection to other episodes, perhaps at the same physical location, and/or which are inherently similar. Furthermore, research supports the existence of a *working memory* system that involves temporary storage and manipulation of information thought necessary to keep in mind while performing complex cognitive tasks (Baddeley, 2010, 2012). In his revised multicomponent model of working memory, Baddeley (2001) proposed the presence of four interacting components. The first, *the central executive*, is assumed to be

responsible for focusing, dividing, and switching attention within the working memory sub processes involving its slave systems. The second, *the phonological loop*, is assumed to consist of a temporary phonological store with a capacity to hold speech-like memory traces over a matter of seconds after which they will fade unless rehearsed by the articulatory system in terms of verbal or sub vocal processes. The third, *the visuospatial sketchpad*, is assumed to be responsible for integrating visual and spatial information in forms that can be temporarily stored and manipulated. The fourth, *the episodic buffer*, is suggested to constitute a temporary limited storage and interface in which information from the various subsystems of the working memory can interact with information from perception and long-term memory. The episodic buffer is thought to be accessible through conscious awareness (Baddeley, 2012). Existing links between working memory and long-term memory show relations between the phonological loop and language, between the visuospatial sketchpad and visual semantics, and between the episodic buffer and the episodic long-term memory (Baddeley, 2001, 2003, 2010, 2012).

The *episodic memory* is part of long-term memory, and of particular interest in a forensic context as it organises our personal and autobiographical experiences. Yet another memory system of forensic relevance is the *semantic memory*, which contains our factual knowledge (e.g., general factual knowledge; for example, that Copenhagen is the capital of Denmark, as well as linguistic knowledge. Both of which may extend to events addressed during interviews). Moreover, Tulving (1985) suggested that episodic memory was embedded within the semantic memory, arguing that it was impossible to possess an episodic memory without a corresponding semantic memory. A later study has found support for an interaction between episodic and semantic memory (Greve, Rossum & Donaldson, 2007). Semantic memories are characterised by a noetic (knowing) consciousness, meaning that individuals, in the absence of objects and events, can still be aware of, and cognitively operate on these. Episodic memory is accompanied by autonoetic (self-knowing) consciousness in the sense that when remembering a personal experience, the individual is aware of the event as an authentic part of past experiences (Tulving, 1985). In addition, and of less relevance during interviews is the *procedural memory* that is anoetic (non-knowing) as it is activated and expressed through behaviour (Tulving, 1985); however, in some instances, implicit behaviour may aid explicit memory during recall. For example, in the present thesis, occasionally, some interviewees were unable to verbally describe how they dispensed bactericides into the water system during the computer simulation (exposure phase: something that required interviewees to dispense the desired amount by dragging a slider to the right with the mouse pointer, and then execute the send-out of the selected dose by clicking a button on the computer screen with the mouse pointer). Instead, during recall, these individuals

could be seen, seemingly oblivious, to perform such movements with one of their hands.

The human memory is selective, [re]constructive and integrative at the stages of encoding, storage, and retrieval, which also make it vulnerable to distortion as well as manipulation at each of these stages (Reisberg, 2014). Important factors to consider in this respect are the impact of emotions and psychological stress.

5.2. The impact of emotional arousal and psychological stress on memory

Emotional arousal has been found to have effects on memory; for example, emotional arousal has the potential to change the perceived meaning of events with conceivable outcomes on cognitive functions. Such outcomes include shifted and enhanced attention, increased elaboration and rehearsal, and can also initiate a shift in body chemistry that influences memory consolidation processes (Cahill & McGaugh, 1995; Hamann, 2001; Reisberg, 2014). Emotional arousal can enhance memory for both positive and negative stimuli in comparison to neutral stimuli (Hamann, 2001). For example, negative stimuli can also produce tunnel memories for autobiographical events (Berntsen, 2002; Reisberg, 2014). In general, moderate levels of emotional arousal can be expected to enhance memory, while much stronger emotional arousal may undermine memory. The underlying reason for this is most likely to be that situations that involve strong emotions also produce high stress (Reisberg, 2014), for example, by having a negative impact on working memory operations (see e.g., Eysenck & Calvo, 1992). However, within this context it is important to consider that stress does not affect all individuals in the same fashion; some are more vulnerable for psychological and/or biological reasons, while others are more resilient (Deffenbacher, Bornstein, Penrod & McGorty, 2004; Reisberg & Heuer, 2007).

The impact of psychological stress can be viewed from a theoretical information-processing perspective, for example, *the attentional control theory* (Eysenck et al., 2007), which is an extension and development of the earlier - *the processing efficiency theory* (Eysenck & Calvo, 1992). Both theories seek to explain the effects of state anxiety on performance of cognitive tasks and share basic assumptions, including the distinction between *performance effectiveness* and *processing efficiency*. Performance effectiveness refers to the quality of task performance (e.g. response quality on a memory task), and processing efficiency refers to the relationship between the effectiveness of performance and the effort or amount of additional resources invested (a highly anxious individual, in comparison with a low anxious individual, has to allocate more cog-

nitive resources to achieve the same effectiveness of performance). For example, impaired processing efficiency can manifest itself in terms of a lengthened processing time when a concurrent task is performed (Eysenck & Calvo, 1992).

Within processing efficiency theory, it is assumed that anxiety creates worry (e.g., self-preoccupation, concerns over evaluation, or the level of task performance), which has two effects. First, it puts pre-empting demands on the processing and temporary storage capacity of working memory, in particular the central executive and, to some extent, the phonological loop is also impaired. As worrisome thoughts consume limited attentional resources, fewer resources are consequently available for a concurrent task. Second, worry serves to increase the motivation to minimise the aversive anxious state, for example, by promoting increased effort, and supporting processing resources and strategies (e.g., coping, repression, denial, calming down). Generally, if available and utilised, supporting resources can compensate for the pre-empting effects on working memory resources with the result that performance effectiveness is not, or is less impaired, but at the cost of reduced processing efficiency. However, performance effectiveness is impaired if auxiliary processing resources are lacking (Eysenck & Calvo, 1992).

In the attentional control theory, Eysenck and colleagues (2007) extend previous theoretical explanations and limitations, distinguishing between two interacting attentional processes. One is a positive *goal-directed system* influenced by the individual's current goals, expectations, and knowledge. This system is assumed to be driven by top-down processes controlled by the individual. The second is a negative *stimulus-driven system* that is influenced by salient stimuli in bottom-up processes. Moreover, the central executive's attentional control is assumed to involve three functions: (1) an *inhibiting function* that involves attentional control to resist disruption from task-irrelevant stimuli interference, (2) a *shifting function* that involves attentional control to flexibly shift attention between stimuli in order to ensure that focus remains on task-relevant stimuli, and (3) an *updating function* that is important for various short-term memory tasks, but not thought to be directly influenced by anxiety. The attentional control theory postulates that the efficiency of both the inhibition and shifting functions is impaired by anxiety. Typically, this means that anxious individuals allocate less attentional resources to the concurrent task (unless threatening), and instead focus resources on internal (e.g., worrisome thoughts) or external (e.g., task-irrelevant distractors) threat-related stimuli. However, these stimulus-driven system biases can be reduced and/or eliminated by the utilising of compensatory strategies and/or enhanced effort (Eysenck et al., 2007).

Later research, including that assessing brain activity, has found empirical support for the main predictions of the attentional control theory, which are

that anxiety to a higher extent impairs processing efficiency rather than performance effectiveness, and the assumption that anxiety impairs the inhibition and shifting functions (Derakshan & Eysenck, 2009; Eysenck & Derakshan, 2011). As mentioned above, stress does not affect everyone in the same manner (a topic that will be further discussed under the subheading psychological well-being), and its effects are moderated by the individual's personality.

5.3. Memory performance in relation to personality and trait anxiety

The literature is not extensive regarding a straightforward relation between episodic memory and personality factors, and the topic appears not to have been systematically investigated. Indeed, Reisberg and Heuer (2007) suggested that most research on the topic of emotionality and stressfulness have regarded personality factors as inherent to a certain situation, that is, aspects that relate to personality have not been individually considered. Existing studies between various forms of memory performance and personality factors have found associations between memory and particularly neuroticism, openness to experience and extraversion. Neuroticism has been found to be associated with poorer memory performance (Areh & Umek, 2007; Ayotte, Potter, Williams, Steffens & Bosworth, 2009; Dubey, Singh, & Srivastava, 2014; Hultsch, Hertzog, Small & Dixon, 1999; Meier, Perrig-Chiello & Perrig, 2002), whereas openness to experience has been found to be positively associated with increased memory performance (Ayotte et al., 2009; Booth, Schinka, Brown, Mortimer & Borenstein, 2006; Pearman, 2009; Schaie, Willis & Caske, 2004; Soubelet & Salthouse, 2011; Terry, Puente, Brown, Faraco & Miller, 2013), together with extraversion (Dubey et al., 2014; Meier et al., 2002; Schaie et al., 2004). In contrast, Hultsch and colleagues (1999) found significant negative relations between extraversion and fact recall.

The relation between trait anxiety and memory performance has been investigated with a focus on different aspects. In a comprehensive meta-analysis that included different experimental paradigms and a variety of experimental conditions, Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg, and van IJzendoorn (2007) found robust support for the occurrence of a threat-related bias in anxious individuals not observed in non-anxious individuals. In regard to memory performance (retrieval/recall of information), empirical studies have shown inconclusive results. For example, Reidy and Richards (1997a, 1997b) found a better recall for threatening words in individuals with high trait anxiety in comparison to low trait anxiety individuals, whereas Richards and French (1991) found no differences between individuals with a high or low trait anxiety on a recall task. Reidy (2004) found that high trait anxiety individuals did not differ in the recall of non-worry or worry items,

and that low trait anxiety individuals recalled significantly more non-worry than worry items. Cimrova, Riecansky, and Jagla (2011) presented high and low trait anxiety individuals with both a horror and an emotionally neutral film. Recollection one week later showed no differences between the groups in regard to correctly remembered scenes or facts from either film, but individuals with high trait anxiety, in comparison to the low anxious group, reported more emotional memories when recalling the horror film. No differences were found for the emotionally neutral movie. Kizilbash, Vanderploeg, and Curtis (2002) found that the co-occurring of trait anxiety and depressive symptoms was associated with retrieval difficulties of newly learned information. In contrast, several studies have failed to find memory biases related to retrieval in relation to trait anxiety (e.g., Bradley, Mogg & Williams, 1994; Oldenburg, Lundh & Kivistö, 2002), or have found contradicting results (Nugent & Mineka, 1994).

5.4. The effect of the passage of time on memory

Experts agree that the rate of memory loss for an event is usually greatest immediately after the event, and then levels off over time (Kassin, Tubb, Hosch & Memon, 2001). The delay between an event and its recall is frequently referred to as the retention period in forensic literature. Generally, this topic includes many factors and aspects to consider, such as: whether the witnessed event took place in childhood or adulthood, if it involved single or repeated events, the number of times the event is recalled, and whether the type of information of interest had meaning for the observed event; for example, details that are central to understanding an event are more likely to be remembered, whereas peripheral details, in the same sense, are more likely to become unavailable or lost to recall (Read & Connolly, 2007). Of interest for the present thesis was the recollection by adults of a single event (exposure) recalled on two occasions (interview I after approximately one week, and interview II after approximately six months, respectively). In this setup, the first interview can, for example, be seen as representing a police interview after the occurrence of a crime, and the second interview symbolising a follow-up police interview or a hearing in a court of law.

Empirical studies that have straightforwardly assessed adults' free recall memory in terms of quantity, accuracy and amount of reported errors for events over long retention periods are scarce in the literature. In spite of this, a closer consideration of selected parts of the studies reported below might be informative. For example, Yuille and Cutshall (1986) found that witnesses to an authentic crime after four to five months reported 8.2% less action details, and 2.4% less person descriptions, and 10.6% more object descriptions in an interview conducted by researchers, in comparison to a police interview conducted the same day the crime was committed or within two days of the

event. Overall accuracy rates ranged between 76-89% in the police interview, and between 73-85% in the second interview. The total amount of reported errors increased by 84.7% in the second interview. Importantly, regarding the number of details related to objects [descriptions] elicited in the second interview, the authors pointed out that the researchers asked questions from a memorial point of view, not merely questions of forensic interest (as presumably the police did). In a case study, Odinot et al. (2009) re-interviewed 14 authentic witnesses of a violent armed robbery three months after the crime using security camera footage for the assessment of accuracy. The research interview involved rapport building, a free recall followed by specific follow-up open-ended questions. It is worth considering that the time (retention) period leading up to the research interview included witnesses' post-event thinking and talking about what transpired. In addition, the police had previously interviewed nine of the witnesses. The information witnesses provided was 84.0% accurate. Information provided during free recall was more often accurate (90.0%) than was information provided following specific questions (78.0%). The finding of Odinot et al. (2009) regarding accuracy are in line with a laboratory study in which memory was assessed at retention intervals of one, three and five weeks (Odinot & Wolters, 2006). Ebbesen and Rienick (1998) assessed, amongst others, participants' memory (within-subjects) of a read/heard story at retention intervals of one day, seven days and 28 days using a free recall approach, and found a decay over time in terms of the total number of facts and correctly reported facts. Smeets, Candel and Merckelbach (2004) induced participants with anxiety and tension during exposure (film). Participants' memories were assessed after the film, and again after three to four weeks by way of writing a detailed account of incidents in the film. Smeets and colleagues found that first accounts were marginally more complete than second accounts, and few commission (introduction of an entirely novel element) errors were made.

5.5. Assessment of memory performance in an investigative interviewing context

Obviously, not all studies that investigate memory performance in a forensic and investigative interviewing context have access to authentic police material and/or correct answers to key facts in terms of video surveillance footage or prior interviews and, even if that were the case, the question would remain as to what information to measure and code for. Typically, an instrument is needed for assessing relevant aspects of memory performance. For example, Oxburgh, Ost and Cherryman (2012) used an instrument measuring *incident related information* (IRI), which is a coding scheme that includes information in categories related to Person, Action, Location, Item and Temporal. According to Oxburgh and colleagues, the IRI instrument has been used by several other

studies, for example by Hutcheson and colleagues in 1995, Lamb and colleagues in 1996, by Milne and Bull in 2003, as well as in Yuille and Cutshall in 1986. Accuracy concerning the details provided is typically scored as correct, incorrect (e.g., describing a black car as white) or confabulated, that is, not present in the event (see e.g., Köhnken, Milne, Memon & Bull, 1999: Memon, Meissner & Fraser, 2010; Yuille & Cutshall, 1986).

In the present thesis, the instrument used for assessing the memory performance of interviewees, except for the part relating to incorrect details (which was not observed and coded for), follows a similar structure to that of IRI.

6. PSYCHOLOGICAL WELL-BEING

6.1. Relations between narrating and health

Disclosing traumatic events or secrets that involve upheaval in comparison to concealing them can improve health and reduce stress (Pennebaker, 1997; Shepherd et al., 1999). Pennebaker (1997) suggested that not divulging and actively *inhibiting* inner thoughts, feelings and behaviour related to a stressful experience requires mental work; for example, the individual must consciously restrain and hold back, as well as make considerable effort not to think, feel and behave accordingly. Inhibition might have immediate short-term effects, for example, increased psychological stress and biological reactions (increased perspiration as measured by skin conductance, increased blood pressure), as well as long-term health effects as cumulative stressors on the body increase the probability of stress-related physical and psychological illness and problems. In addition, restraining and holding back significant thoughts related to an event affects our thinking abilities inasmuch as a broad and integrative way of thinking may be impaired. Additionally, not talking about an event (i.e. translating it into language) hinders us from understanding and assimilating the event, with the consequence that ruminations, dreams and thought disturbances may occur (Pennebaker, 1997). In contrast, although actively writing or talking about thoughts and feelings surrounding a traumatic event (e.g., family deaths, sexual abuse, suicide attempts) initially increases psychological stress in connection to the disclosure sessions, this stress subsides and the long-term effects include reported improvements in mood, a more positive outlook and greater physical health, as well as less visits to health centres, as measured within a six-month period (Pennebaker, 1997; Pennebaker & Beall, 1986; Pennebaker et al., 1988; Pennebaker & Seagal, 1999; Petrie et al., 1998). In line with this, Shepherd and colleagues (1999) suggested that repeated interviews with extended narrations of traumatic events, including exposure to associated unwanted, intrusive mental imageries, while maintaining appropriately low levels of anxiety, can have a therapeutic

impact on traumatised crime victims and suspects including: increased mental health, achieving different perspectives on the traumatic experience, and being able to give evidence in court.

Writing or talking about stressful experiences including associated feelings can be described as re-constructing the event and can provide the individual with opportunities to gain a better understanding of both the event and themselves (Pennebaker, 1997; Shepherd et al., 1999). The rationale is that putting events and their associated emotions into words (in writing or verbally) requires thoughts to be structured and organised. This slows down the thinking process and, in turn, gives incentives for more logical conclusions to be drawn, as well as a gradual change of perspective (Pennebaker, 1997); thus, creating the potential for better insight. For example, preparing for a lecture even on a familiar subject not uncommonly requires serious reflection, as thoughts need to be organised and structured and translated into words (notes) in order to be able to convey knowledge.

A better insight into events and one's own feelings is closely related to experiencing things as being meaningful (e.g., Frieze et al., 1987; Lazarus & Folkman, 1984; Park, 2010). Park (2010) found in a systematic review that most individuals attempt to find meaning in highly stressful events. Within the context of an individual's orientation to life crises and coping abilities, many researchers have focused on the relations between the constructs meaning of life and psychological well-being (Auhagen, 2000; Debats, 1999; Debats, Drost, & Hansen, 1995; Frankl, 1959/1992; Lazarus & DeLongis, 1983; Maddi, 1967; Skaggs & Barron, 2006; Zika & Chamberlain, 1992). Lazarus and Folkman (1984) argue that an individual's coping ability is determined by his or her cognitive appraisal, which, in turn, is reliant on which resources the individual draws upon in order to cope with a stressful event.

6.2. A theoretical framework of stress and coping

Cognitive appraisal is an evaluative process in which the individual's dynamic response to stressful events is determined (Lazarus & Folkman, 1984). In their *transactional theory on stress and coping*, Lazarus and Folkman (1984) defined psychological stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 51). Basically, the appraisal of the meaning of an encounter happens both in a *primary* and *secondary appraisal*; based on such underlying factors as beliefs, commitments and goals the individual interprets the relational meaning of the situation (primary appraisal), and the coping strategies available to deal with the demands (secondary appraisal). In the primary appraisal, the situation can be evaluated as having no implications for the individual's well-being, or benign-positive (e.g., feelings of joy, happiness, peacefulness) or stressful. The latter includes

feelings of loss, harm, threat or challenge. For example, loss precludes the continuation of a desired state (e.g., a relationship) and may produce feelings such as sadness and dejection. Threat may relate to both a failure to gain/achieve something, which may produce feelings of anger, frustration, or a failure in an avoidance context, which may produce feelings of anxiety and fear. Harm may be related to both failing to achieve and to avoidance, and in the latter context, it may produce feelings similar to those of loss (Carver & Connor-Smith, 2010; Lazarus & Folkman, 1984). In the secondary appraisal, the individual's coping strategies are evaluated based on the perceived emotion (including its strength) and what is at stake (beliefs, commitments, goals). This involves a complex interplay; for example, the combination of an individual's strong commitment to a certain goal and little perceived control to achieve that outcome, may produce considerable stress. In general, a challenge appraisal is more likely if the individual perceives that he/she has the resources to produce the desired outcome. However, challenge or threat appraisals cannot be seen as being at either end of a bipolar scale, as in a dynamic context they are closely related and may occur simultaneously. The individual's coping strategies for external/internal demands include *problem-focused* or *emotion-focused* strategies. A problem-focused strategy bears similarities with strategies used for problem solving. For example, it can be directed inwardly and may involve a shift of aspirations, or a reduced ego involvement; both of which have the potential to result in a reappraisal of the situation, and thereby reduce stress. An emotion-focused strategy, which is more likely to occur when the individual appraises that harmful, threatening or challenging conditions cannot be modified, may involve the individual using avoidance, minimisation, distancing, selective attention or positive comparisons to lessen the emotional stress. For example, in dealing with an interviewer's dominant and/or insensitive demeanour in a police interview, a crime victim may persuade himself or herself that the interviewer is only doing his/her job (e.g., distancing), thus, reducing stress by changing the relational meaning of the situation (reappraisal), or simply refrain from narrating stressful events, or particular parts of the event (e.g., avoidance).

Extending Lazarus and Folkman's transactional theory, Park and Folkman (1997) suggested a theoretical *meaning-making* framework, which was used to review and synthesise the literature regarding meaning in the coping process. The framework suggested that a distinction was made between *global* and *situational* meaning (Park & Folkman, 1997). Global meaning refers to a general level of meaning and encompasses the individual's basic assumptions, beliefs and expectations of the world, both past, present and future. More specifically, global meaning can be described in terms of the individual's assumptions of order and purpose. The order dimension pertains to the individual's beliefs about the world (e.g., how benevolent are people and events, just-

world beliefs), about the self (e.g., self-worth and perceived control), and about the self in the world (e.g., individual's beliefs of himself/herself derived from his/her beliefs about the world and himself/herself). Generally, people perceive themselves as good, moral and capable individuals with the ability to control and change outcomes. Moreover, they tend to believe the world is a good place; for example, that people are caring and that positive outcomes and good fortune are more frequent than negative events and misfortune. Global meaning is built through the accumulations of life experiences, and the individual's development of beliefs includes making attributions regarding causation and agency. The purpose dimension refers to beliefs that organise, justify and guide an individual's strivings. Typically, people and human behaviour are goal-orientated, which is manifested in terms of life goals (e.g., pleasure, independence, intimacy), as well as situational-specific goals (e.g., strategies for achieving more general life goals). The individual may, or may not, be consciously aware of all of these goals. The situational meaning refers to the interaction between the individual's global meaning and the circumstances in a particular transaction (Park & Folkman, 1997).

The appraisal of meaning is created in the previously described primary and secondary appraisals. In the meaning-making process, the importance of *reappraisals of meaning* are highlighted. One major task in meaning-making is to reduce the incongruence between the appraised meaning of a situation/event and the individual's pre-existing beliefs and goals (global meaning). An individual's successful meaning-making is achieved when the appraised meaning of the situation is changed and assimilated into his or her prior held global meaning, or vice versa, that previous beliefs and goals are changed to accommodate the stressful event. In addition to coping strategies, Park and Folkman (1997) also suggested that attributions are important in the meaning-making process. People have a natural tendency to make early automatic attributions; for example, causal attributions (e.g., "Why did this happen?"), selective attributions (e.g., "Why did it happen to me?"), and responsibility attributions (e.g., "Who is responsible?"). The latter often lead to feelings of injustice and anger (Park & Folkman, 1997).

Several authors, for example, Auhagen (2000), Eriksson and Lindstrom (2007), Love, Goh, Hogg, Robson and Irani (2011), Malinauskiene, Leisyte, Romualdas and Kirtiklyte (2011), Matsuzaki et al. (2007), Moksnes, Lohre and Espnes (2013), and Zugravu (2012), suggest that psychological well-being and the meaning of life can be appropriately defined and measured by Antonovsky's sense of coherence.

6.3. Sense of Coherence

The construct of a sense of coherence (SOC) can be described as an individual's general orientation to life. The individual's SOC is established in early

adulthood (Antonovsky, 1984), and is considered to remain relatively stable over time (Eriksson & Lindstrom, 2005), although it can be altered by traumatic events (Snekkevik, Anke, Stanghelle, & Fugl-Meyer, 2003). SOC has a salutogenic approach (as opposed to pathogens that cause disease) meaning that it focuses on factors that promote health and/or successful coping strategies. Antonovsky (1984) described SOC as being made up of the three intertwined components: *comprehensibility*, *manageability* and *meaningfulness*. First, comprehensibility refers to how understandable the individual perceives the world to be. This refers to whether the stimuli the individual is confronted with make cognitive sense, that is, are they ordered, consistent, structured and clear, as well as predictable? When individuals see the world as comprehensible they also perceive it as understandable, with the opposite being, for example, perceiving the world as disordered, random or unpredictable. Second, manageability refers to the individual's ability to influence the course of events. This component not only encompasses the individual's own resources for dealing with the demand at hand, but also includes resources of appropriate others (e.g., colleagues, friends, interviewers) as well as, for instance, religion (God). When individuals perceive that they have adequate resources at their disposal they have a sense of being able to cope, in contrast to having less manageability and perhaps feelings of being treated unfairly by life, or victimised by events. Third, meaningfulness refers to the extent to which individuals care about and perceive life to make sense from an emotional point of view. This includes, for individuals who perceive high meaningfulness, engaging with life's upcoming problems and demands and viewing them as well worth their invested energy, in other words, welcoming them as challenges as opposed to seeing them as burdens they could do without.

In relation to health and coping, Antonovsky (1984) suggested that individuals with a strong SOC, in general, are more likely to engage in activities that promote health, thus avoiding threat and danger. Participating in such activities is a capacity for which an individual with a weak SOC lacks the motivation. Moreover, such activities may have an impact on the individual's general beliefs that the outcome of life is controllable and predictable, for example, non-smoking leads to a healthier life. Furthermore, individuals with a strong SOC when confronted with harmful stimuli appraise these as less threatening and dangerous than individuals with a low SOC; thus, being potentially more able to define the situation as not necessarily harmful, but as one that holds opportunities and is manageable. In addition, strong SOC individuals are better and more willing to exploit any potential resources available to them, for example, the help of peers or of interviewers, or help at an institutional organisational level (e.g., crime victims' organisations, lawyers, authorities). Essentially, SOC suggests individual differences in a person's manner of coping. This is expanded on in the following section.

6.4. Individual differences related to psychological well-being

The relation between personality and coping is modest, and coping in comparison to personality can be a better predictor of adjustment as well as of responses to specific stressors (Carver & Connor-Smith, 2010; Connor-Smith & Flachsbart, 2007). In a review, Carver and Connor-Smith (2010) suggested that personality influences the individual's ability to cope, but it also influences the frequency of being exposed to stressors, as well as type of stressors and the individual's appraisal of the stressors. In summary, neuroticism predicts that an individual will be more exposed to interpersonal stress (due to the ease and frequency with which the individual becomes upset and distressed), as well as have a tendency to appraise events as highly threatening, and have low coping resources. Agreeableness, in contrast, is associated with low interpersonal conflict and low stress. Additionally, conscientiousness predicts a low exposure to stress, with the suggested explanation being that conscientious individuals plan for predicable stressors and avoid impulsive actions that can lead to problems. Extraversion, conscientiousness and openness to experience are all associated with appraising events as challenges as opposed to threats, and a positive evaluation of coping resources. The combination of high neuroticism and low conscientiousness predicts particularly high stress exposure as well as threat appraisals. In contrast, low neuroticism in combination with high extraversion, or high conscientiousness, predicts the opposite, thus, an especially low stress exposure and threat appraisal (Carver & Connor-Smith, 2010).

In a meta-analytic review, Aldao, Nolen-Hoeksema and Schweizer (2010) investigated the relationships between the four psychopathologies of anxiety, depression, eating and substance-related disorders, and the six emotion-regulation strategies of acceptance, avoidance, problem solving, reappraisals, rumination and suppression. Avoidance ($r = .38$), suppression ($r = .34$) and rumination ($r = .49$) were positively associated with psychopathology, whereas problem solving ($r = -.31$) and reappraisal ($r = -.14$) showed negative associations to psychopathology. In turn, anxiety was found to be positively associated with avoidance ($r = .37$), rumination ($r = .42$) and suppression ($r = .29$). In contrast, anxiety was negatively associated with problem solving ($r = -.27$) and reappraisal ($r = -.13$), as well as non-significantly associated with acceptance. Aldao et al. (2010) used Cohan's guidelines and interpreted correlation effect sizes as large (above .40) medium (around .25) and small (below .10). From this it can be concluded that anxiety is not only related to poor coping strategies, but also a likely poor coping outcome in terms of psychological well-being.

6.5. Psychological well-being in relation to a humanitarian and dominant interview style

As pointed out above, previous research identified that crime victims and offenders (suspects at the time of their interview) perceived their police interviewers as acting in either a humanitarian or dominant style (Holmberg, 2004; Holmberg & Christianson, 2002).

A humanitarian interview style was associated with crime victims describing feeling respected and working in a cooperative manner and of reporting everything that they could remember (Holmberg, 2004), as well as a higher sense of coherence (Antonovsky, 1984) in comparison with those interviewed dominantly (Holmberg, 2009). Moreover, a humanitarian approach was associated with offenders' feelings of being respected as well as the admission of crimes (Holmberg & Christianson, 2002). Later extended analyses showed that offenders who had perceived being highly respected also reported a higher sense of coherence (as measured with a modified, 12-item sense of coherence inventory) in comparison to those who felt less respected. In addition, those offenders admitting the crime reported a higher sense of coherence in comparison to those who denied the crime (Holmberg et al., 2007). In contrast, a dominant interview style, compared with a humanitarian interview style, was associated with crime victims omitting information (Holmberg, 2004), as well as offenders responding with anxiety (Holmberg & Christianson, 2002). Thus, such studies suggest a relation between the interview styles, as defined, and interviewees' psychological well-being in terms of anxiety as well as their sense of coherence.

7. AIMS AND HYPOTHESES

The aim of the present thesis was, from a therapeutic jurisprudential perspective, to experimentally investigate the effects of a humanitarian rapport-orientated and a dominant non-rapport orientated interview style on adult interviewees' memory performance and psychological well-being in investigative interview settings. More specifically, previous empirical findings regarding crime victims' and offenders' perceptions of their police interviewer (Holmberg, 2004; Holmberg & Christianson, 2002), were integrated with Tickle-Degnen and Rosenthal's (1990a) theoretical conceptualisation of rapport; thus, describing an operationalised, empirically based model of rapport as shown below in Figure 1.
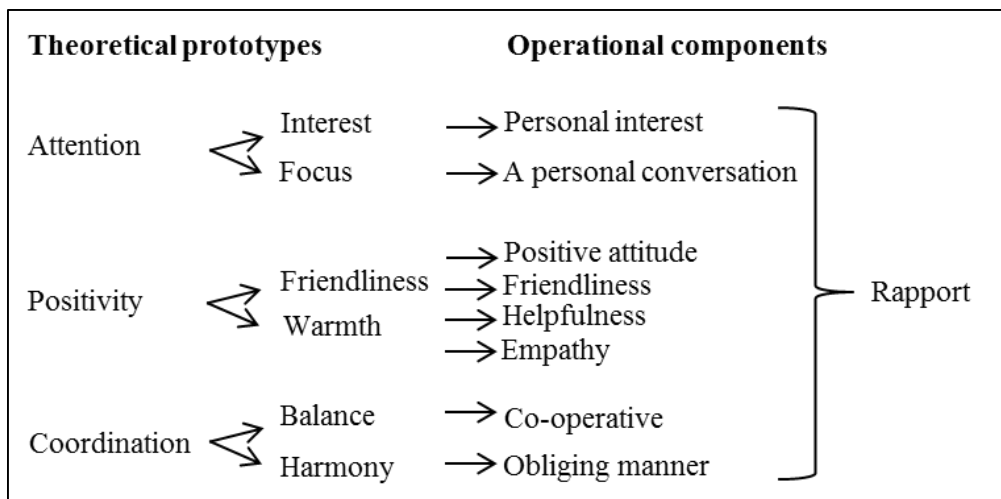
Figure 1. Operationalisation of Tickle-Degnen and Rosenthal's (1990a) theoretical prototypes of rapport through the humanitarian interviewing approach identified by Holmberg and Christianson (2002) and Holmberg (2004) (Study I).

This theoretical model of a humanitarian rapport-orientated approach along with a dominant non-rapport orientated approach was used in this dissertation to assess the impact of interview styles in two interviews (approx. one week and six months after exposure) in regards to interviewees' memory performance (Study 1), psychological well-being (Study II), and how the two previously mentioned factors were affected by the interviewees' personality (Study III). In Study IV, results in Studies I and III were explored for potential indirect effects of interview approach on interviewees' recall, as well as for potential interaction effects between interview approach and interviewees' recall as moderated by their personality (FFM factors). Rapport is a construct that overlaps with therapeutic jurisprudence and investigative interviews,

and can be construed as always being on a continuum; a humanitarian rapport-orientated approach can be seen as representing one end, and a non-rapport orientated approach the opposite end. In the present thesis, rapport was hypothesised to have an effect on interviewees' memory performance and PWB, as well as its effect being moderated by the interviewees' personality.
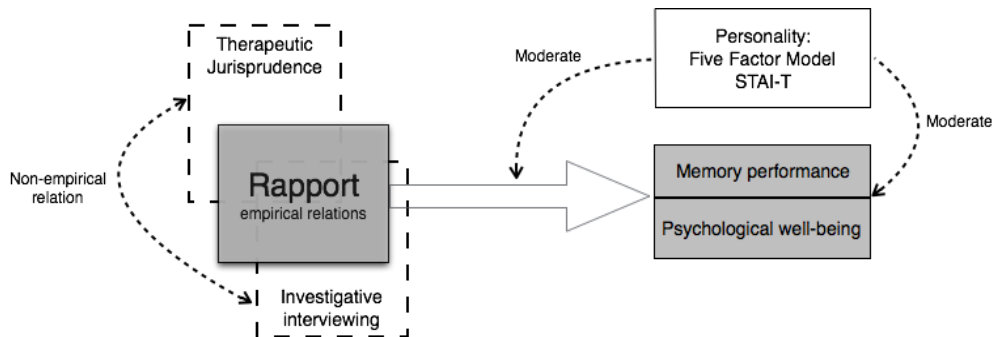

Figure 2. Schematic overview of the research approach in the present thesis.

7.1. Hypotheses

In Study I, the theoretical model of a humanitarian rapport style was tested in an investigative interview context. It was hypothesised that interviewees interviewed in a humanitarian rapport-orientated interview style, in comparison with a non-rapport orientated approach, would report more information in both interview I and II, without increasing the amount of confabulated reported information.

Study II aimed to describe and define PWB from a therapeutic jurisprudential perspective, as well as measure PWB in investigative interview settings. It was predicted that a humanitarian rapport-orientated approach would increase the interviewees' PWB (decreased anxiety, increased sense of coherence), and a non-rapport orientated approach would decrease the interviewees' PWB (increased anxiety, decreased sense of coherence).

In Study III, in essence, it was predicted that higher levels of neuroticism and STAI-T personality would decrease the interviewees' PWB. It was also predicted that openness to experience would increase memory performance, and neuroticism would decrease memory performance. Finally, it was predicted that the interview approach (humanitarian rapport-orientated vs. non-rapport orientated) would have an interactional effect on the predicted hypotheses.

In Study IV, it was hypothesised that the interviewer's demeanour in the humanitarian rapport-orientated approach would mediate increased recall, and that the interviewer's demeanour in the non-rapport orientated approach

would mediate decreased recall. A second aim was to explore potential interaction effects between the interview approach and the interviewees' memory performance as moderated by their personality (FFM factors).

8. OVERVIEW OF STUDIES AND MAIN RESULTS

The present thesis investigated the effects of two empirically substantiated interview styles, humanitarian rapport-orientated vs. non-rapport orientated, in (mock) investigative interview settings and from a therapeutic jurisprudential perspective. More specifically, Study I described and tested the effects of an empirical-based model of rapport on adults' memory performance in an investigative interview context; the two main independent variables were a humanitarian rapport-orientated versus a non-rapport orientated interview approach, respectively. Study II and III adopted a therapeutic jurisprudential perspective; Study II described, defined, and measured interviewees' psychological well-being (PWB) in an investigative interview context, while Study III investigated the impact of interviewees' personality on their memory performance and PWB. Study IV explored previous findings (Studies I and III) for potential indirect effects of the interview approach on interviewees' recall, and potential interaction effects between the interview approach and interviewees' recall as moderated by their personality. In the following, an overview will be presented of the methodology including subsequent additional analyses related to the methodology and the manipulations. Thereafter, the main results and, where appropriate, additional analyses will be presented and later discussed in the context of other research.

8.1. Participants

Participants who completed interview I consisted of 88 women and 58 men ($N = 146$; university students, academics and general public), aged 18–70 years ($M = 35.7$, $SD = 13.3$). Seventy-five women and 52 men completed interview II ($N = 127$) aged 18–70 years ($M = 36.4$, $SD = 13.3$).

Between interviews, ten participants from the humanitarian rapport-orientated condition and nine from the non-rapport condition) dropped out for reasons unknown. The difference in the dropout rate between interview conditions was non-significant, $\chi^2(1, n = 146) = 0.95$, $p = .33$, ns. Also, dropouts did not significantly differ (mean scores) on personality (FFM and STAI-T) scales between interview conditions. Nor did an eyeball inspection of the means between dropouts and remaining participants show any notable differences.

8.2. Schematic overview of methodology and procedure

The studies in the present thesis were based on an experimental design that

consisted of three phases: exposure, interview I (after approximately one week) and interview II (after approximately six months). During exposure, participants interacted in a computer simulation that provided stimuli to be remembered. In interview I ($N = 146$), participants were randomly assigned to be interviewed in either a humanitarian rapport-orientated approach ($n = 72$; interview length $M = 21.39$, $SD = 4.28$) or a non-rapport orientated approach ($n = 74$; interview length $M = 12.19$, $SD = 2.55$) about events during exposure. In interview II ($N = 127$), participants were re-interviewed in the same condition and interview style; a humanitarian rapport-orientated approach ($n = 63$; interview length $M = 20.34$, $SD = 3.52$) or a non-rapport orientated approach ($n = 64$; interview length $M = 9.49$, $SD = 4.13$). Importantly, the interviews (both conditions) lasted until the interviewees themselves stated that they had nothing further to report.

8.3. Stimulus material

The computer simulation was aimed at simulating an 'event' in which the participants played an active part and also had an unlimited number of possible details to remember (the latter in an attempt to reflect a 'real-life event'). An additional aim was to evoke affective emotions as well as participants' feelings of being a victim or a perpetrator of a crime while simultaneously observing, deciding on and acting upon unfolding different aspects of the simulated event.

Two interviewees interacted simultaneously in a computer simulation that served as memory stimulus. The computer simulation was based on the following fictitious theme that ran over the course of 48 fictitious days: the fresh water system in a fictitious city inhabited by two fictitious ethnic groups had been polluted. The participants acted as a representative (randomly assigned) for one of the groups, and had the task to avoid illness/death by administering bactericides to the fresh water system. The participants had a choice of helping both ethnic groups, or only their own. However, unbeknownst to the participants, the computer software was programmed to favour one ethnic group (less illness/mortality) over the other (higher sickness rate/mortality). In addition, participants representing the favoured group had the option of stealing their opponent's delivery of bactericide on four occasions (this manipulation had no effect, that is, a group of perpetrators did not crystallise), whereas participants that managed the non-favoured group received four messages stating that their delivery of bactericide had been stolen. The computer simulation was operated via the computer screen (see Figure 3). All the participants' actions, for example, distributing or conserving bactericides were logged.

Hence, during exposure, participants were exposed to the computer screen (see Figure 3) including 40 items that were selected and included in the interview script (e.g., information/colours showing health, illness, death, had four options to steal/being robbed of bactericides, and made 48 strategic decisions related to their actions regarding whether to distribute or conserve bactericides). In addition, as part of the computer simulation's fictitious theme (news pictures), interviewees were exposed to a set of 61 emotionally evocative pictures from the International Affective Picture System (Lang, Bradley & Cuthbert, 2005): 32 of negative valence, four of neutral valence and 25 of positive valence. The arousal was between 3.10 and 6.82 ($M = 5.06$) on a scale ranging from 1 to 9. Depending on their ability to avoid illness and save lives, participants were exposed to between 37 and 42 pictures ($M = 38.5$).
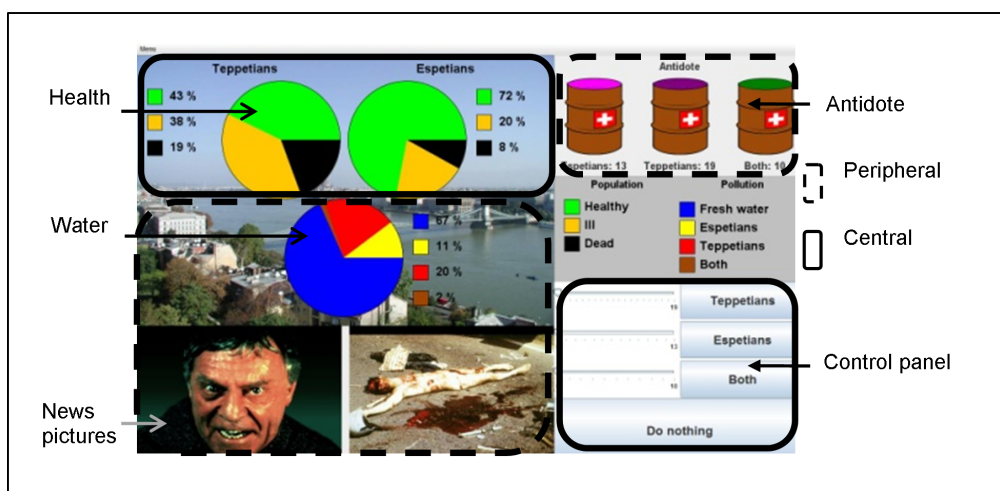

Figure 3. The computer screen in the simulation showed the shifting status of the ethnic group's health (upper left), the degree of pollution in the water system (middle left), and information indicating the supply of antidote (upper right) to which participants had a set of regulators for its administration (lower right). Pictures shifted in two frames of the screen (lower left), simulating TV broadcasts that mirrored events related to the health status of each ethnic group. A solid line enclosed items defined as central visual information, and dashed lines show information defined as peripheral (Study I).

8.4. Observation and coding

All interviews were observed and coded regarding the interviewees' memories of the computer simulation. Each correct recollection of 39 scripted items (except the fortieth item - the background picture of the screen) was allocated one point. Information regarding the screen's background picture, news pictures, participant's decisions and actions (over the fictitious 48-day period this was divided into three parts: initial, middle and final part) and the number of

times participants chose to steal or were robbed of bactericide delivery were given one, three or six points according to the [differentiated] quality of details remembered; for example, if a participant reported being robbed of his or her bactericide delivery four times (correct), this would be given six points, reporting being robbed three or five times would be given three points, and fewer than three or more than five times one point. Participants' recollection of confabulated information (details not present in the computer simulation) were coded as false information, and allocated one point on a scale. Incorrect details (e.g., incorrectly labelling the colour for dead [black] as yellow) were not coded due to the unreliability of distinguishing between such details from material that presumably had an unlimited number of details to remember, including multifaceted memories of decisions and actions taken over the fictitious course of 48 days.

Based on assumptions that the attention of participants would be directed to and divided between different features of the computer screen, the stimulus material, for analysis purposes, was divided into three subcategories: central visual information ("Health status" and "Control panel"); central information related to decisions and actions taken by participants ("Participants strategic decisions and actions over the course of 48 fictitious days"); and peripheral information ("Water system", "News pictures", "Bactericides" and "Background picture"). For example, the health status of the two 'ethnic groups' as well as the control panel used for administering bactericides were considered basic necessities that would attract a large part of the participants' attention, and, consequently, were placed in the category central visual memories (see Figure 3). This was in contrast to information such as the 'news pictures' which had no importance for operating the simulation and, thus, anticipated to attract less attention.

8.5. Operationalisation of interview styles

The interview styles were operationalised based on Holmberg and Christianson's (2002) 17-item interview inventory: eight items related to a humanitarian rapport-orientated approach, and nine items related to a dominant non-rapport orientated approach. Each item was assessed on a 1 (to a low degree) to 7 (to a high degree) Likert scale. The sum of scores for items in the humanitarian rapport-orientated and the dominant non-rapport orientated approach were prior to comparisons (means) between approaches divided by the number of items that each category consisted of, respectively. Theoretically, minimum mean is one and maximum mean is seven in each category.

The humanitarian rapport-orientated approach was assessed on the following eight variables: "Interviewer acted calmly and allowed time to comment"; "Interviewer showed an obliging manner"; "Interviewer showed personal interest and tried to create a personal conversation"; "Interviewer

showed empathy"; "Interviewer expressed a positive attitude towards you as a human being"; "Interviewer was cooperative"; "Interviewer was helpful" and "Interviewer was friendly". The non-rapport orientated approach was assessed on nine variables: "Interviewer was aggressive"; "Interviewer acted in a hurry and provided no time for reflection"; "Interviewer showed deprecation"; "Interviewer was nonchalant"; "Interviewer showed a condemning attitude"; "Interviewer was brusque and obstinate"; "Interviewer was impatient"; "Interviewer was unfriendly" and "Interviewer expressed a negative attitude". Importantly, the interviewer's behaviour (e.g., empathy, or friendliness) that made up the individual variables in each interview approach was not operationally defined, but was assessed from an insider perspective (the interviewee's) at a molar level.

Interviewers conducted the interviews within the constraint of a 'style' and made use of non-verbal as well as verbal correlates to convey the intended style. In the humanitarian rapport-orientated approach, for example, the interviewer would smile, nod, keep appropriate eye-contact (e.g., to convey positivity, personal interest), be generally supportive and allow the interviewee ample time to reflect on questions (e.g., to convey friendliness, helpfulness) and, if the opportunity arose, the interviewer would orally express understanding for the interviewee's situation (e.g., to convey empathy). In the non-rapport orientated approach, whenever the interviewee would show uncertainty or hesitate in their depiction, the interviewer would cut in and ask connecting and clarifying questions (e.g., to convey impatiens, unfriendliness). Furthermore, if the opportunity arose, they would make verbal remarks along the lines of "You don't remember much, do you?" (e.g., to convey deprecation, negative attitude).

Both interview conditions were comprised of an initial free recall period followed by open-ended prompts to the scripted parts of the computer simulation. A manipulation check showed that the interview styles were successfully manipulated in this way, and this is reported later.

8.6. Measurements

All the studies are based on a single comprehensive data collection that consisted of three phases: exposure, interview I and interview II (see Figure 4). The exposure phase and conducting the interviews (N = 146, 127, respectively), took the assistant supervisor and myself approximately 12 weeks (based on a 40-hour work week) to complete (further processing of the collected data, that is, the observation and coding of the interviewees' memory performance required an additional approximately 200 hours of work by two people).

Measurements	Pre-exposure	Post-exposure	Pre-interview I	Post-interview I	Pre-interview II	Post-interview II
State-Trait Anxiety inventory. Trait version (STAI-T)	x					
Big Five Inventory Five Factor Model (FFM)	x					
Sense of Coherence inventory (SOC)	x	x	x	x	x	x
State-Trait Anxiety inventory. State version (STAI-S)	x	x	x	x	x	x
Manipulation check				x		x

Figure 4. Overview of the data collected in the experiment.

8.6.1. State-Trait Anxiety Inventory

The interviewees' anxiety was measured with the State-Trait Anxiety Inventory (STAI-T, STAI-S; Swedish version; Spielberger et al., 1983). State anxiety refers to the emotional state (at any particular level) that an individual perceives at any given moment. State anxiety is considered transitory and manifests itself when evoked by the appropriate stimuli. Trait anxiety refers to individual differences in anxiety-proneness as a personality trait, that is, the individuals' tendency to perceive stressful situations as dangerous or threatening, and the individuals' response to such situations in terms of intensity and levels of state anxiety.

State and trait anxiety are measured on a 20-item scale, respectively, in terms of how the individual *generally feels* (STAI-T), and how the individual *feels right now* (STAI-S). Each scale is divided into ten items assessing anxiety present, and ten items assessing anxiety absent.

8.6.2. Five Factor Model

The interviewees' personality was assessed with a 10-item short version of the Big Five Inventory (BFI-10; Swedish version; Rammstedt & John, 2007). In comparison to the standard Big Five Inventory 44 item scale (BFI-44; John, Donahue & Kentle, 1991), the BFI-10 predicted almost 70% of the BFI-44 variance, and part-whole correlations (BFI-10 vs. BFI-44) showed an overall mean of .83 (Rammstedt & John, 2007). The Five Factor model is comprised of the following basic dimensions or traits; extraversion, which refers to the tendency to experience positive emotions; neuroticism that represents an indi-

vidual's tendency to experience psychological distress; conscientiousness refers to how scrupulous, well-organised and diligent compared to lax, disorganised and easy-going individuals are; agreeableness, individuals high on this dimension are trusting, sympathetic and cooperative, whereas individuals low in agreeableness are cynical, callous and antagonistic; openness to experience, individuals high on this trait are imaginative, sensitive to art and beauty, and experience a rich emotional life compared to those with a lower level of this trait.

8.6.3. Sense of Coherence

The interviewees' Sense of Coherence (SOC) was assessed with Antonovsky's (1984) short-form (13-item) Orientation to Life Questionnaire (Swedish version). SOC is comprised of three components: *comprehensibility*, which refers to the extent the individual perceived stimuli to make cognitive sense, that is, to be ordered, clear, consistent, structured, and in a forward-looking perspective – predictable; *manageability*, which refers to what extent the individuals perceive the resources at their disposal to be adequate for dealing with stimuli demands; *meaningfulness*, which refers to the extent to which individuals perceive their lives to make sense from an emotional point of view, and to what extent they find it worthwhile to invest their time, energy and effort in stressful experiences. A higher sense of coherence is associated with higher PWB (Antonovsky, 1984).

8.7. Manipulation check

The manipulation of interview styles was successful. The means collapsed across interviews on a 1 to 7 point Likert scale (1 = to a low degree, 7 = to a high degree) showed that interviewees in the humanitarian rapport-orientated approach perceived the interview, to a higher degree, as humanitarian (M = 5.85) than did those interviewed in a non-rapport orientated approach (M = 4.02). Correspondingly, those interviewed in a non-rapport orientated approach perceived, to a higher degree, the interview as dominant (M = 2.01) than did those interviewed in a humanitarian rapport-orientated approach (M = 1.17) (Study I).

To explore the manipulation in greater detail, individual scores for each interviewer were computed separately. As shown in Table 1 and 2, both interviewers acted within the constraint of each interview style and the intent of the manipulation.

Table 1

Independent-samples t-tests of how humanitarian and dominant individual interviewers were perceived in each interview approach, respectively, in interview I. The first interviewer conducted 63.0% and the second interviewer 37.0% of the interviews. The means are computed on scores from 1 to 7.

Interviewer	Interview style	Humanitarian index[a]		Dominance index[b]			
		M	*SD*	*M*	*SD*	*t*	*d*
Interviewer 1	Rapport	5.76	0.87	4.52	0.99	6.38***	1.33
	Non-rapport	1.12	0.34	1.73	0.81	4.79***	0.98
Interviewer 2	Rapport	5.81	0.85	3.52	1.14	8.35***	2.28
	Non-rapport	1.03	0.26	1.98	0.90	5.27***	1.43

Note. Hum.index[a] = demeanour shown in the humanitarian interview style (8 items). Dom.index[b] = demeanour shown in the dominant interview style (9 items). For an overview of individual items, see Study I. *** $p < .001$.

Table 2.

Independent-samples t-tests of how humanitarian and dominant individual interviewer was perceived in each interview approach, respectively, in interview II. The first interviewer conducted 51.2% and the second interviewer 48.8% of the interviews. The means are computed on scores from 1 to 7.

Interviewer	Interview style	Humanitarian index[a]		Dominance index[b]			
		M	*SD*	*M*	*SD*	*t*	*d*
Interviewer 1	Rapport	5.72	0.86	4.70	1.14	4.09***	1.01
	Non-rapport	1.16	0.21	1.53	0.61	3.20**	0.81
Interviewer 2	Rapport	6.14	0.73	3.06	1.13	12.89***	3.24
	Non-rapport	1.08	0.20	2.58	1.32	6.33***	1.59

Note. Hum.index[a] = demeanour shown in the humanitarian interview style (8 items). Dom.index[b] = demeanour shown in the dominant interview style (9 items). For an overview of individual items, see Study I. ** $p < .01$, *** $p < .001$.

8.8. Clarifications and corrections regarding analyses in Study III

In Study III, several regression analyses were conducted to explore the impact the interview styles and the interviewees' personality had on their memory performance as well as PWB. The strategies used for including or excluding variables in the regression models were not entirely consistent across analyses. Mainly, prior bivariate correlations decided what variables to include in the multiple linear regression analyses using the enter method. However, on a few occasions an individual variable was excluded from the analyses in spite of showing a significant correlation, and vice versa, individual variables were included in the model in spite of being non-correlated. Moreover, unfortunately, the unstandardized coefficient B was wrongly reported in Study III as the standardized Beta coefficient suggesting stronger effects than was actually the case (even though, the actual Cohen's *d* effect sizes were calculated and reported). In addition, when checking outputs for the correct Beta values to report, it was discovered that two B coefficient values for STAI-T predictions of STAI-S in the non-rapport orientated approach had wrongly been reported in Study III as negative, while analyses show a positive value. The correct Beta values are now reported in an attached table to this thesis (Appendix A).

8.9. Results regarding interviewees' memory performance (Studies I, III and IV)

The main findings regarding the interviewees' memory performance (Study I) showed that those interviewed in a humanitarian rapport-orientated approach in comparison to those interviewed in a non-rapport orientated approach reported more information in both interviews. A comparison between interviews showed that interviewees reported less information in the second in comparison to the first interview, thus, not surprisingly, time (one week vs. six months) had a detrimental effect on memory performance. The percentage of correct information out of all the information was 96.3% in the first and 91.7% in the second interview. The information ratio in regard to interview styles showed those interviewed with a humanitarian rapport-orientated approach reported 97.0% correct information in the first and 92.7% in the second interview ($p < .001$), whereas non-rapport orientated interviewees reported 95.7% correct information in the first and 90.7% in the second interview ($p < .001$). For more details, see Figure 5 below. There were no significant differences in the amount of confabulated information reported within each interview regardless of the interview approach. However, interviewees in the humanitarian rapport-orientated approach reported more confabulated information in the second interview ($M = 2.77, SD = 2.47$) compared to the first ($M = 1.55, SD = 1.93$), $t(61) = 4.06, p < 001$. Those interviewed with the non-rapport

orientated approach reported more confabulated information in the second interview ($M = 2.75$, $SD = 2.62$) in comparison to the first ($M = 1.91$, $SD = 1.93$), $t(64) = 2.46$, $p < .05$.
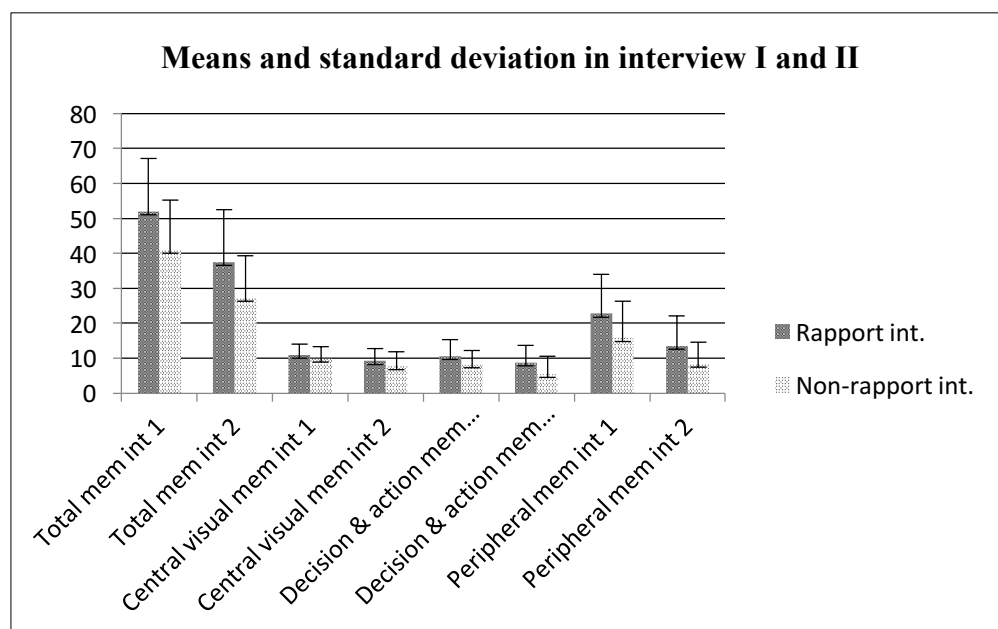
Figure 5. A comparison between interviewees' memory performance collapsed over interview I and II; broken down by different subcategories of memory as well as interview styles.

In the first interview (Study I), for those interviewed with a humanitarian rapport-orientated approach, the amount of reported information regarding the subcategory peripheral memories showed a larger individual effect size ($d = 0.59$) in comparison to the amount of information reported for central visual memories ($d = 0.45$) and decision and action memories ($d = 0.53$). To explore the relations between memory subcategories in greater detail, a multiple linear regression analyses with the interview style as a predictor and individual memory categories as dependent variables, respectively, were computed. Results showed no overlap in confidence intervals between central visual memories, $B = 1.21$, $SE = 0.56$, $t(141) = 2.16$, $p < .05$, 95% CI [0.10, 2.32], and peripheral memories, $B = 6.33$, $SE = 1.78$, $t(144) = 3.56$, $p < 001$, 95% CI [2.82, 9.84]. This indicates that a humanitarian rapport-orientated approach was a stronger predictor for the amount of reported information regarding peripheral memories. In contrast, confidence intervals for decision and action memories, $B = 2.49$, $SE = 0.72$, $t(143) = 3.46$, $p < .01$, 95% CI [1.07, 3.91], showed an overlap with both central visual as well as peripheral memories.

In Study IV, in which the interviewees' memory performance (Study I; extended analyses) was further explored, the results showed that the interviewers' demeanour (as measured by a humanitarian and a dominant index comprising of different aspects of rapport [or lack of it]) mediated the effects significantly. Three full mediation models were found in the second interview. First, it was found that the indirect effect of the interview approach on interviewees' recall of central visual memories was mediated by the humanitarian index, increasing recall (see Figure 6). Follow-up analyses on individual items assessing the interviewers' demeanour in the humanitarian index showed two full mediation effects in regard to the items friendliness and cooperation; thus, suggesting that these variables contributed to the original effect (Study IV).
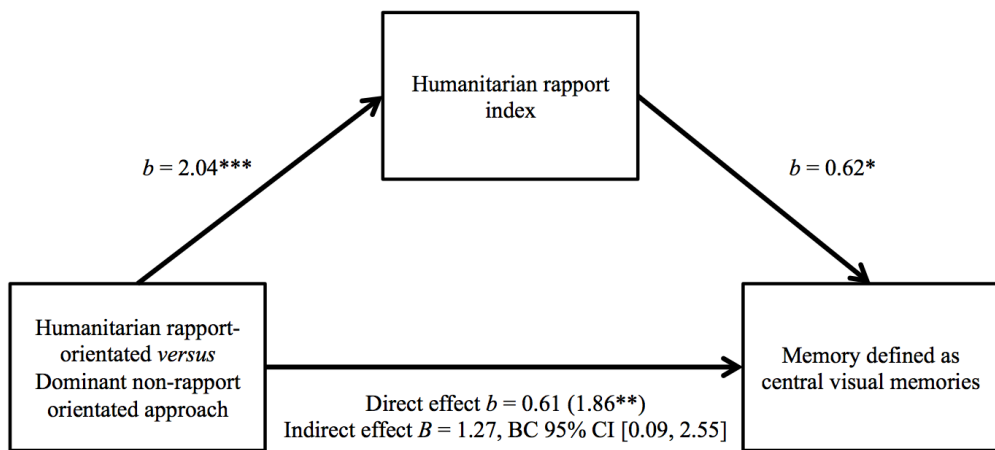
Figure 6. Indirect effect of the interview approach on the amount of reported central visual memories through the humanitarian rapport index (Study IV). *Note.* * $p < .05$, ** $p < .01$, *** $p < .001$.

Second, it was found that the indirect effect of the interview approach on interviewees' recall of central visual memories was mediated by the dominant index, decreasing recall (see Figure 7). Follow-up analyses on individual items assessing the interviewers' demeanour in the dominant index showed four full mediation effects in regard to the items: negative attitude, nonchalance, impatience as well as brusqueness and obstinacy, indicating that these variables contributed to the effects in this mediation model (Study IV).

Figure 7. Indirect effect of the interview approach on the amount of reported central visual memories through the dominant non-rapport index (Study IV). *Note.* ** $p < .01$, *** $p < .001$.

Third, it was found that the indirect effect of the interview approach on interviewees' recall of decision and action memories was mediated by the dominant index, decreasing recall (see Figure 8). Follow-up analyses on individual items assessing the interviewers' demeanour in the dominant index did not show any statistical significant results.
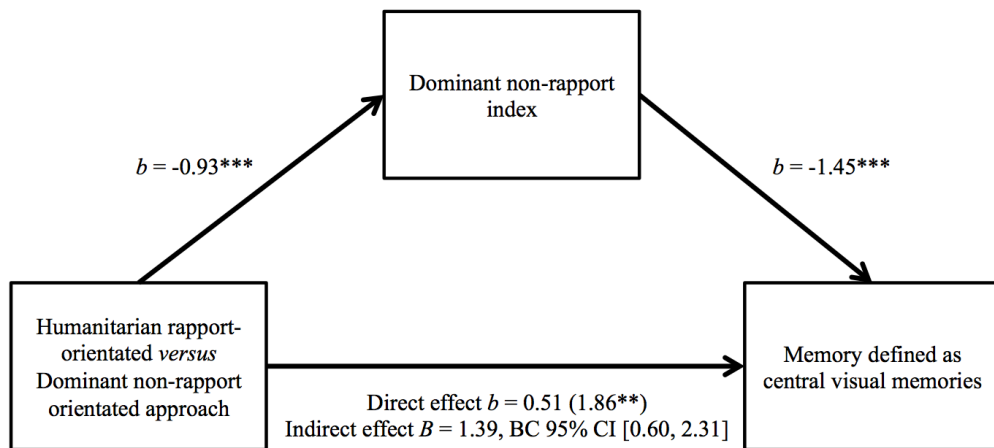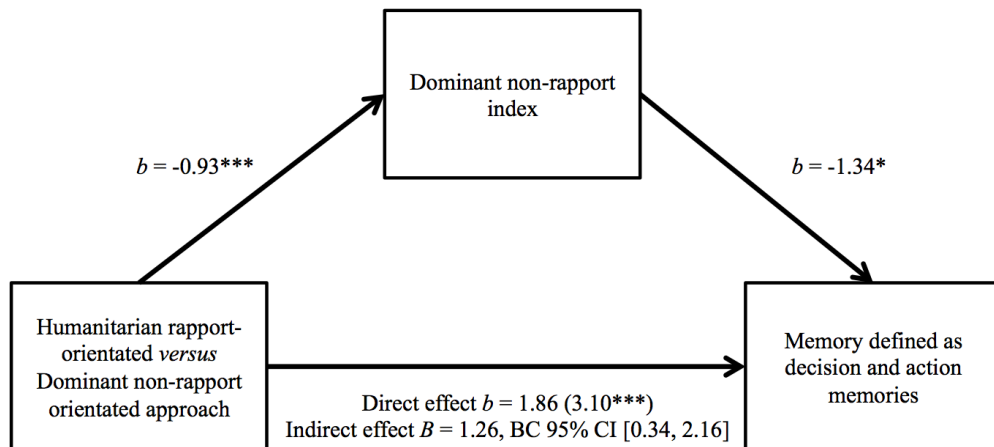

Figure 8. Indirect effect of the interview approach on the amount of reported decision and action memories through the dominant non-rapport index (Study IV). *Note.* * $p < .05$, *** $p < .001$.

8.10. Memory performance in relation to personality and trait anxiety (Study III and IV)

The interviewees' memory performance was affected by their personality in terms of the Five Factor Model (FFM; Study III). In the first interview, the FFM factor neuroticism predicted increased recall for interviewees' decision and action memories, and more so for those interviewed with a humanitarian rapport-orientated approach. In the second interview, openness to experience predicted a decreased recall for decision and action memories, and extraversion predicted a decreased recall for peripheral memories. In an attempt to explore the results in a more robust fashion, the scores of all memory subcategories for both interviews were added together and correlated with FFM subscales creating a more stable construct over time. Bivariate correlations showed that neuroticism was associated with less reported central visual memories across the interviews ($r = -.25$, $p < .05$) in the non-rapport orientated approach. In the humanitarian rapport-orientated approach, conscientiousness was associated with less reported decision and action memories ($r = -.27$, $p < .05$), and openness to experience was associated with more reported confabulated central visual memories ($r = .32$, $p < .05$).

In Study IV, exploring previous findings (Study III, extended analyses), results showed an interaction effect involving the interviewees' personality in the second interview; the relationship between the interview approach and the interviewees' recall of confabulated memories was moderated by the FFM factor openness to experience. Higher trait scores were associated with increased recall.

8.11. Results regarding interviewees' psychological well-being (Studies II and III)

The first interview (Study II) showed an interaction effect between interview style and time (pre- and post-interview) regarding interviewees' anxiety. Simple effect analysis (non-significant) indicated that the interaction effect was due to interviewees interviewed with a non-rapport orientated approach feeling more anxious post- compared to pre-interview, thus decreasing PWB. However, as shown below in Figure 9, pre-interview differences in levels of anxiety for the humanitarian rapport-orientated and non-rapport orientated approach (non-significant) suggested that the randomisation process for an unknown reason did not fully succeed. Additionally, post-interview differences in levels of anxiety for the rapport-orientated and non-rapport approach were also non-significant.
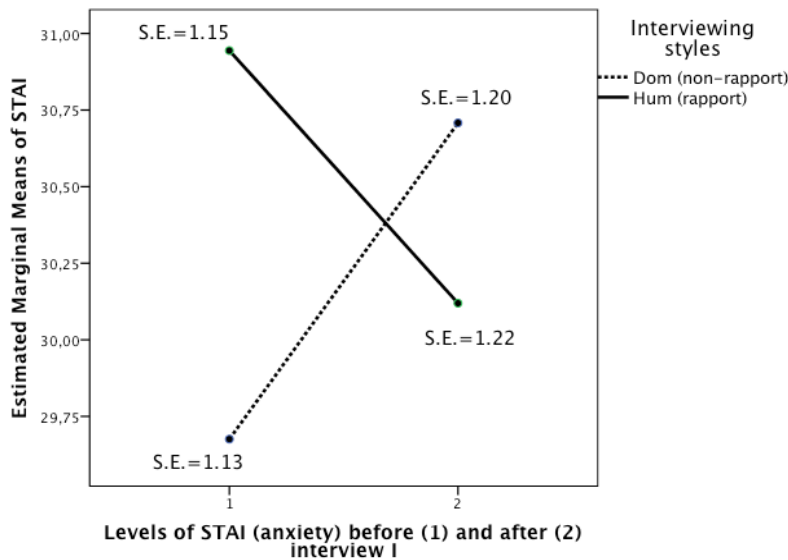
Figure 9. Estimated marginal means of interviewees' anxiety level (STAI-S) as measured pre- (1) and post- (2) Interview I, with a humanitarian rapport-orientated or non-rapport orientated approach, respectively (Study II).

To address this issue and reset pre-interview anxiety levels for interviewees in both interview conditions, an analysis of covariance was computed using measures of STAI-S pre-interview as a covariate, and interview style (rapport vs. non-rapport) as an independent variable, and measures of STAI-S post-interview as the dependent variable. Based on the assumption that a non-rapport orientated approach (closest to significance in simple effect analysis) would only increase anxiety, it was decided on an a priori directional (one-tailed) significance test. Results showed that interviewees in the non-rapport approach reported marginally higher levels of STAI-S ($M = 31.28$, $SE = 0.63$) post-interview, than did those interviewed in the rapport condition ($M = 29.54$, $SE = 0.64$), $F(1, 143) = 3.73$, $p = .0275$ (one-tailed), partial $\eta^2 = .03$. In summary, the extended analysis clarified and supported the original finding.

The second interview (Study II) also revealed an interaction effect between interview style and time (pre- and post-interview) regarding the interviewees' SOC. Simple effect analysis revealed that those interviewed in a humanitarian rapport-orientated approach reported a higher SOC post- than pre-interview, thus increased PWB. As shown below in Figure 10, pre-interview differences in levels of SOC for the humanitarian rapport-orientated and non-rapport orientated approach indicated that the randomisation process did not fully succeed. However, pre-interview differences are statistically non-significant, as

were post-interview differences in levels of SOC for the rapport-orientated and non-rapport orientated approach.
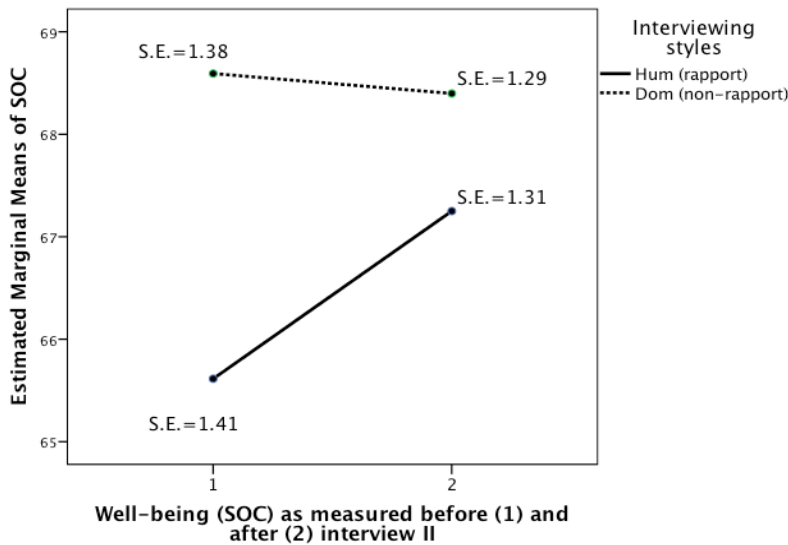
Figure 10. The profile plot shows the estimated marginal means of the interviewees' level of SOC as measured pre- (1) and post- (2) interview II, with a humanitarian rapport-orientated or non-rapport orientated approach, respectively (Study II).

Additionally, an extended analysis with pre-interview STAI-S scores as a covariate and post-interview STAI-S scores as a dependent variable in interview II did not reach statistical significance, nor did analyses with pre-interview SOC scores as covariates and post-interview SOC scores as a dependent variable show statistical significance in either interview I or II.

8.12. Individual differences related to psychological well-being

In both interviews, the main results (Study III) showed that FFM factors extraversion and agreeableness predicted a higher SOC and a lower STAI-S, thus increased PWB, whereas FFM factor neuroticism predicted lower SOC and higher STAI-S, that is, decreased PWB. Additionally, across interviews, STAI-T explained a large part of the variance in SOC (62.0% and 44.0%, respectively) and contributed negatively to SOC, more so in the non-rapport orientated approach (65.0% and 49.0%, respectively) in comparison to the humanitarian rapport-orientated approach (59.0% and 39.0%, respectively). Moreover, across interviews, STAI-T explained a large portion of the variance in STAI-S (32.0% and 27.0%, respectively) and contributed positively to a

higher STAI-S in both interview approaches; humanitarian rapport-orientated (38.0% and 19.0%, respectively) and the non-rapport orientated approach (31.0% and 43.0%, respectively).

In order to investigate the relations between interview styles and FFM, the humanitarian index (eight items; the sum of scores for demeanour that made up the humanitarian rapport-orientated approach) and dominant index (nine items; the sum of scores for demeanour that made up the dominant non-rapport orientated approach) were correlated with FFM traits for interview I and II, respectively. Bivariate correlations showed a positive relation between the humanitarian index and FFM factor agreeableness ($r = .27$, $p < .05$) in interview II; thus, individuals high in agreeableness (trusting, sympathetic, cooperative) may find the interpersonal dimensions of the humanitarian rapport style appealing. No other relations reached statistical significance. In addition, the humanitarian and dominant indexes for interviews I and II were added together, respectively, and then correlated with FFM. No statistically significant results emerged.

9. GENERAL DISCUSSION

The main results showed that a humanitarian rapport-orientated approach leads to interviewees reporting substantially more information, especially information defined as peripheral, in comparison to those interviewed in a non-rapport orientated approach; this applies to interviews one week and six months after exposure (Study I). Exploring these findings further, Study IV found three full mediation models in the second interview; first, it was found that the indirect effect of interview approach on interviewees' recall of central visual memories was mediated by the humanitarian index (interviewers' demeanour), increasing recall. In the second and third models, the indirect effects of interview approach on interviewees' recall of central visual memories and decision and action memories, respectively, were mediated by the dominant index, decreasing recall. The vast majority of the reported information was correct. However, there was a significant, though numerically small, increase in confabulations in the second interview in comparison to the first interview; importantly, the amount of confabulated information within each interview was statistically invariable regardless of interview approach (Study I). Furthermore, in interview I (one week after exposure), the combination of time (pre- and post-interview) and interview style (rapport-orientated vs. non-rapport orientated) had an effect on interviewees' anxiety; those interviewed in the non-rapport orientated approach reported marginally higher anxiety post-interview in comparison to those in the humanitarian rapport-orientated approach. Interview II, six months later, revealed an interaction effect, the combination of time (pre- and post-interview) and interview style

(rapport-orientated vs. non-rapport orientated) having an effect on interviewees' sense of coherence; those interviewed in a humanitarian rapport-orientated approach reported a higher sense of coherence post-interview in comparison to pre-interview (Study II). In both interviews, interviewees' extraversion and agreeableness predicted a higher SOC and lower STAI-S, that is, increased PWB (Study III). Furthermore, in both interviews neuroticism and high trait anxiety contributed to decreased psychological well-being among interviewees, which manifested itself in forms of lower sense of coherence and elevated levels of state anxiety. Also, the combination of interviewees' high STAI-T and being interviewed with a non-rapport orientated interview approach was a stronger predictor of decreased psychological well-being; that is, increased levels of state anxiety (interview II only) and lower sense of coherence (both interviews). In interview I, in contrast, STAI-T was a stronger predictor of state anxiety for interviewees in the humanitarian rapport-orientated approach in comparison to those interviewed with the non-rapport orientated approach (Study III).

The humanitarian rapport-orientated approach (Study I) shares features with the Cognitive interview (CI; Fisher & Geiselman, 1992, 2010) regarding the social dynamics (rapport building aspects), and communicative components (transferring control to interviewee), as well as taking into account limited human cognitive resources (e.g., memory compatible questioning). However, the difference is that a humanitarian rapport-orientated approach is theoretically integrated with Tickle-Degnen and Rosenthal's (1990a) construct of rapport, and does not utilise the cognitive aspects of CI: mental reinstatement, recall from different perspectives (vantage points) and temporal order. The results (Study I) in terms of overall more information reported are in line with other studies that have had a rapport-orientated approach (see e.g., Alison et al., 2013; Collins et al., 2002; Holmberg, 2004; Nash, Nash, Morris & Smith, 2015; Walsh & Bull, 2010), and in terms of information accuracy are in line with other interview techniques that have an interviewee-led approach (see e.g., Fisher, 1995; Memon et al., 2010; Kieckhaefer et al., 2013; Vallano & Schreiber Compo, 2011). The length of interviews in the humanitarian rapport-orientated approach lasted on average roughly twice as long as those in the non-rapport orientated approach (Study I); differences in duration between interview approaches are in line with previous research on adults (Collins et al., 2002; Vallano & Schreiber Compo, 2011; Vrij et al., 2006). Interestingly, in the humanitarian rapport-orientated approach the total amount of correctly reported information across both interviews showed effect sizes of $d = .71$, and .74, respectively, while a meta-analysis of CI, compared to standard/structured interviews, showed that CI produced more correct information with a weighted mean of $d = 1.20$, 95% CI [1.12, 1.28] (Memon et al., 2010). A comparison of such effect sizes, suggests that the cognitive aspects of

CI, in addition to the social dynamics and communicative components, also contribute to increased memory recall.

Furthermore, the overall results of the studies in this thesis suggest that anxiety is an operative factor that is associated with interviewees' recall and PWB during interviews. These notions can be viewed in light of the *Processing Efficiency Theory* (Eysenck & Calvo, 1992). Based on the assumption that an interview (e.g. as with those in the present thesis) to some extent is likely to induce anxiety, so will individual differences related to the personality of the interviewees; in general, a rapport-orientated approach would be expected to motivate as well as facilitate interviewees' use of compensatory strategies, for example, enhanced effort and/or coping strategies, and thereby reduce or eliminate the negative effects of anxiety on the performance task, that is, maximising recall. Moreover, an extended narration may, in turn, facilitate reappraisals and increase opportunities for re-evaluating events as meaningful (Park & Folkman, 1987). Several studies have found that a rapport-orientated interview style benefited aspects of interviewees' PWB (Holmberg, 2009; Holmberg et al., 2007; Shepherd et al., 1999; Vanderhallen et al., 2011; Vrij et al., 2006). Correspondingly, a non-rapport orientated approach, in general, can be expected to put additional demands on working memory operations as well as interviewees' auxiliary processing resources and, thus, presumptively affects interviewees' memory performance and PWB negatively.

It appears reasonable to assume that interviewers' motives for embracing a humanitarian rapport-orientated approach in many instances is an active choice that rests on ethical and truth-seeking principles similar to those guiding the Investigative Interview and PEACE-model in the UK (Authorised Professional Practice, 2016; Shepherd & Griffiths, 2013). However, it is possible that an automatic perception-behaviour link may also be at play (Dijksterhuis & Bargh, 2001); for example, a victim appearing vulnerable or a suspect being repentant, perhaps in conjunction with a confession, may trigger tendencies to corresponding behaviour in the interviewers. The latter notion suggests the presence of a causal bi-directional effect; that greater imitation produces greater liking and rapport. Such an effect has in previous, explorative research manifested itself in crime victims (rape, aggravated assault) reporting having felt respected and having tried to be cooperative and reporting everything they could remember (Holmberg, 2004), as well as offenders (murderers, sexual offenders) also reporting having felt respected and an inclination to admit to the crime (Holmberg & Christianson, 2002). Moreover, both victims and offenders interviewed in a humanitarian rapport-orientated approach reported a higher sense of coherence, that is, increased PWB. Importantly, the present thesis not only expands Holmberg and Christianson's previous explorative findings, as pointed out initially in this discussion, but also generalises causal effects of the interview approaches to a sample composed of the

general public (outside the context of criminality). The possible presence of bi-directional effects (as described above) implies the presence of intermediate variables and circular effects, which perhaps raises questions regarding suggested causation between independent and dependent variables. However, such intermediate variables to some extent always exist and are not considered a problem, which, thus, in the present thesis suggests that the effect of the manipulation can be considered as causative. Additionally, results in regard to previously reported mediation effects (Study IV, second interview), which suggest that interviewers to a large extent are in a position to affect the interview outcome, further support the causative claim. The mediation results in Study IV are in line with findings in the study by Alison et al. (2013), which in the context of police interrogation found that better interviewing skills had a direct effect on increasing interview information yield. Moreover, better interviewing skills were also associated with increased adaptive interviewing (interviewer's interpersonal behaviour) as well as decreased maladaptive behaviour. These skills were found to have an indirect effect on improving suspects' interpersonal behaviour (adaptive responding). According to Alison et al. (2013), this translates into interviewing skills having an indirect effect on increased information yield. Somewhat similarly, Alison et al. (2014) found that interviewers' demeanour (motivational interviewing skills) indirectly reduced suspects' verbal counter-intelligence tactics through increasing adaptive and reducing maladaptive interrogator behaviour.

The non-rapport orientated approach was operationalised based on empirical findings from Sweden (Holmberg, 2004; Holmberg & Christianson, 2002). However, the forensic literature suggests that varieties of interviews congruent with a dominant interview style are internationally present (Clifford & George, 1996; Fisher et al., 1987; Leo, 1996; Moston & Engelberg, 1993; Vanderhallen et al., 2011; Williamson, 1993; Wright & Alison, 2004). Worth noting regarding the studies included in the present thesis is that the collapsed mean across interviews for the variables that constitute a non-rapport orientated approach on a 7-point Likert scale was 2.01 (1 = to a low degree, 7 = to a high degree). Extrapolated, this suggests that interviewees were affected by and reacted to a relatively subtle dominance. This finding is somewhat in line with Alison et al. (2013) who found that police interviewers' minimal expression of maladaptive behaviour directly resulted in a reduced yield of information, and Kelly et al. (2015) who investigated the dynamics of police interrogation in five-minute intervals, and found that suspects' cooperation was negatively impacted by presentation of evidence and when confrontation/competition occurred. Moreover, the study by Kelly et al. (2015) empirically shows that the relationship between interactants is not one-sidedly static by nature, but a dynamic process that changes during the course of the inter-

view. Signs of a dynamic process can also be discerned in the interviews included in the present thesis although this was not specifically observed. An example of this process occurred when interviewees with the non-rapport orientated approach reported elements of the humanitarian rapport-orientated approach, and vice versa, those interviewed with the humanitarian rapport-orientated approach reported elements of the non-rapport orientated domain (Study I).

This brings us to the inevitable question of why a non-rapport orientated style appears at all, since surveys of police investigators in some countries indicate that they are aware of, and appreciate, the importance of rapport (Dando, Wilcock & Milne, 2008; Kassin et al., 2007; Vallano, Evans, Schreiber Compo & Kieckhaefer, 2015; Yi, Lamb & Jo, 2014). Even though the question is beyond the scope of this thesis, it might help put the use of a non-rapport style in context. Among the hypothetical reasons for displaying dominant non-rapport orientated behaviour are biases related to interviewers' social cognition (Aronson, Wilson & Akert, 2010), which may involve automatic mental processing and contextual priming (Bargh & Morsella, 2008). For example, police interviewers' presumption of suspects as guilty (Stephenson & Moston, 1994), perhaps in combination with suspects sturdily arguing their innocence, may lead interviewers to aggressively pursue a confession, or alternatively, a preconceived opinion about the course of events can lead interviewers to adopt a questioning sequence aimed at confirming presumed events (Wright & Alison, 2004). A closely related issue is whether a non-rapport orientated approach may affect interviewees' suggestibility. A frequently used instrument in this respect is the Gudjonsson Suggestibility Scale (GSS; Gudjonsson, 1997), which was developed to identify vulnerable individuals in need of protection from coercive or oppressive police behaviour during interviews. The GSS measures interviewees' susceptibility to misleading questions (to what extent individuals *yield* to misleading questions), and how individuals respond to interrogative pressure (to what extent individuals are *compliant*, shift their answers following negative feedback), which, in turn, is linked to anxiety and coping processes (Gudjonsson, 2003a, 2003b). In the present thesis, the GSS was not used as a measurement, nor were there deliberate attempts to ask misleading questions or make interviewees comply with the interviewers' suggestions part of the manipulation of interview styles (we mainly used open questions). However, interviewees' suggestibility may manifest itself in the reporting of confabulated and/or incorrect details (incorrect details in the present thesis were not observed and coded for), because compliance involves components such as the interviewee's eagerness to please and protect, for example, his or her self-esteem in the presence of others, as well as the avoidance of conflict and confrontation with people, in particular those perceived to be in authority (Gudjonsson, 2003a). For example,

Gudjonsson suggested that compliant individuals during stressful events may pretend that everything is fine and withdraw from accomplishing their own goals. In the present thesis, results (Studies II and III) indicate that a non-rapport orientated interview approach in combination with other factors (e.g., interviewees' neuroticism or anxiety) can potentially affect interviewees' compliance.

Thus, as indicated above, investigative interviews including individual interviewers' style play an important role in juridical procedures.

9.1. Therapeutic Jurisprudence

The main findings in studies II and III suggest that SOC and STAI-S offer appropriate ways of defining and describing PWB from a TJ perspective, as well as of measuring PWB in an investigative interview context. The SOC scale is valid, reliable and cross-culturally (Western countries and Thailand, China, Japan, and South Africa) applicable (Eriksson & Lindstrom, 2005); its salutogenic approach (a focus on factors that support health and well-being) offers a definition of PWB that is relatively stable over time (Eriksson & Lindstrom, 2005). At face validity, a construct that is relatively stable over time may appear inappropriate as a measurement of PWB. Two relevant counterarguments can be put forward. First, previous research has shown that SOC can be altered by traumatic events (Snekkevik et al., 2003). Events in the present thesis were far from traumatic; however, interviewees reported having felt more jittery, confused and strained post-exposure in comparison to pre-exposure (Study II), that is, emotionally affected. In addition, it is argued that interviews requiring interviewees to recall previously experienced negative events, to some extent, involves a process that comprises test-anxiety. In light of what has just been said, the results in the present thesis suggest that less than traumatic experiences may also affect an individual's SOC. Second, a measurement of PWB that allows for the presence of a relatively transitory stress prior to interviewees' improved mental health, as results in the present thesis (Study II) suggest, fits nicely with the inescapable fact that criminality often, and to varying degrees, involves grief and suffering. Such a described process has support in previous research (see e.g., Pennebaker, 1997; Shepherd et al., 1999). On the other hand, the STAI-S, validated and extensively used in research and clinical settings (Spielberger et al., 1983), focuses more on interviewees' more immediate reaction in terms of anxiety to how the interview is conducted (Holmberg & Christianson, 2002), and supplements the SOC's more long-term approach. Moreover, both the STAI-S and SOC inventories also allow for consideration of aspects related to interviewees' personality (Study III) in an interview context.

The results (Study II) in relation to major criticism directed towards TJ have important implications. From a methodological point of view, the absence of

a solid definition of PWB makes TJ claims that the law (including legal processes and legal actors) could promote PWB problematic (Finkelman & Grisso, 1994; Petrila, 1996; Roderick & Krumholz, 2006; Slobogin, 1995). Determining whether the law or legal juridical procedures are therapeutic requires empirical investigation (Finkelman & Grisso, 1994). The latter, in turn, requires a precise definition and operationalisation (made measureable) of the variable, in this case PWB (Bryman, 2012; Gerring, 1999; Roderick & Krumholz, 2006). Here, in response, the SOC in combination with STAI-S offers a robust definition and measurement of PWB that has the potential to be generalised beyond the context of investigative interviews to other fields within TJ. Obviously, more relevant research is needed to replicate the present findings, as well as investigating the validity of PWB's generalisation to other contexts.

From a theoretical point of view, an inadequate theoretical ground, as suggested by several authors (see e.g., Roderick & Krumholz, 2006; Wexler, 2011; Winick, 1997), means that the TJ construct cannot sufficiently describe, explain and predict relevant outcomes, as well as hampering empirical testing (Roderick & Krumholz, 2006). Essential for developing a sound theory is a precise definition of key concepts (Gerring, 1999; Popper, 1962; Roderick & Krumholz, 2006), in order to establish links between theory, empirical findings and policy (Bryman, 2012). In this respect, given that the definition of PWB (Study II) is considered a key concept, it may contribute to a theory-building process, should TJ wish to develop that side.

From a practical perspective, the definition of PWB (Study II) has the potential to facilitate more relevant empirical research. As a consequence, this may reduce the ambiguity regarding when and how TJ is applied to legal decision-making, as suggested by critics (Petrila, 1996; Roderick & Krumholz, 2006; Slobogin, 1995), as well as occasions when decisions on what constitutes well-being lie in the hands of legal actors (Winick, 1997). Extrapolated, this in turn can potentially reduce paternalistic concerns, as suggested to exist by several authors (Finkelman & Grisso, 1994; Petrila, 1996; Roderick & Krumholz, 2006).

Well worth emphasising is that interviewees' increased PWB was concurrent with an increased memory performance (Study I) and, thus, not in conflict with legal and other important investigative objectives.

9.2. Rapport

In Study I, previous empirical findings in terms of the humanitarian interview (Holmberg, 2004; Holmberg & Christianson, 2002) were integrated with Tickle-Degnen and Rosenthal's (1990a) construct creating the humanitarian rapport-orientated approach. An inspection of the manipulation check (Study I) revealed that all individual items were statistically significant with medium

to large effect sizes, suggesting that rapport as operationalised was present in the designated interviews, and contributed causally to the results in Studies I-IV. The operational components that make up the humanitarian rapport-orientated approach fit nicely together with the theoretical prototypes in Tickle-Degnen and Rosenthal's construct. For example, an interviewer's display of friendliness, helpfulness, an empathic demeanour and a positive attitude may mitigate negative evaluative forces at play early in the interaction and signal a willingness to communicate; and is well in line with Tickle-Degnen and Rosenthal's prototype positivity that supposedly creates feelings of mutual friendliness and caring. This notion fits well with a suggested human biological function of being able to form relationships; the rationale being that the interviewer's displayed positive behaviour (e.g., smiles, appropriate eye-contact, being generally supportive) results in an automatically activated similar response from the interviewee (Argy, 1990; Buck, 1990; Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001). Such behaviour, based on trait inference, may from an insider's perspective (interviewees) form an impression of the interviewer as a friendly, genuine individual that wishes the interviewee well (Study IV). On face validity, this suggests that the interviewee's response in addition to a perceptual activity is elicited as a result of a conscious decision and/or a motivational function (Dijksterhuis & Bargh, 2001). Consequently, it seems logical that an interviewee's less positive behaviour in response to an interviewer's demeanour that resembles that of a non-rapport orientated approach may well be the result of that same function (Study IV). Having said that, situations where an interviewee inhibits or controls his or her response to perceptual activity may also occur; for example, in interviews where an uncooperative witness or suspect has decided to yield no or as little information as possible.

A mutual attentiveness is suggested to create a focused and cohesive interaction (Tickle-Degnen & Rosenthal, 1990a), which is proposed to be facilitated by the operational components of an interviewer showing a personal interest and personalising the conversation in the humanitarian rapport-orientated approach (Study I), and is in line with what several researchers have emphasised as important (e.g., Fisher & Geiselman, 2010; Milne & Bull, 1999; Shepherd & Griffiths, 2013; St-Yves, 2006). In relation to Tickle-Degnen and Rosenthal's construct, the relative weight of attention is important throughout the interaction (interview) and fulfils two important functions. First, on a general level, showing an interviewee attention when he or she is in the process of telling something is essential in order to convey an interest in hearing his/her story and motivating further disclosure; for example, think back or imagine a moment when telling another person something important, and only to discover that the other person was checking the time when looking up to perhaps

seek eye-contact. Moreover, paying attention is closely related to an interviewer's active listening in that more focus is on the content of what is being said, in that it creates conditions to facilitate the interviewee's narrative, for instance, by head nodding or by expressing paralinguistic expressions such as "mm" or "I see". Second, and related to the social perception in which we perceive gestures, movements and facial expressions, as well as accents and the tone of voice of others (Dijksterhuis & Bargh, 2001), attention is essential to interpret interviewees' non-verbal behaviour; for example, interviewees' non-verbal communication may indicate emotional difficulties to which the interviewer may respond with empathy; for instance, by verbal remarks along the lines of "I can see that you are struggling right now". Such demeanour may increase interviewees' feelings of being respected and listened to (Holmberg, 2004; Holmberg & Christianson, 2002), and perhaps may serve as an example as to how the third prototype in Tickle-Degnen and Rosenthal's construct practically can manifest itself.

The theoretical prototype of coordination (Tickle-Degnen & Rosenthal, 1990a) is thought to create balance and harmony in the interaction, and interviewers showing a cooperative and obliging manner (the operational components in the humanitarian rapport-orientated approach) are suggested to facilitate coordination (Study IV). Obviously, as the generic meaning of the operational components suggests, this may take many forms (in addition to the example given above). Tickle-Degnen and Rosenthal use the word 'other-including' to describe when a high degree of rapport is present. This can be translated into the ability to dynamically read and respond to the interactant's behaviour and emotionality (Salonen, Vauras & Efklidis, 2005). For example, from an interviewer's perspective this may include giving the interviewee ample time to reflect on answers, interpreting and appropriately responding to the interviewee's non-verbal communication in addition to what he or she verbally conveys; but also from the interviewee's perspective, to functionally direct his/her cooperative motives. As a result of this behavioural coordination, the interpersonal connectedness may well increase (Dijksterhuis & Bargh, 2001).

As pointed out in the introduction, the operational component underlying the humanitarian rapport-orientated approach overlaps with what researchers consider important for building rapport (e.g., Collins et al., 2002; Fisher & Geiselman, 1992, 2010; Milne & Bull, 1999; Shepherd & Griffiths, 2013; St-Yves, 2006; Vallano & Schreiber Compo, 2011). In contrast, the investigative literature on rapport shows, with a few exceptions, weak theoretical support. Moreover, although most rapport building aspects put forward in the investigative literature are empirically supported and reflect an awareness of dynamic aspects in the social interaction, the relative mutual importance between differ-

ent aspects, as well as their relative importance in different stages of the interview, are less explicitly described. Given the results in Study I (and to some extent in Study IV), which not only showed that interviewees in the humanitarian rapport-orientated approach reported substantially more information than did those interviewed in the non-rapport orientated condition, but also that the information was of high accuracy, it is suggested that Tickle-Degnen and Rosenthal's (1990a) theory-driven construct of rapport may help to conceptualise the dynamic aspects of rapport, as well as the need to build and maintain rapport throughout the interaction (interview). From a practitioner's perspective, for example, in relation to interviews with suspects two somewhat speculative implications can be discerned and are worth reflection on. First, as pointed out, later stages of the interaction are primarily judged on coordination (Tickle-Degnen & Rosenthal, 1990a), and this may well coincide with the suspect being challenged with inconsistencies after giving his or her account in the PEACE model, or another similar interview protocol, assuming that the suspect account is (appropriately) challenged after an initial free recall and open-ended questions. In addition, Kelly el al. (2015) found that suspects' cooperation was negatively impacted by presentation of evidence (style unknown) and when confrontation occurred. Arguably, the cognitive load on interviewers to simultaneously formulate strategic questions, listen to answers, as well as dynamically read and respond to the interacting partner's interpersonal behaviour might pose a challenge. Second, in relation to police officers' presumption of guilt (Stephenson & Moston, 1994), it is possible that the account phase in the PEACE model (and the equivalent in other interview protocols), depending on the contents of the suspect's story, unconsciously activates interviewer stereotypes (an interviewer's trait inferring that the suspect is a liar), and hypothetically results in confession-orientated question sequencing. The presence of unconscious processes and that contextual priming can result in automatic responses has support in the literature (Bargh & Morsella, 2008; Dijksterhuis & Bargh, 2001). It is argued here, that a humanitarian rapport-orientated approach, as operationalised and integrated with Tickle-Degnen and Rosenthal's construct, can mitigate or even eliminate such interviewer biases.

A final reflection concerns rapport in interviews, perhaps in particular with victims. Based on anecdotal evidence, sometimes with some frequency the present author has come across notions or concerns of practitioners that the interviewees' narrative in connection with rapport might be called into question as being biased and/or increase the interviewees' eagerness to tell the story the interviewer wants to hear. Two immediate counterarguments can be discerned. First, as shown in the present thesis (Study I) and other interview protocol with an interview-led approach (where control over the information flow is transferred to the interviewee), the accuracy is high when information

is reported in response to free recall and open-ended questions (e.g., Lipton, 1977; Odinot et al., 2009; Snook et al., 2012). Also, rapport can decrease interviewees' susceptibility to misinformation (Kieckhaefer et al., 2013; Vallano & Schreiber Compo, 2011). Second, a way to forestall criticism and/or reduce concerns of inappropriate suggestive support is to adopt a strategy similar to that used in forensic interviews with children (see e.g., Hershkowitz, 2011), and make sure to reinforce interviewees' efforts (e.g., an effort to remember something) rather than specific parts of the statement (e.g., what is being remembered). In addition, it is worth keeping in mind that adults in general are less suggestible than children.

9.3. Memory performance

The main results (Study I and IV) showed that interview styles had a causal impact on interviewees' memory performances; a humanitarian rapport-orientated approach in comparison to a non-rapport orientated approach contributed to interviewees reporting an increased number of memory details in two interviews, one week and six months after exposure, respectively. Interview styles in the present thesis were operationalised based on results in previous exploratory findings in regard to crime victims' (Holmberg, 2004) and offenders' (Holmberg & Christianson, 2002) perception of their police interviews, as well as their subsequent reported memory performance. The present thesis developed further the previous empirical findings and showed causal links between the interview styles in question and interviewees' recall.

The results (Study I) can be discussed in light of the fact that remembering is dependent on two major factors: the knowledge in the long-term memory and the operations of the working memory, with additional contributions from motivation and personality (MacLeod, Jonker & James, 2014). First, information stored in long-term memory is coded in terms of meaning and in ways that make memories of a particular event interconnected to, for instance, other similar episodes (Baddeley, 2012; Hitch, 2005; Reisberg, 2014); in the present thesis, it may be argued that several operational components that make up the humanitarian rapport-orientated approach facilitate interviewees' extended recollections from an associative memory structure. This is illustrated by an interviewee-led approach leaving the interviewee in control of the information flow; for example, if the interviewer is acting calm and allowing ample time to reflect on answers to open-ended questions (Study I), this may assist interviewees in finding adequate retrieval cues. In somewhat similar ways the operational components of interviewers being helpful and obliging, or perhaps friendly (Studies I and IV), can benefit the recall of interviewees; for example, by explicitly informing the interviewee that it is perfectly appropriate to express additional details whenever they come to mind, the demands on interviewees to narrate facts in a chronological and coherent

manner can be decreased (e.g., such demands may emanate from the interviewees' own requirements, and/or are explicitly put forward by the interviewer). These considerations are empirically supported by the data (Study I, and to some extent Study IV), which showed interviewees in the humanitarian rapport-orientated approach reporting a larger amount of peripheral information (supposedly associated with fewer retrieval cues and therefore being more difficult to recall) than did those interviewed in the non-rapport orientated approach across interviews ($d = 0.59$ and $d = 0.63$, respectively); additionally, in interview I only, the individual effect size for the sum of reported peripheral information ($d = 0.59$) was larger than those of central visual memories ($d = 0.45$) and decision and action memories ($d = 0.53$). Judging from a lack of overlap in confidence intervals, in-depth analyses (regression analyses) indicated that a humanitarian rapport-orientated approach was a stronger predictor for the sum of reported information regarding peripheral memories in comparison to the reported sum of central visual memories, but not in relation to the quantity of reported decision and action memories.

In contrast, a non-rapport orientated approach and the underlying operational components it is made up of may hamper recall (Holmberg, 2004); for example, an interviewer acting in a hurry and providing no time for reflection (Study I) is the direct opposite to what is discussed above and, consequently, also contributed to decreased recall (Study IV, second interview). As a further illustration, in the non-rapport orientated approach the interviewer would interrupt and ask connecting and clarifying questions whenever the interviewee showed uncertainty or hesitation in his/her depiction; frequent interruption may cause the interviewee to shorten his/her answers, as it suggests that he or she only has limited time in which to present an answer (Fisher, 1995). Ecologically, similar interviewer demeanour (as operationalised) may translate into real-life situations; for example, in interviews with suspects where the primary goal is to obtain a confession (Gudjonsson, 2003a; Kelly et al., 2013; Meissner et al., 2014), or in interviews with crime victims/witnesses due to inadequate interviewing skills (Fisher et al., 1987) or an interviewer's biased assumption of events (Wright & Alison, 2004). In the instances described, an abundance of closed and/or [mis]leading questions would most likely be used by interviewers (e.g., Gudjonsson, 2003a), whereas, importantly, in the present thesis mostly open questions were used as to avoid confounds (results due to open-ended vs. closed questions).

Unsurprisingly, interviewees reported less information in the second interview in comparison to the first (Study I), which is in line with expert opinion that memories decay over time (see e.g., Kassin et al., 2001). Across interviews, the pattern in regard to the amount of remembered and reported information for defined memory subcategories, respectively, was similar even though, as pointed out above, less information was reported in interview II. Concerning

the latter, that is, the decay between interviews, the results are in line with previous research (Ebbesen & Rienick, 1998; Odinot & Wolters, 2006), and to some extent in contrast to Smeets and colleagues (2004) who only found marginal differences between interviews across time. Furthermore, the percentage of correct information reported in each interview is in line with previous findings (Odinot & Wolters, 2006; Odinot et al., 2009; Yuille & Cutshall, 1986), with exceptions for details related to object description (for reasons previously highlighted) in the study by Yuille and Cutshall. With regard to the amount of confabulated information reported after the retention period, the results (Study I) are in line with findings of Yuille and Cutshall (1986), and to some extent with Smeets and colleagues (2004) who, however, reported few commissions errors.

The results (Study I) can also be viewed in light of the processing efficiency theory (Eysenck & Calvo, 1992) and attentional control theory (Eysenck et al., 2007); here, the discussion is more hypothetical as neither theory was explicitly tested in the present thesis. According to the processing efficiency theory, it is assumed that anxiety creates worry with two effects; first, it forestalls the limited resources of the working memory, which, in this particular case, means that less cognitive resources are available for the recall task and, second, it serves as motivation to minimise the anxious state. In addition, interviewees' anxiety levels are affected by situational demands (e.g., the interviewer's demeanour). In relation to the present thesis, the first interview (Study II; extended analyses) showed an interaction effect between interview styles, time, and state anxiety; interviewees in the non-rapport orientated approach reported slightly higher levels of state anxiety post-interview in comparison to interviewees in the humanitarian rapport-orientated approach. This suggests that more of interviewees' cognitive resources were available for the recall task in the rapport approach; for instance, in accordance with the attentional control theory, interviewees were to a higher extent able to resist disruptions from recall-irrelevant stimulus (e.g. interviewer's demeanour), and keep focus on recall-relevant stimulus (e.g., searching for retrieval cues). In contrast, due to interviewees' increased anxiety levels in the non-rapport orientated approach (Study II, first interview), they would typically be less focused on the recall task, and instead be more attentive to internal (e.g., worrisome thoughts) and external (e.g., interviewer's demeanour) threats-related distractors (Eysenck et al., 2007). Consequently, a decreased memory performance may appear unless the interviewees are able to utilise adequate compensatory strategies (e.g., coping processes, which is discussed under the subheading psychological well-being) and/or enhanced efforts (Eysenck & Calvo, 1992; Eysenck et al., 2007). Interestingly, an enhanced effort can take the form of highly anxious individuals performing (e.g., on a recall task) in parity with less anxious individuals if given more time (Eysenck & Calvo,

1992). However, the non-rapport orientated approach is characterised by the interviewer's impatient behaviour and, thus, prevents such an outcome (Study IV). The second interview (Study II) did not reveal any significant results in regard to interviewees' state anxiety. This may have several explanations, one being that the emotional impact of exposure had subsided six months later and the interviewer's demeanour alone (e.g., non-rapport orientated approach) was not a sufficient source (agent) of anxiety. This might perhaps be attributed to experimental limitations (the amount of stress induced was limited for ethical reasons); however, authentic crime victims / offenders are assumed to experience much stronger emotions in connection to their crime experiences and, therefore, more psychological stress in connection to interviews. Obviously, the latter is subject to individual differences.

Results (Study III) showed that interviewees' trait anxiety did not significantly affect their memory performance. In contrast, interviewees' personality in terms of FFM had some effect on memory performance; in interview I, neuroticism predicted increased recall of decision and action memories (Beta = .19), and more so in the humanitarian rapport-orientated approach (Beta = .30). In interview II, openness to experience predicted a decreased recall for decision and action memories, and extraversion predicted a decreased recall for peripheral memories. These findings are essentially in contrast with previously conducted research (see e.g., Ayotte et al., 2009; Dubey et al., 2014). Further analyses (memory subcategories for both interviews were added together and correlated with FFM subscales), showed associations between neuroticism and fewer reported central visual memories in the non-rapport orientated approach. In the humanitarian rapport-orientated approach, conscientiousness was associated with fewer reported decision and action memories, whereas openness to experience was associated with more reported confabulated central visual memories. Openness to experience was also found to significantly moderate the relationship between interview approach and recall of confabulated memories in the second interview; high levels of openness were associated with an increase in confabulated memories (Study IV).

A characteristic of neuroticism is emotional instability and individuals who score high on this subscale are prone to experience emotional distress, including anxiety (Costa & McCrae, 1992, 1995; McCrae & Costa, 2008). In light of this, not surprisingly, the combination of neuroticism and a non-rapport orientated approach, which was found to cause heightened anxiety in interview I (Study II), resulted in less reported central visual information. The extended analyses regarding neuroticism are in line with previous research (Areh & Umek, 2007; Ayotte et al., 2009; Dubey et al., 2014; Hultsch et al., 1999; Meier et al., 2002). Concerning openness to experience, which in previous research has been associated with increased recall (e.g. Ayotte et al., 2009), alt-

hough not confabulated information; individuals high in openness are imaginative, inter alia as measured on the facet of fantasy (Costa & McCrae, 1992, 1995; McCrae & Costa, 2008). In the present thesis, these characteristics, in combination with a humanitarian rapport-orientated approach that facilitates recall may have contributed to interviewees reporting an increased number of details not present in the simulation. Regarding the relation between conscientiousness and fewer reported decision and action memories; individuals high on this trait are well organised, for example, as measured on the facets of competence, dutifulness and self-discipline (Costa & McCrae, 1992, 1995; McCrae & Costa, 2008). In the present thesis, among the feasible explanations, trait characteristics may have contributed to interviewees high in conscientiousness refraining from reporting details they were less sure of (decision and action memories; the interviewees had 48 strategic decisions related to their actions in regarding whether to distribute or conserve bactericides) when interviewed with the humanitarian rapport-orientated approach; the latter gives the interviewee control over the information flow, for example, information is elicited by use of free recall and open-ended question, and an interviewee is given ample time to reflect on answers. Such behaviour minimises the risk that the interviewer imposes his or her view of events on the interviewee (Milne & Bull, 1999), and enhances that responses to such questioning styles are more accurate (e.g., Lipton, 1997; Snook et al., 2012).

There may be several explanations as to why the results of interviewees' memory performance in regard to FFM (Study III) are not entirely consistent with previous research. First, in the present thesis a ten-item short version was used to assess interviewees' FFM. Obviously, this instrument captures fewer facets of each trait than the well-established Big Five Inventory (BFI-44; John et al., 1991). Second, a number of regression analyses were run in Study III, and in Study IV (to systematically explore potential moderation effects). Per se, this carries an increased risk that significant statistical results will be by chance, including type II errors. Thus, when interpreting the results, certain caution is advised.

9.4. Psychological Well-being

Of importance to the present thesis, is the fact that the results establish casual links between, on the one hand, a humanitarian rapport-orientated approach and an increased sense of coherence and, on the other hand, a non-rapport orientated approach and an increased state anxiety (Study II); thereby, furthering previous empirical explorative findings (Holmberg, 2009; Holmberg & Christianson, 2002; Holmberg et al., 2007).

In interview II six months after exposure (Study II), an interaction effect showed that interviewees in the humanitarian rapport approach reported a higher sense of coherence (increased PWB) post- compared to pre-interview.

The result can be viewed in the light of several cited approaches in the intro-duction. Initially, arguably, an interview that involves a memory performance to some extent likely includes interviewees' feeling of apprehension regard-less of what interview style the interviewer employs. From a coping perspec-tive, in the humanitarian rapport-orientated approach, and the operational-ised components it is made up of, it is suggested that less coping strategies, if any, are required of the interviewees. Indeed, it is feasible that interviewees would appraise the situational meaning (the interview) as essentially posing no threat to their well-being and/or pre-existing beliefs of the world as be-nevolent. Alternatively, they may appraise the situational meaning as a chal-lenge alongside a sense of possessing adequate resources to handle it (Lazarus & Folkman, 1984). Importantly, less stress allows the individual to focus at-tention on the recall task, and thereby maximising the operation of working memory in terms of performance effectiveness as well as processing efficiency (Eysenck & Calvo, 1992; Eysenck et al., 2007). Recall in the humanitarian rap-port-orientated approach is facilitated by control over the information flow being transferred to the interviewee by means of free recall and open-ended questions. It is also facilitated in the operationalised components by such means as the "interviewer acted calmly and allowed time to comment" sug-gesting that representations of less rich encoded memories may also be re-trieved (Study I). Hypothetically, this gives the interviewee incentives to spontaneously include feelings and thoughts surrounding their experiences of exposure/interviews in their narrative; this is an important part of im-proved well-being when disclosing events that can be characterised as trau-matic or involving upheaval (Pennebaker, 1997). While conditions in expo-sure/interview I were far from traumatic, they arguably contained some dis-turbance, for example, interviewees reported feeling more strained, jittery, and confused post- than pre-exposure (Study II). Additionally, a more thor-ough reconstruction of events also allows for a better integration and assimi-lation of events into previous knowledge, thereby gaining a better under-standing of the events and of themselves (Pennebaker, 1997). The described processes resemble an individual's meaning making process, a strategy com-monly adopted when dealing with stressful events, which is positively asso-ciated with psychological well-being (Park, 2010; Park & Folkman, 1997). This makes sense as long-term memories are coded in terms of meaning (Baddeley, 2012; Hitch, 2005), and it is presumably valuable to learn from stressful expe-riences.

The FFM factors extraversion and agreeableness both predicted an in-creased sense of coherence and a decreased state anxiety (Study III). The char-acteristics of these factors include inter alia extraverts being sociable, warm and positive, and agreeable individuals being trusting and sympathetic and cooperative. At face value, individuals with these characteristics are expected

to respond well to the humanitarian rapport-orientated approach (Study I). A sense of coherence is a general orientation to life that focuses on factors that contribute to stress resistance, i.e. resources that can buffer stress (Antonovsky, 1984). In relation to the present thesis, one possible scenario is that the processing of events by the interviewees, including those leading up to the second interview, may have been perceived as making more cognitive sense (e.g., as being more understandable, consistent, predicable); of which perhaps follows an increased inclination to invest energy, time and effort into the stressful events. The interviewer demeanour in the humanitarian rapport-orientated approach may have supplemented the interviewee's own resources in this process.

The results in terms of improved mental health are in line with previous research (Holmberg, 2009; Holmberg et al., 2007; Pennebaker, 1997; Pennebaker & Beall, 1986; Pennebaker et al., 1988; Pennebaker & Seagal, 1999; Petrie et al., 1998; Shepherd et al., 1999).

In contrast, a non-rapport orientated approach increased the interviewees' anxiety, that is decreased PWB, in interview I, one week after exposure (Study II). In connection with this, the results in Study III showed that interviewees' neuroticism and [higher] trait anxiety, predicted elevated levels of their state anxiety in both interviews; thus, decreased PWB. This suggests, although not straightforwardly examined in the present thesis, that those who experienced higher levels of state anxiety in interview I were, to some extent, more vulnerable (neuroticism and high trait anxiety). Interestingly, in the first interview, high trait anxiety was a stronger predictor of state anxiety in those interviewed with a humanitarian rapport-orientated approach (Beta = .61) in comparison to those interviewed in the non-rapport orientated approach (Beta = .56). One explanation for this result is that the interviewees in the humanitarian rapport-orientated approach, as outlined and discussed above, may have disclosed more thought and feelings surrounding the disturbing events in exposure, and as a result experienced higher levels of state anxiety during recall. This is a scenario that would be in line with Pennebaker (1997), who found that subjects experience elevated levels of anxiety during disclosure of traumatic events, or secrets that involved upheaval. An alternative and/or supplementary explanation, somewhat tentatively, could be that high trait anxiety interviewees, who were interviewed with a non-rapport orientated approach, withdrew somewhat from the interview demands and, thus, abandoned accomplishing their narrative goals. The latter would correspond with Gudjonsson's (2003a) suggestion that compliant individuals may withdraw from achieving their own goals during stressful events.

From a coping perspective, there is an overlap between neuroticism and trait anxiety in terms of the individual's inclination to experience emotional stress and experience events as threatening (Carver & Conner-Smith, 2010;

McCrae & Costa, 2008; Spielberger et al., 1983), as well as poor coping resources (Aldao et al., 2010; Carver & Conner-Smith, 2010). A threat may be related to a failure to gain and/or avoid something, and when appraised as difficult to modify, individuals are more likely to engage in an emotion-focused coping strategy (Lazarus & Folkman, 1984). In relation to the present thesis, this might operate in at least two ways; for instance, that anxious individuals in the non-rapport orientated approach were less successful in avoiding stress (e.g., changing the relational meaning of interviewers' behaviour), or alternatively, that interviewees, regardless of interview style, experienced stress due to an anticipated failure to narrate their story in full. In the present thesis, trait anxiety (Beta = .57 and .53, respectively) was a stronger predictor of state anxiety than neuroticism (Beta = .44 and .30, respectively) across interviews (Study III). However, this might be due to the ten-item short version of the Big Five Inventory being less successful in capturing aspects (fewer facets) related to anxiety (neuroticism) than the STAI inventory.

The results in terms of elevated levels of state anxiety in a non-rapport orientated approach are in line with previous research (Holmberg, 2004; Holmberg & Christianson, 2002; Holmberg et al., 2007; Kieckhaefer et al., 2013; Vanderhallen et al., 2011; Vrij et al., 2006; and to some extent in line with Fisher & Geiselman, 1992, 2010).

10. CONCLUSIONS AND PRACTICAL IMPLICATIONS

The present thesis expands previous explorative research (Holmberg, 2004; Holmberg & Christianson, 2002) and shows causal links between a humanitarian rapport-orientated and a non-rapport orientated approach and the memory performance and psychological well-being of interviewees. Moreover, results show that a humanitarian rapport-orientated interview approach, as operationalised, fits nicely together with Tickle-Degnen and Rosenthal's (1990a) theoretical framework of rapport which, in turn, helps accentuate important aspects of rapport during the entire interview. Additionally, from a therapeutic jurisprudential perspective, a sense of coherence (Antonovsky, 1984) in combination with the State-Trait Anxiety Inventory (Spielberger et al., 1983) offers appropriate ways to describe and define as well as measure psychological well-being in an investigative interview context. In all essential parts, a humanitarian rapport-orientated approach facilitated interviewees' recall as well as their psychological well-being, whereas a non-rapport orientated approach, also in all essential parts, hampered interviewees' recall and contributed to their decreased psychological well-being.

The practical implications of a humanitarian rapport-orientated approach and an expanded narration are primarily twofold. First, in relation to the juridical process, an expanded and fuller account, even though not a necessity per se, may be beneficial for several reasons. For example, a more detailed and fuller narrative from crime victims may benefit the prosecution (or sometimes the defence) and, thus, increase possibilities for crime victims (and innocent defendants) to receive justice. In addition, more reported information from suspects is advantageous; for example, it may give extended incentives to check suspects' accounts for inconsistencies, as well as help not guilty suspects prove their innocence. Second, a humanitarian rapport-orientated approach may increase interviewees' psychological well-being, which can decrease mental suffering, which ultimately may lead to economic benefits for society (e.g., lower sick absenteeism, lower health costs). Importantly, for both victims and suspects, and perhaps more so for those with a vulnerable personality (neuroticism or trait-anxiety), a humanitarian rapport-orientated approach may facilitate the telling of a story they otherwise would not have been able to share; this includes confessing to crimes associated with great guilt and/or shame. For example, it has been suggested that sexual offenders are more likely to confess when interviewed with humanity and compassion (Bull, 2013; Kebbell, Alison & Hurren, 2008).

A humanitarian rapport-orientated approach is compatible with all interview protocols that have an information gathering as well as an interview-led focus, for example the PEACE model, the cognitive interview, conversational management, and is also applicable in contexts outside police interviews. In contrast, the humanitarian rapport-orientated approach is not suitable in conjunction with the so-called *Reid-technique* (see e.g., Inbau, Reid, Buckley & Jayne, 2001); an interview technique developed in the USA for interrogating suspects and based on processes such as breaking down suspects' denials and resistance, as well as increasing suspects' desire to confess (Gudjonsson, 2003a). This is achieved by applying a nine-step process which includes psychological manipulations designed to gain control over the suspects' narratives and promote confession, for example, amongst others things, the interviewer may suggest "themes" to the suspect; designed to minimise the moral consequences of the crime and/or moral excuses for committing the crime. The technique also deals with suspects' repeated denials, and ways to overcome suspects' objections (Gudjonsson, 2003a). The interview-led approach in the humanitarian rapport-orientated approach, and the individual components it is made up of have a diametrical opposite intent and meaning and are of no use in such a context.

Another interview technique, designed to help detect deception is *the strategic use of evidence technique* (SUE; Granhag & Hartwig, 2015). At the strategic level, the SUE technique is based on four underlying principles; the suspect's

perception of evidence, counter-interrogation strategies, and verbal responses. The fourth principle relates to the perspective taken by the interviewers, which at a tactical level puts complex cognitive demands on the interviewer to assess the suspect's perception of evidence and counter-interrogation strategies, as well as to respond to the suspect's verbal responses by dynamically adjusting his or her question sequencing and/or disclosure of evidence. The SUE technique utilises elements that are consistent with an ethical approach; for example, a free recall is an often-employed question strategy, which suggests that a humanitarian rapport-orientated approach would fit nicely into the concept. However, later stages of interaction are typically judged on attention and coordination (Tickle-Degnen & Rosenthal, 1990a), and maintaining rapport, while simultaneously employing SUE-tactics might pose a challenge. Although coordination in terms of balance and harmony, as well as mutual responsiveness between interactants (Tickle-Degnen & Rosenthal, 1990a), also involves perspective taking, one concern is that focusing attention on two cognitively demanding tasks (SUE-tactics and rapport-related aspects) simultaneously may without adequate training and experience exceed the interviewer's limited cognitive resources (Baddeley, 2010; Eysenck & Calvo, 1992).

As pointed out above, the humanitarian rapport-orientated approach can be generalised outside the field of police interviews. One interview technique of interest is *the Scharff technique*, developed for eliciting intelligence from humans (Granhag, Kleinman & Oleszkiewicz, 2015). The Scharff technique comprises several interrelated tactics of which in particular one relates to social dynamics - *employing a friendly approach*; which refers to the interviewer creating a relaxed and comfortable atmosphere, for example, by demonstrating tolerance and adaptive interpersonal behaviour. These rapport-building aspects fit nicely together with the humanitarian rapport-orientated approach, as does the opportunities for the informant to provide information, independently and of his/her own free will, whereas the part where the interviewer presents claims (in substitute of direct questions) which the source must confirm or disconfirm is less compatible.

Finally, as can be noticed, this thesis does not make distinctions between interviews with victims, witnesses or suspects, as is the case in some of the investigative literature. There are several reasons for this. First, rather than considering the humanitarian rapport-orientated approach as an interview technique, we regard it as more of an approach to interviewing, a way of relating to the interviewee. The primary focus was to investigate the effects of a humanitarian rapport-orientated approach, thus, responding to identified gaps in the literature (Abbe & Brandon, 2012; Borum et al., 2009), as well as to describe, define and measure psychological well-being from a therapeutic jurisprudential perspective. Second, the empirically substantiated interview

styles identified by Holmberg and Christianson, which form the basis for this thesis, showed no discrepancies between how crime victims (Holmberg, 2004) and offenders (Holmberg & Christianson, 2002) perceived their police interviewers' behaviour, that is, either humanitarian (rapport-orientated) or dominant (non-rapport orientated). Third, countries around the world have different legal systems (e.g., adversarial or inquisitorial), which may comprise various interview strategies between victims and witnesses on the one hand, and suspects on the other. In addition to that, the legal frameworks that govern how interviews are conducted vary between countries; for example, some legal systems allow the police to use deceptive behaviour in order to evoke an admission of guilt from a suspect, while other legal systems reject such an approach (Gudjonsson, 2003a). Thus, the applicability and generalisability of results would be hampered if distinctions were to be made between specific interview groups or particular contexts.

10.1. Suggestions for future research

Few studies concerning rapport in the investigative interview context are theoretically supported. A more theoretically founded research approach would facilitate empirical testing of the construct [rapport] itself, which currently lacks a definition around which there is consensus (Borum et al., 2009; Abbe & Brandon, 2014). Also, it would be helpful to integrate various aspects related to rapport that presently are investigated separately, perhaps without considering interrelated and/or interacting implications of other relevant constructs. In other words, the knowledge around rapport would advance with a theoretically supported approach.

More specifically, in relation to the present thesis, Study I integrated previous empirical findings in terms of a humanitarian and dominant interview style (Holmberg, 2004; Holmberg & Christianson, 2002) with Tickle-Degnen and Rosenthal's (1990a) non-verbal construct of rapport. Rapport can be regarded as being part of the working alliance (Sharpley & Ridgeway, 1992; Tickle-Degnen, 2002), and Vanderhallen et al. (2010) found relations between the working alliance and interview styles, using Holmberg and Christianson's paradigm. Based on this, the theoretical anchoring of the humanitarian rapport-orientated approach can be strengthened if its relations with the working alliance (bonds, agreement on tasks and goals, see e.g., Horvath, 2001) can be validated. One feasible way to investigate this is to observe audiotaped interviews in the present data sample against the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), an empirically validated instrument (from counselling/clinical psychology) suitable for research (Martin, Garske & Davis, 2000).

Ultimately, the humanitarian rapport-orientated approach would have the potential to develop into an interview technique including, for example, interviewer/interviewee agreement to systematically explore interviewees' memory (goal), and how the goal can be achieved (task). When developing instructions regarding the technique, extended research on the working alliance can be drawn upon. Not least the latter is important in order to further advance the findings that suggest a causal link between a humanitarian rapport-orientated approach (as defined) and interviewees increased psychological well-being. For example, the body of research surrounding the outcome of the working alliance may hold several important aspects that can be applied to the context of investigative interviewing, or inspire research approaches.

11. LIMITATIONS AND STRENGTHS

This thesis has both limitations and strengths. First, in relation to the methodology, it would have been beneficial if the design had included a neutral interview condition in order to better attribute the results (Studies I-III) to the manipulation (rapport-orientated vs. non-rapport orientated approach) (however, results in Study IV add support to a causative link). The main reason for refraining from using a neutral condition was that previous research has not been successful in distinguishing between a neutral and a non-rapport orientated approach (see e.g., Collins et al., 2002; Roberts, Lamb & Sternberg, 2004) which, arguably, suggests that a neutral approach to some extent is equivalent to a non-rapport orientated approach. Second, including a control group that had been interviewed with the cognitive interview technique would have enabled us to better attribute the results (Study I) to social dynamics and communicative elements, and exclude the significance of instructing the interviewee of the cognitive elements. Also, it would have allowed a straightforward comparison of memory performance between the cognitive interview and the humanitarian rapport-orientated approach. Third, a large number of regression analyses were conducted in Study III and IV (in Study IV exploring potential moderation effects). Per se, this carries an increased risk for significant results arising by chance. Thus, when interpreting the results in Study III, and in regard to moderation effects in Study IV, certain caution is advised. Fourth, we did not observe and code incorrect details (confabulated details only) in regard to memory performance of interviewees. This to some extent complicates the comparisons of results in the present thesis (Study I) to those of other studies with a similar approach. The reasons for not coding incorrect details are related to the unreliability in identifying as well as distinguishing between such memories from a stimulus material that comprises an abun-

dance of memory details, including multifaceted memories related to decisions and actions taken by interviewees. In contrast, the design of the stimulus material has its advantages, as it resembles circumstances in real-life events.

This thesis also has its strengths, some of which have elements of limitations to them, but as a whole, they have important advantages well worth highlighting. First, the interview styles in the present thesis were operationalised based on authentic crime victims' and suspects' perception of their police interviewers (Holmberg, 2004; Holmberg & Christianson, 2002); which, in turn, was integrated with Tickle-Degnen and Rosenthal's (1990a) theoretical construct of rapport. The constructs fit strikingly well together, as Figure 1 shows (as also found by Walsh & Bull, 2012), and highlight the importance of rapport throughout the interview. With this in mind, all interviews were conducted by two former police officers (the author and co-author of studies I-III included in this thesis), both with extensive experience of service (32 and 26 years, respectively), including as detectives. In contrast, the interviewers being aware of the research hypothesis is obviously a less ideal situation. Second, concerning the ecological validity, a major strength is that the results in the present thesis were found in spite of using a sample made up of the general public, as well as the limited emotional arousal that for diverse reasons could be induced during the experiment. Conducting the experiment with authentic crime victims and suspects would have been unethical considering the experimental design. However, it is important to keep in mind that authentic crime victims and suspects most likely experience much stronger emotions in connection to their crime experiences and what is at stake; hence, when reflecting on the results in the present thesis, it may be assumed that 'real life interviews' with victims and offenders most likely produce higher stress and, thus, stronger reactions. Third, the length of the interviews adds to the ecological validity; collapsed across interviews, interviews in the humanitarian rapport-orientated approach ranged between 5 minutes 46 seconds and 34 minutes 37 seconds with a mean length of 20.87 minutes, while interviews in the non-rapport orientated approach lasted between 3 minutes 9 seconds and 23 minutes 32 seconds with a mean of 10.84 minutes. As a comparison, Pearse and Gudjonsson (1997) investigated 161 audiotaped police interviews with suspects at two South London police stations; the interview time ranged between 2-109 minutes ($M = 22$, $SD = 18.1$), and 95% of interviews were completed under the hour and 85% were completed in less than half an hour.

SVENSK SAMMANFATTNING (SWEDISH SUMMARY)

Therapeutic jurisprudence i utredande intervjuer: effekter av en humanitär samförståndsorienterad och en dominant icke-samförståndsorienterad intervjustil på vuxnas minnesåtergivning och psykiska välbefinnande.

Denna avhandling tog implicit sin början under författarens tidigare tid vid polisen. En lång karriär som polis, bland annat som utredare, gav otaliga tillfällen till att reflektera över all smärta och sorg som kriminalitet ofta medför för de inblandande. Exempelvis kan både brottsoffer och förövare uppleva ångest, rädsla och utveckla posttraumatisk stresstörning (Frieze, Hymer & Greenberg, 1987; Pollock, 1999); svåra upplevelser kan i hög grad återaktivera stress under utredningens gång, inte minst under polisintervjun (Risan, Binder & Milne, 2016). Detta kan bidra till ett hämmat berättande och att brottsoffer, om de upplever att kostnaderna för att delta i rättsprocessen överstiger vinsterna, förlorar intresset att medverka i densamma (Doerner & Lab, 2012; Fisher, 1995). Viss forskning indikerar på att intervjustilen kan moderera psykisk stress hos intervjupersonen (Holmberg & Christianson, 2002), och att ett utvidgat berättande om tidigare stressfyllda upplevelser kan öka [intervju]personens psykiska välbefinnande (Pennebaker, 1997; Shepherd, Mortimer, Turner & Watson, 1999). Personlighetsfaktorer hos intervjupersonen påverkar troligen de båda nämnda utfallsaspekterna. Ovansagda indikerar på att en intervjuledare, på en mikronivå, har potential att agera som en terapeutisk agent (Fisher & Geiselman, 2010; Wexler, 1996).

Therapeutic jurisprudence (TJ; ungefär terapeutisk rättsvetenskap/rättspraxis) är en amerikansk rättsvetenskaplig ansats med rötter i amerikansk rättsrealism och dess senare efterträdare social sciences and the law. TJ utvecklades i slutet av 1980-talet och ser lagen och rättsliga processer som en social kraft, som medvetet eller omedvetet, genererar terapeutiska eller antiterapeutiska konsekvenser, och har som målsättning att rättsliga processer exekveras på ett sätt som gagnar psykiskt välbefinnande för de inblandade (Wexler, 2011; Winick, 1997). Kritiker menar emellertid att TJ saknar en tillräckligt gedigen definition av psykiskt välbefinnande samt en adekvat teoretiskt grund (Roderick & Krumholz, 2006; Slobogin, 1995). Båda aspekterna begränsar möjligheterna att testa TJ empiriskt.

Parallellt med TJ, i en samtida men i övrigt orelaterad process, utvecklades konceptet *utredande intervjuer* i Storbritannien. Konceptet är grundat i forskning och vägleds av ett sanningssökande och etiskt regelverk gällande alla typer (brottsoffer, vittnen och misstänkta) av intervjupersoner (Milne & Bull, 1999). I intervjuer är *samförstånd* en viktig förtroendeskapande komponent

som bidrar till en effektiv kommunikation (Shepherd & Griffiths, 2013; St-Yves, 2006). Samförstånd beskriver en komplex, dynamisk interaktion som upplevs som positiv av intervjuledare och intervjuperson (Fisher & Geiselman, 2010); exempelvis anges aspekter såsom att intervjuledaren skapar en personlig atmosfär, tillämpar ett aktivt lyssnande och visar empatiskt förhållningssätt vara samförståndsskapande (Fisher & Geiselman, 2010; Shepherd & Griffiths, 2013). St-Yves (2006) framhåller vikten av att intervjuledaren är objektiv, öppensinnad samt professionell. Annan forskning visar på betydelsen av att intervjuledaren visar ett vänligt beteende samt allokerar tillräckligt med tid för att en positiv relation ska kunna utvecklas (Collins, Lincoln & Frank, 2002). Litteraturen rörande utredande intervjuer saknar dock en empiriskt grundad definition av samförstånd samt en beskrivning av dess precisa effekter (Abbe & Brandon, 2012; Borum, Gelles & Kleinman, 2009). Därtill är få studier i samma kontext teoretiskt förankrade (Abbe & Brandon, 2014). Teoretiskt kan samförstånd förstås utifrån Tickle-Degnen och Rosenthals (1990) i huvudsak icke-verbala konstrukt bestående av de tre sammanflätade komponenter: *ömsesidig uppmärksamhet*, *positivitet* och *koordination*. Ömsesidig uppmärksamhet bidrar till en fokuserad och sammanhängande interaktion och är betydelsefull under hela intervjun. Positivitet bidrar till att skapa ömsesidiga känslor av vänlighet och omtanke, aspekter som är särskilt viktiga i relationens inledning då evaluerande krafter är verksamma. Koordination bidrar till en balans och harmoni mellan interagerande parter och har störst betydelse i intervjuns senare del då högre krav ställs på effektiviteten i kommunikationen.

Holmberg och kollegor undersökte retrospektivt 173 brottsoffer och 83 förövarens upplevelser av sina respektive polishör och fann att respondenterna upplevde att deras förhörsledare använde sig av antingen en *humanitär* eller *dominant* intervjustil. En humanitär intervjustil kännetecknades av att förhörsledaren uppfattades som samarbetsvillig, hjälpsam, vänlig, tillmötesgående, positiv och empatisk. Därtill, att förhörsledaren agerade lugnt och gav tid för eftertanke och kommentarer samt visade ett personligt intresse och ansträngningar till att skapa ett personligt samtal (Holmberg, 2004; Holmberg & Christianson, 2002). En humanitär intervjustil överlappar med vad som accentueras som samförståndsskapande aspekter i litteraturen. En humanitär intervjustil, i jämförelse med en dominant stil, associerades med att brottsoffer rapporterade att de berättade allt de kunde erinra sig samt en högre grad av psykiskt välbefinnande (Holmberg, 2004, 2009) och att förövare rapporterade att de upplevde en ökad benägenhet att erkänna brott (Holmberg & Christianson, 2002); förövare som erkände brott rapporterade en högre grad av psykiskt välbefinnande i jämförelse med de som förnekade brott (Holmberg, Wexler & Christianson, 2007). En dominant intervjustil karaktäriserades

av att förhörsledaren upplevdes som aggressiv, otålig, nedvärderande, nonchalant, fördömande, ovänlig, brysk och tvär. Därutöver agerade förhörsledaren hetsigt och gav ingen tid för eftertanke samt uppvisade en negativ attityd (Holmberg, 2004; Holmberg & Christianson, 2002). En dominant intervjustil var associerad med att brottsoffer rapporterade att de undanhöll information (Holmberg, 2004), samt att förövare rapporterade en högre grad av ångest (Holmberg & Christianson, 2002).

Mot bakgrund av ovan undersöker denna avhandling utifrån ett rättsvetenskapligt perspektiv – therapeutic jurisprudence – effekterna av en humanitär samförståndorienterad och en dominant icke-samförståndsorienterad intervjustil i en kontext av utredande intervjuer. I den humanitära samförståndsorienterade stilen integrerades tidigare empiri (Holmberg, 2004; Holmberg & Christianson, 2002) med Tickle-Degnen och Rosenthals (1990) teoretiska konstrukt rörande samförstånd. Med hjälp av denna empiriskt grundade modell av samförstånd, i jämförelse med en dominant icke-samförståndsorienterad intervjustil, undersöktes intervjupersonernas minnesprestation och psykiska välbefinnande; därtill, hur intervjupersonernas minnesprestation och psykiska välbefinnande modererades av deras personlighet. I denna avhandling hypotiserades det att en humanitär samförståndsorienterad stil skulle bidra till en ökad minnesprestation samt högre grad av psykiskt välbefinnande, och att en dominant icke-samförståndsorienterad stil skulle bidra till en minskad minnesprestation samt lägre grad av psykiskt välbefinnande. Det hypotiserades även att intervjupersonens personlighet skulle moderera denne eller dennas minnesprestation: (a) att FFM neuroticism skulle bidra till en minskad minnesprestation, (b) att FFM öppenhet skulle bidra till en ökad minnesprestation; samt psykiska välbefinnande: (c) att FFM neuroticism och högre benägenhet att känna ångest (som ett personlighetsdrag) skulle predicera ett lägre psykiskt välbefinnande.

Metod och material

Föreliggande avhandling består av fyra forskningsrapporter som baseras på en experimentell datainsamling bestående av tre faser: exponering (minnestimuli), intervju I ($N = 146$) genomförd cirka en vecka efter exponering samt intervju II ($N = 127$) genomförd cirka sex månader efter exponering.

Under exponeringsfasen interagerade två försöksdeltagare simultant i en datorsimulering baserad på följande fiktiva bakgrundshistoria. Färskvattensystemet i en påhittad stad befolkad av två fiktiva befolkningsgrupper hade förorenats. Försöksdeltagarna representerade varsin befolkningsgrupp och hade till uppgift att undvika sjukdom och död bland befolkningsgrupperna genom att distribuera bakteriehämmande medel i vattensystemet; något som bland annat inkluderade att försöksdeltagarna kunde välja att hjälpa båda befolkningsgrupperna eller endast den man representerade. Datorsimuleringen

utspelade sig under loppet av 48 fiktiva dagar och datorsimuleringens mjukvara var, försöksdeltagarna ovetandes, manipulerad till att favorisera den ena gruppen (mindre sjukdom, lägre mortalitet) framför den andra (högre grad av sjukdom och mortalitet). Under simuleringens gång exponerades försöksdeltagarna för affektiva bilder från International Affective Picture System (Lang, Bradley & Cutbert, 2005). Olika typ av information som var möjlig att komma ihåg från minnesstimuli (datorsimuleringen) kodades i tre kategorier: central visuell information; information relaterad till försöksdeltagarnas beslut och agerande; perifer information. Även falsk information (i minnesstimuli ej förekommande information/detaljer, som av försöksdeltagarna rapporterades som förekommande) kodades.

I denna avhandling baserades operationaliseringen av en humanitär samförståndsorienterad och en dominant icke-samförståndsorienterad ansats på tidigare explorativa fynd rörande hur autentiska brottsoffer och misstänkta upplevde sina respektive intervjuledares agerande som antingen humanitärt eller dominant (Holmberg, 2004; Holmberg & Christianson, 2002). Se tidigare beskrivning i introduktionen.

Intervjupersonens personlighet skattades utifrån personlighetsteori och *femfaktormodellen* (FFM; se t.ex., McCrae & Costa, 2008), vilken beskriver individens grundläggande tendenser i form av fem faktorer: neuroticism, öppenhet, extraversion, vänlighet/sympatiskhet och samvetsgrannhet. I denna avhandling skattades personlighet enligt FFM med hjälp av ett instrument bestående av tio frågor (BFI-10; Rammstedt & John, 2007). Därtill skattades intervjupersonens ångest med hjälp av *State-Trait Anxiety Inventory* (Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983). Instrumentet skattar två dimensioner av ångest, dels individuella skillnader i individens benägenhet att uppleva ångest som ett personlighetsdrag (STAI-T; hur individens generellt känner), och dels individens övergående emotionella tillstånd orsakat av adekvat stimuli som upplevs i varje given stund (STAI-S; hur individen känner just nu). I föreliggande avhandling användes STAI-T som skattning av personlighet, medan STAI-S användes för att skatta aspekter av individens psykiska välbefinnande. Sistnämnda konstrukt skattades även med instrumentet *Känsla av Sammanhang* (KASAM; Antonovsky, 1984). KASAM kan beskrivas utgöra individens buffert mot stress utifrån ett salutogent (fokuserar faktorer som orsakar/främjar hälsa) perspektiv och består av tre huvudsakliga komponenter: begriplighet, hanterbarhet och meningsfullhet. I denna avhandling användes en kortversion av KASAM bestående av 13 frågor.

Huvudsakliga resultat

Resultat i båda intervjuerna (Studie I) visade att intervjupersoner som intervjuades i en humanitär samförstånorienterad stil rapporterade signifikant

mer information i jämförelse med de som intervjuades i en icke-samförstånds-orienterad stil. Mönstret för minnesåtergivning av definierade minneskategorier (centrala visuella, beslut och aktion respektive perifera minnen) var likartat mellan intervjuerna även om minnesprestation i intervju II avklingade i jämförelse med intervju I.

I Studie II visade resultaten en interaktionseffekt i den första intervjun; kombination mellan tid (före och efter intervjun) och intervjustil påverkade intervjupersonens ångest (STAI-S). Uppföljande analys visade att intervjupersonerna i den icke-samförståndsorienterade ansatsen rapporterade en marginellt högre grad av ångest (STAI-S) efter intervjun i jämförelse med den samförståndsorienterade ansatsen, dvs. lägre psykiskt välbefinnande. I den andra intervjun fanns en interaktionseffekt mellan tid, intervjustil och intervjupersonens KASAM. Uppföljande analyser visade att de som intervjuades med en samförståndsorienterad stil, i jämförelse med en icke-samförståndsorienterad stil, rapporterade en högre grad av KASAM, dvs. ökat psykiskt välbefinnande, efter intervjun i jämförelse med före.

I Studie III, i den första intervjun, predicerade FFM neuroticism en ökad minnesåtergivning för beslut och aktion minnen; i högre grad för de som intervjuades i en humanitära samförståndsorienterad stil i jämförelse med en icke-samförståndsorienterad stil. I den andra intervjun predicerade FFM öppenhet en minskad minnesåtergivning för beslut och aktion minnen, medan FFM extraversion predicerade en minskad minnesåtergivning för perifera minnen. Dessa resultat är i kontrast med tidigare forskning. Uppföljande analyser i form av bivariata korrelationer mellan FFM och summan av minnesprestationer i respektive minneskategorier (resultat för båda intervjuerna adderat) visade en negativ association mellan FFM neuroticism och minnesåtergivning av centrala visuella minnen i en icke-samförståndsorienterad stil. I en humanitär samförståndsorienterad stil fanns en negativ association mellan FFM samvetsgrannhet och minnesåtergivning av beslut och aktion minnen samt en positiv association mellan FFM öppenhet och ökad minnesåtergivning av konfabulerade (i stimuli ej förekommande detaljer) central visuella minnen. I båda intervjuerna bidrog intervjupersonernas FFM extraversion och vänlighet/sympatiskhet till en högre grad av psykiskt välbefinnande (högre KASAM, lägre STAI-S), medan FFM neuroticism och högre grad av STAI-T bidrog till en lägre grad av psykiskt välbefinnande (lägre KASAM, högre STAI-S) hos intervjupersonerna.

I studie IV visade analyserna tre signifikant medieringsmodeller i intervju II. I den första modellen medierades den indirekta effekten av intervjustil (humanitär vs. dominant) på intervjupersonens minnesåtergivning av central visuell information av intervjuledarens uppträdande i den humanitär samförståndsorienterade stilen, indikerande på en ökad minnesprestation. Uppföljande analyser av enskilda komponenter i det humanitära indexet visade på

signifikanta medieringsmodeller för intervjuledarens *samarbetsvilja* respektive *vänlighet*, vilket indikerar att dessa komponenter bidrog till det ursprungliga resultatet. I den andra och tredje modellen medierades den indirekta effekten av intervjustil (humanitär vs. dominant) på intervjupersonens minnesåtergivning av central visuell information respektive beslut och aktion information av intervjuledarens uppträdande i den dominanta icke-samförståndsorienterade stilen, indikerande på en minskad minnesprestation. Uppföljande analyser av enskilda komponenter i det dominanta indexet visade på signifikanta medieringsmodeller för intervjuledarens uppvisade av en *negativ attityd, nonchalans, otålighet* samt *bryskt och tvärt* agerande, vilket indikerar att dessa fyra komponenter bidrog till det ursprungliga resultatet. Slutligen påvisade analyserna på en signifikant interaktionseffekt. Relationen mellan intervjustil (humanitär vs. dominant) och intervjupersonens minnesåtergivning av konfabulerade minnen modererades av FFM faktor öppenhet; högre grad av öppenhet var associerat med en ökad mängd rapporterade konfabulerade minnen.

Slutsatser och praktiska implikationer

I allt väsentligt bidrar en humanitär samförståndsorienterad intervjustil till en ökad minnesprestation och en högre grad av psykiskt välbefinnande, medan en dominant icke-samförståndsorienterad stil i allt väsentligt leder till en minskad minnesprestation och en lägre grad av psykiskt välbefinnande.

Ur ett juridiskt perspektiv kan en ökad minnesprestation vara av stor betydelse av flera skäl; t.ex. genom att bidra till materiellt korrekta domar och ökade möjligheter för både brottsoffer och [oskyldigt] misstänkta att få rättvisa. Därtill, givet att kriminalitet förorsakar mentalt lidande, kan ett utökat berättande bidra till ett minskat mentalt lidande och i förlängningen minskade samhällskostnader, t.ex. genom minskade sjukvårdskostnader och lägre sjukfrånvaro.

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Table 3
Correct standardized Beta values for regressions analyses in study III; listed in the order of appearance. Note that only statistically significant results are shown. Also, criteria for selection of variables to include in the regression analyses, analyses method as well as variables included /excluded in the regression analyses is shown.

Relates to analysis	Criteria for selection of variables	Analysis method	Variables excluded / included	Unstandardized B	Standardized Beta	Remarks
Interview 1: Personality - Memory performance		Multiple linear regression (enter)				
FFM N - Decision & Action memory	Bivariate correlations	x		0.47	**.19**	
FFM N (humanitarian rapport only) - Decision & Action memory	Bivariate correlations	x		0.76	**.30**	
Interview 2: Personality - Memory performance						
FFM O - Decision & Action memory	Bivariate correlations (O**, C, E, N)	x		-0.76	**-.26**	
FFM E - peripheral memory	Bivariate correlations (E*, C)	x		-0.92	**-.20**	
Interview 1: Personality - PWB						
FFM A - SOC	Bivariate correlations (E**, A**, C**, N**)	x	C excluded from regression analysis	2.14	**.21**	
FFM E - SOC				1.12	**.15**	
FFM N - SOC				-2.71	**-.39**	
FFM N - STAI-S	Bivariate correlations (E*, A**, C*, N**)	x	C and E excluded from regression analysis	2.47	**.44**	
FFM A - STAI-S				-1.91	**-.24**	
STAI-T - SOC	Bivariate correlations	x		-1.06	**-.79**	
STAI-T - STAI-S	Bivariate correlations	x		0.63	**.57**	

Relates to analysis	Criteria for selection of variables	Analysis method	Variables excluded / included	Unstandardized B	Standardized Beta	Remarks
STAI-T - SOC (humanitarian rapport only)	Bivariate correlations	Multiple linear regression (enter)		-0.98	-.77	
STAI-T - SOC (dominant non-rapport only)	Bivariate correlations	x		-1.15	-.81	
STAI-T - STAI-S (humanitarian rapport only)	Bivariate correlations	x		0.59	.61	Wrongly reported as a negative value in study III. Correct value is positive
STAI-T - STAI-S (dominant non-rapport only)	Bivariate correlations	x		-0.71	.56	
Interview 2: Personality - PWB						
FFM A - SOC	Bivariate correlations (E**, A**, C*, N**)	x	O included in regression in spite of being non-correlated	1.85	.23	
FFM E - SOC				1.24	.21	
FFM N - SOC				-1.80	-.33	
FFM A - STAI-S	Bivariate correlations (E**, A**, N**)	x	C and O included in regression in spite of being non-correlated	-2.02	-.27	
FFM E - STAI-S				-0.99	-.18	
FFM N - STAI-S				1.54	.30	
STAI-T - SOC	Bivariate correlations	x		-0.71	-.66	
STAI-T - STAI-S	Bivariate correlations	x		0.53	.53	
STAI-T - SOC (humanitarian rapport only)	Bivariate correlations	x		-0.65	-.63	
STAI-T - SOC (dominant non-rapport only)	Bivariate correlations	x		-0.80	-.70	
STAI-T - STAI-S (humanitarian rapport only)	Bivariate correlations	x		0.41	.44	
STAI-T - STAI-S (dominant non-rapport only)	Bivariate correlations	x		-0.71	.65	Wrongly reported as a negative value in study III. Correct value is positive

Note. $* p < .05$, $** p < .01$. FFM E = extraversion, N = neuroticism, C = conscientiousness, O = openness to experience, A = agreeableness. STAI-T = trait anxiety, STAI-S = state anxiety, SOC = sense of coherence.

APPENDIX B (ORIGINAL PUBLICATIONS)

Kent Madsen

Therapeutic Jurisprudence in Investigative Interviews:

The effects of a humanitarian rapport-orientated and a dominant non-rapport orientated approach on adult's memory performance and psychological well-being

The present thesis consists of four research reports. Study I described and tested the effects of an empirically based model of rapport on adults' memory performance in an investigative interview context. Study II described, defined, and measured interviewees' psychological well-being, while Study III investigated the impact of interviewees' personality on their memory performance and psychological well-being. Study IV explored previous findings (Studies I and III) for potential indirect effects of the interview approach on interviewees' recall, and potential interaction effects between the interview approach and interviewees' recall as moderated by their personality.