



UNIVERSITY OF  
LIVERPOOL

Crisis Intervention in Policing and Beyond:  
Exploring Determinants of Empathy-based Rapport-Building

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by

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## Crisis Intervention in Policing and Beyond: Exploring Determinants of Empathy-based Rapport-Building

### **Abstract**

This thesis documents a series of consecutive investigations into predictors of empathy and rapport during critical incidents in law enforcement and crisis intervention in general. *First*, an explorative inquiry (Study 1) interviewed five accredited crisis negotiators from Germany, the United Kingdom, and Canada. It performed a cognitive task analysis and found a prevalent set of (a) challenges, which are often interacting with each other, and (b) strategies, which crisis negotiators rely on during their deployment. These results equip practitioners with a better understanding of the challenges and a more effective way of utilizing strategies to effectively address them. They also point out under-researched areas in crisis negotiation literature.

*Second*, as crisis negotiators mentioned physical and mental exhaustion to be an inhibitor of their empathetic effort across all interviews, two randomized-controlled field experiments (Study 2 & 3) tested 52 German crisis negotiators (within subjects) on their capacity to empathize when ego depleted. They both confirmed the null hypothesis: there was no statistically significant difference in the level of empathy communicated by the crisis negotiators between control and ego depletion condition. These results contribute to the current discussion surrounding the replication crisis of the ego depletion effect.

*Third*, during the coding of the simulated crisis negotiations, crisis negotiators appeared to communicate in distinct ways that inadvertently undermined their efforts to empathize and build rapport with the subject. This serendipitous find was further investigated and validated using quantitative data analysis (Study 4). The study resulted in the identification of five cognitive biases and the insight that conventional approaches to empathy-based rapport-building have limits. The results can be effectively implemented

in crisis intervention training and contribute to the theoretical discussion of empathy and the role it plays for rapport-building.

*Fourth*, due to its conceptual relevance to empathy, projection bias was selected for further inquiry. To triangulate the findings of the qualitative data analysis (Study 4) with different methods and a different sample, an online study (Study 5) surveyed 132 crisis negotiators, police officers on patrol duty, and (non-police) crisis workers. The sample was primarily recruited from Canada and the United States. The results (a) corroborate the findings of Study 4, (b) demonstrate differences in the prevalence of projection bias between the different occupational sub-samples, and (c) provide a deeper understanding of how projection bias can undermine effective empathizing. Practical implications are discussed in terms of education and training for all professional crisis intervenors. In addition, the instrument constructed for this study contributes to future projection bias research.

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## **Glossary of Abbreviations**

ANOVA	Analysis of Variance
BISM	Behavioral Influence Stairway Model
BMIS	Brief Mood Introspection Scale
CA	Canada
CHERRIES	Checklist for Reporting Results of Internet E-Surveys
CTA	Cognitive Task Analysis
COVID19	Coronavirus Disease of 2019
CNU	Crisis Negotiation Unit
CN	Crisis Negotiators
CW	Crisis Workers
CDM	Critical Decision Method
DoJ	Department of Justice of the United States of America
DEI	Diversity, Equity, and Inclusion
DCTIR	Dual Component Theory of Inhibition Regulation
ECCS	Empathic Communication Coding Scheme
FBI	Federal Bureau of Investigation
fMRI	functional magnetic resonance imaging
HK	Hong Kong
HOBAS	Hostage and Barricade Database System of the FBI
HCN	Hostage and Crisis Negotiator
IC	Incident Command
IBC	Interpersonal Behavior Circle
IRI	Interpersonal Reactivity Index
MI	Motivational Interviewing
NDM	Naturalistic Decision-Making
NYPD	New York City Police Department
ORBIT	Observing Rapport-Based Interpersonal Techniques
OCMSETP	Opportunity Cost Model of Subjective Effort and Task Performance
PPO	Patrol Police Officers
PK	Perceptual Knowledge
PIC	Person in Crisis
P&P	Policy and Procedure

PMSCF	Process Model of Self-Control Fatigue
QDA	Qualitative Data Analysis
RMET	Reading the Mind in the Eyes Test
RRR	Registered Replication Report
R-SSCIM	Robert's Seven Stages of Crisis Intervention Model
ST	Simulation Theory
SWAT	Special Weapons and Tactics
STEPS	Structured Tactical Engagement Process
S.A.F.E.	Substantial, Attunement, Face, and Emotional frames of crisis negotiation
TSU	Technical Support Unit
ToM	Theory of Mind
TT	Theory Theory
T.h.o.m.a.s.	Theory-of-mind-assessment-scale
TPI	Third-Party Intermediary
UK	United Kingdom
USA	United States of America
WAI	Working Alliance Inventory

## **Chapter 1. Introduction**

# 1. Introduction

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1.1	Social Relevance: Crisis Intervention in Policing and Beyond
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## 1.1 Social relevance: Crisis Intervention in Policing and Beyond

On an extraordinarily cold January afternoon, police responded to a bridge, approximately 80 feet above a solid-frozen river. A citizen was reported to be standing on the railing, possibly with suicidal intention. First-in officers secured the scene and set up a perimeter. The citizen did not respond to the commands they shouted at him. Minutes later, a crisis negotiator arrived at the scene. He found a delusional and hallucinating individual, who was talking to the voices they were hearing in their head. After the incident, the crisis negotiator learned that the citizen was suffering from schizophrenia and was going through acute psychosis. In addition, both citizen and crisis negotiator were exposed to temperatures of more than 30 degrees centigrade below zero. With the goal to build rapport to nudge him to step down from the railing and walk away from the ledge, the crisis negotiator attempted to engage the citizen in conversation. This effort was undermined by the crisis negotiator's divided attention between the citizen's unnerving indicators of an imminent leap, their constant assessment and re-assessment of the situation, and the co-ordination with the other officers on scene. Less than an hour after police arrival, the citizen jumped.

The crisis negotiator in this situation shared his experience as a participant (1:1:3) of one of the studies that are part of this research project. It provides an initial idea of the complex dynamics and the high stakes that characterize such critical and major incidents involving

crisis negotiations. Suicide attempts account for most routine deployments of crisis negotiators in countries like the United States of America (USA), the United Kingdom (UK), the Netherlands, and many other European countries (Giebels, 1999; Grubb et al., 2018; Mohandie & Meloy, 2010; Nieboer-Martini et al., 2012).

Crisis negotiations have evolved to be a critical tool of the police for the resolution of these types of situations. The unique configuration of environmental factors (e.g., restricted access to a ledge on a high-rise balcony or barricaded dwelling), subject motivation and behaviors (e.g., irrational or driven by emotion), and the resulting conflicting interests of subject and the police often make communication the only viable option for a peaceful, non-violent, and safe resolution without injury or loss of life (Grubb, 2016; McMains et al., 2020; Vecchi et al., 2005).

As the suicidal citizen mentioned above was jumping, the crisis negotiator described how the disturbing image triggered a response just as complex as the demands of the situation leading up to it. Disbelief, complete bewilderment, and a moment of cognitive impairment preceded an emotional response that was deeply rooted in the crisis negotiator's self: "I pretty much had lost my empathy at that point" (1:1:3).

In its broadest sense, empathy entails the understanding and vicarious experiencing of another person's emotional state, coupled with a corresponding reassurance of this understanding and experience to the other person (Maibom, 2017; Rogers, 1940; Spaulding, 2017; Zahavi, 2017). It is an undisputed key element in the tactical repertoire of every crisis negotiator (Grubb et al., 2019a, 2019b; Ireland et al., 2011; McMains et al., 2020; Rogan et al., 1997; Strentz, 2013; Vecchi et al., 2005, 2019). Without empathy, crisis negotiators are less likely to build rapport with the people they engage with during their deployments. Without rapport, there is no relationship between crisis negotiator and subject that would allow for a peaceful or non-violent resolution of the situation (Hammer, 2008; Rogan et al., 1997; Vecchi et al., 2005, 2019).

Critical and major incidents involving crisis negotiations are complex and dynamic in nature. They are determined by both factors external to the crisis negotiator, such as the cold weather or the mental illness of the citizen, as well as factors internal to the crisis negotiator, such as their emotional response to the unnerving observation of a completed suicide attempt. Because the stakes are almost always as high as life and death, crisis negotiators will always seek to maximize situational control with the goal to minimize risk stemming from these factors (McMains et al., 2020; MacWillson, 1992; Rogan et al., 1997).

The weather, the challenge of connecting with an acutely psychotic individual while trying to manage the scene, and the traumatizing image of the citizen jumping off the railing are all factors that contributed to the crisis negotiator's physical and mental fatigue (1:1:3). In the literature, being physically and mentally exhausted has been repeatedly associated with an individual's reduced capacity to effectively regulate their thoughts, feelings, and behaviors. This is often referred to as ego depletion (Baumeister, 1998; Baumeister et al., 2007; Evans et al., 2016; Gailliot et al., 2007, Vohs et al., 2012). Once the citizen had leapt off the ledge, the crisis negotiator reported a complete loss of empathy (1:1:3). Investigations into the emotional impact of ego depletion on empathy and emotion-regulation found that the "empathy drain" (1:1:3) experienced by the crisis negotiator might be a probable response to their potential ego depletion, which could have been caused by the challenges of their suicide intervention (Banja, 2011; Finley et al., 2017; Koch, 2013; Wolk, 2015).

Stripped of the most important tool in their box, the crisis negotiator then watched the citizen climb back up over the railing. The citizen did not fall 80 feet from the bridge. They did not die on impact on the solid frozen river. After standing on the railing and facing the crisis negotiator for more than an hour, they had landed on a lower ledge that carried the fixture of a large streetlight. The citizen then re-engaged with an empathy-drained crisis negotiator, who shared the impact the citizen's actions had on him as follows: "I guess this is where I could say some anger came in. Somewhere deep down, almost 'how dare you, I'm here to help you. And you're just throwing it away'" (1:1:3). The crisis negotiator's



frustration reflects a further set of factors that undermine their efforts to genuinely empathize and build rapport with the citizen. Seeing themselves as cause and target of other people's behavior has been coined as egocentric bias (Greenwald, 1980; Ross & Sicol, 1979; Zuckerman et al., 1983). Correspondingly, people often enhance their sense of self-esteem by focusing on their own contributions (Ross & Sicol, 1979). The crisis negotiator committed to saving the citizen's life and endured adverse circumstances, only to watch them "throw it away" and jump (1:1:3). The frustration the crisis negotiator experienced shines light on another cognitive bias, which goes hand in hand with egocentricity (Wallin, 2011): mind-reading, simulation, and projection (Goldman, 2006; Zahavi, 2008). The situation did not allow the crisis negotiator to access the psychotic citizen's mind. All that they had left was the citizen's actions and their own reference point to interpret them from. The leap off the ledge eliminated other indicators of fragile rapport the crisis negotiator had reported: when the citizen told them their name or explained that they were tired of dealing with their mental illness. The crisis negotiator seemed to have concluded that the citizen did not want their help, without being aware of the citizen's actual experience. As a result, the crisis negotiator was not able to feel empathy anymore, which deprived them of their most important skill to deal with people in crisis.

## **1.2 Purpose of the Thesis**

### **1.2.1 Statement of the Problem**

With more than 100 years of philosophical, conceptual, and theoretical discussions, along with a broad empirical underpinning (Eisenberg & Strayer, 1987; Maibom, 2017; Zahavi, 2017), empathy is well researched across many disciplines. This body of literature also covers research on the negative impact certain professional environments have on empathy. Examples include investigations into compassion fatigue, empathy fatigue, and burnout syndrome, all concepts that refer to experiences of emotional exhaustion, among others, because of cumulative stress related to susceptible professions (Figley, 1995; Freudenberg, 1974; Stebnicki, 2007).

Similarly, literature on rapport is abundant and includes research in various social and occupational contexts, such as the relationship between mother and child, in marital contexts, the work of psychologists, psychiatrists, counselors, social workers, ministers, managers, salespersons, medical care providers, and policing (Bernieri et al., 1988; DiMatteo, 1979; Mirahmadizade et al. 2003; Tickle-Degnen & Rosenthal, 1990; Vecchi et al., 2005, 2019).

However, empirical research on both situational factors that affect an individual's capacity to empathize as well as to effectively build rapport based on that capacity is limited. To date, only a few contributions have been identified that address this gap. In addition, research in policing is challenging. Not only is the collection and analysis of data that is both ecologically valid and scientifically objective difficult (Staller, 2016). Bureaucratic, legal, and procedural barriers limit access to samples (Goode & Lumsden, 2008), especially police officers with higher degrees of specialization, like crisis negotiators. As a result, despite the undisputed relevance of empathy-based rapport-building in crisis negotiations (Grubb et al., 2019a, 2019b; McMains et al., 2020; Rogan et al., 1997; Ireland et al., 2011; Strentz, 2013; Vecchi et al., 2005, 2019), factors that determine crises negotiators' situational capacity to make use of it have not been systematically studied.

### **1.2.2 Aims and Objectives of the Thesis**

This thesis addresses that research gap. It set out to identify and investigate determinants of empathy and corresponding rapport-building in communicative interactions with high emotional intensity, as often found in crisis negotiation and crisis intervention contexts in policing and beyond. To achieve this aim, the research reported with this thesis completed a variety of objectives. These objectives document a consecutive series of investigations, which reflect the overall trajectory of all research conducted, as laid out in the subsequent section.

### **1.2.3 Structure of the Thesis**

After this introduction (Chapter 1), Chapter 2 provides a general overview of the relevant literature and theories on crisis negotiations. Chapter 3 introduces the general methods used for this research and explains the underlying rationales. Chapter 4 reports a series of explorative interviews using cognitive task analysis (CTA; Study 1). The CTA marked the point of departure of this research project, as it identified specific challenges of crisis negotiators, which led to the selection of ego depletion for the subsequent research efforts. Chapter 5 documents two randomized-controlled field experiments (Study 2 and 3). The trials tested a sample of crisis negotiators in their capacity to communicate empathy in a simulated crisis negotiation, depending on ego depletion. Chapter 6 reports a serendipitous find from the processing of these experiments. This resulted in two further studies. A qualitative data analysis (QDA; Study 4) identified several cognitive biases that appeared to undermine crisis negotiators' empathy-based rapport-building. A large-n online study (Study 5) then investigated one of these cognitive biases further (the one deemed most relevant for empathy-based rapport-building). It surveyed samples beyond crisis negotiators, including frontline police officers, crisis intervention workers. Chapter 7 discusses the general findings of the research project, its limitations, practical, theoretical, and methodological implications, as well as suggestions for further research.

### **1.3 Significance of the Research**

This research project has practical, theoretical, and methodological significance. Practical implications of its findings are especially relevant in face of an increasing number of global developments with local impact, which increase the need for crisis negotiations among Western police agencies: extremism and terrorism on all ends of the political spectrum, a large shift of human interaction from physical into virtual space, and increased mental health crisis as a result of the COVID19 pandemic appear to bear an ever-growing potential of both ideologically motivated and emotionally driven behaviors. These, in turn, have the potential to culminate in critical and major incidents, which might require crisis negotiations and crisis intervention (Dolnik & Fitzgerald, 2011; Kellerman, 2014; Sher,

2020; Shinder, 2009; Surrey and Sussex, 2022; Tzezana, 2017). Furthermore, considering contemporary, wide-spread attention on excessive police use of force and the corresponding calls for a change in the paradigm of procedural justice, de-escalation, and communication (Engel et al., 2020; Giles et al., 2021; President's Task Force on 21st Century Policing, 2015), more and more police services teach crisis negotiations techniques to all frontline officers (Engel et al., 2020).

Further practical implications include a systematic presentation of challenges faced by crisis negotiators on-site. This research project adds to a better understanding of the relationship between ego depletion and crisis negotiators' capacity for empathy with their interlocutors by all practitioners. Findings of this research project also identified factors that undermine effective rapport-building at the subconscious level. Correspondingly, police agencies will be able to improve and optimize training and operational procedures to the negative impact of cognitive biases that inhibit de-escalation performance, not only in crisis negotiations but in other frontline policing contexts. This, in turn, may ultimately have an impact on citizens' perception of police legitimacy and corresponding public trust in the institution (Jackson et al., 2013; Kochel & Skogan, 2021).

Theoretical implications lie within this research project's contributions to the on-going discussion surrounding the replication crisis of ego depletion theory (Carter & McCullough, 2014; Carter et al., 2015; Dang, 2018; Dang et al., 2021; Garrison et al., 2019; Hagger & Chatzisarantis, 2016; Baumeister & Vohs, 2016; Vohs et al., 2021). Their ecological validity is rooted in a comparably more naturalistic setting with a hard to access sample, which adds to the variety of populations that have been investigated so far. Further theoretical significance comes with this project's cognitive bias studies, which contribute to the overall literature on theory of mind (ToM) and add a new layer of understanding to the factors that affect empathy and rapport-building in crisis intervention, beyond the context of critical and major incidents policing.

Finally, this research project contributed to the methodology commonly used in ego depletion studies. It added to an emerging body of research on effective ego depletion manipulation tasks and introduced a modified research design that incorporates the (dual) sequential-task paradigm but increases methodological robustness with an additional (third) task (Baumeister, 1998; Lee, et al., 2016a). Last, this research introduces a novel approach to online-survey instrumentation that immersed participants in an interactive table-top scenario exercise that captures one of the identified cognitive biases.

## **Chapter 2. Relevant Literature**

## 2. Relevant Literature

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## **2.1 Crisis Negotiations in Policing**

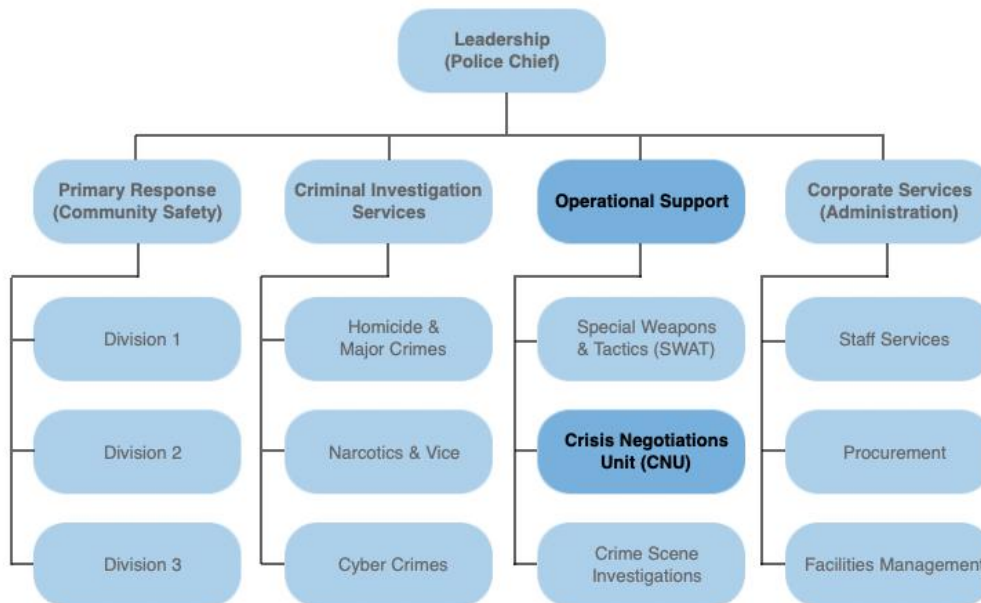
With more than 50 years of practical experience and a growing body of empirical validation, crisis negotiations have evolved into a highly specialized discipline within policing in western and democratic countries (Hatcher et al. 1998; McMains et al., 2020). As such, crisis negotiators regularly undergo rigorous selection and training before they become part of a team or unit and get deployed (Grubb, 2016, Grubb et al., 2019a; Johnson, 2019).

Carefully selected and trained negotiators provide their jurisdiction's crisis negotiation capabilities usually: (a) as a member of a full-time crisis negotiations unit, (b) as a part-time negotiator, who works on their regular assignment until a call-out requires them to deploy, or (c) as a member of a special weapons and tactics team (SWAT), which are regularly deployed to critical incidents involving hostage-takings, barricaded subjects, and suicide attempts (Perkins & Mijares, 2004; Klinger & Rojek, 2008). Both full- and part-time crisis negotiation units are usually organizationally attached to a police service's support branch, along with other specialized services that support field operations (see figure 2.1).



**Figure 2.1**

*Location of a crisis negotiations unit (CNU) in the organizational chart of a generic police service (adopted from Küppers, 2022).*

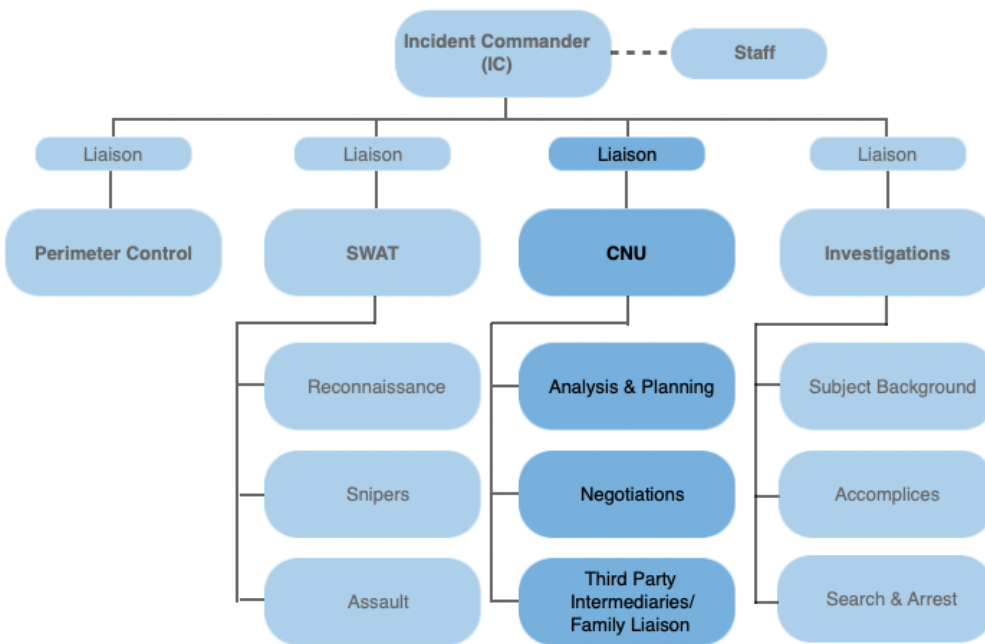


If a critical or major incident emerges, police agencies usually require resources beyond crisis negotiations and deploy a formal incident command structure that manages a variety of personnel and tasks. As the level of complexity of the incident increases, the tasks that crisis negotiators work through become increasingly varied and exceed the mere communication with the subject (see figure 2.2). Therefore, crisis negotiators socialize and train to be team players to be able to manage the workload, which even a single suicidal person in crisis might create for them (Grubb et al., 2019a, 2019b; McMains et al., 2020). Figure 2.2 illustrates a generic deployment structure, within which crisis negotiators operate. Not all incidents are addressed with all positions staffed. As a matter of fact, crisis negotiators might even arrive as the first officer on scene of an incident and find themselves facing a variety of tasks with competing priorities. These tasks include scene management, risk and threat assessment, intelligence gathering, and the actual intervention or negotiation. If the duration and location of a critical or major incident allow, sole negotiators on scene will be backed up, at the very least, by a secondary crisis negotiator, who can assist with relaying communication between the crisis negotiation

and other police personnel involved in the incident, as well as with mental and intellectual support (Grubb et al., 2019a; McMains et al., 2020).

**Figure 2.2**

*A CNU within a generic incident command structure (adapted from Bundesministerium des Innern, 2017).*



### 2.1.1 Deployment Nature

The way crisis negotiators operate depends on the type of incident they face. To understand the substance of crisis negotiations, this section will introduce the phenomenology of the differing types of incidents as well as the characteristics of the differing types of subject crisis negotiators typically encounter. These are the parameters that determine both the scope of deployment and, more importantly, the strategy and tactics police in general and crisis negotiators in particular employ to resolve the incident.

Accordingly, a common theme in literature is that each critical incident's unique circumstances can be categorized into different types of situations, which allows police to determine their initial response type (Grubb, 2010; Rogan & Hammer, 1997). Viewing the

different geographical, sociological, cultural, and economical contexts of most countries, whose police agencies have crisis negotiations capabilities, several categories generally encountered by crisis negotiators have crystallized (Grubb et al., 2018; McMains et al., 2020).

### **2.1.1.1 Distinction by Type of Incident**

Crisis negotiation lends itself to a variety of offences, typically involving some form of hostage-taking but also a variety of non-hostage incidents (Noesner, 1999). Hostage-takings generally refer to the act of seizing one or more persons and threatening death or bodily harm to compel one or more third parties into doing or abstaining from doing any action (McMains et al., 2020; Noesner, 1999). The location of subjects and hostages are known to police, as it would be, for instance, after a bank robbery that resulted in a hostage taking upon arrival of the police or a barricaded husband who is threatening to kill his wife. The latter example is typically referred to as hostage or captive-taking in the context of domestic violence or domestic siege (Booth et al., 2010; Vecchi et al., 2005).

Kidnap for ransom situations are technically hostage-takings but are distinguishable by the tactically relevant feature of an unknown location of hostages and subject actors (McMains et al., 2020; Vecchi 2009; Ireland et al., 2011). An example would be the abduction of a wealthy citizen for ransom or of an international aid worker in a fragile and conflict-affected state, for ransom or as leverage for political demands. Knowledge of the location of the hostage(s) is crucial, as it (a) increases the number of options police can approach and resolve the situation with, (b) usually facilitates communication between police and subjects, and (c), as a result, lends police more leverage (Dolnik & Fitzgerald, 2007; Ireland et al., 2011; Kalus, 2014; McMains & Mullins; 2020).

Barricade incidents, as touched on above, are situations in which the subject has barricaded themselves to prohibit access for police and/or other parties (Boltz & Hershey, 1979; Vecchi et al., 2005). Barricaded incidents without hostages usually involve subjects in crisis, often threatening to harm themselves or take their own lives (McMains et al.,

2020). In addition, crisis negotiators regularly respond to incidents, where individuals threaten to commit suicide without being barricaded, typically from heights like bridges or buildings (Grubb et al., 2018; McMains et al., 2020; Vecchi et al., 2019).

These categories bear relevance for police as to what level of training and what numbers of staff need to be deployed. However, they do not provide any insight into the demands and substance of the crisis negotiation, which often constitute central challenges of negotiating any specific critical incident. Therefore, an understanding of the subject itself is required to better determine negotiation strategy and tactics (Kalus, 2014; McMains et al., 2020; Vecchi, 2009).

#### **2.1.1.2 Distinction by Subject Type**

##### **2.1.1.2.1 Distinction by Basic Categories**

There are two major categories of subject type. On the one hand, there are goal-directed subject actors that display rational thought and behaviors. Situations involving that type of subject are usually referred to as high-conflict situations. On the other hand, there are subjects in (psychological) crisis. During such crisis situations, the subjects are primarily driven by a high level of emotional intensity and a lack of coping skills necessary for them to navigate the situation (Grubb, 2020; Rogan 2011; Vecchi et al., 2005; Vecchi, 2009). These characteristics may be a result of mental illness but do not have to be.

In the literature, high conflict situations are usually associated with politically or ideologically motivated subjects, who articulate clearly defined demands. These demands are usually substantive, often also referred to as instrumental, in nature and are directed towards a tangible goal. A case in point is the international hostage crisis in Munich discussed at the start of this chapter. In crisis situations, subjects articulate often no or non-substantive demands that are emotionally expressive in nature and, therefore, often referred to as expressive demands (Ireland et al.; 2011; Rogan, 2011; Vecchi et al., 2005; Vecchi, 2009). An example would be the reversal of a separation of previously intimately involved partners, as can be seen in domestic barricade or suicide situations.

These basic subject types are not mutually exclusive. Subjects might start as comparably rational actors with instrumental demands, before they might start feeling overwhelmed, losing the ability to see through their plan, and find themselves in a situation beyond their capability of managing and coping, at which point they may reach some degree of (psychological) crisis (Hatcher et al., 1998; McMains & Lanceley, 2003; Vecchi et al., 2005; Rogan, 2011). Likewise, there are no specific subject types that correspond with certain incident types as discussed in the previous section. Politically motivated hostage-takings or kidnap and ransom situations fall under the high conflict category of goal-directed subjects with instrumental demands. Impulsive hostage-takings, often in context of domestic violence, that result in barricade situations fall under the crisis category and are associated with a subject in some degree of (psychological) crisis, usually in a state of heightened emotional intensity, articulating expressive demands or no demands at all (Grubb, 2020; Rogan 2011; Vecchi et al., 2005; Vecchi, 2009).

Depending on how far each subject type is on their end of the continuum, crisis negotiators will devise different strategies to deal with them. High conflict situations have traditionally been approached with principled negotiation and bargaining strategies (for a detailed discussion of these concepts, please refer to section 2.4 Crisis Negotiation Models). Crisis situations are typically responded to with crisis intervention techniques, such as empathizing and building rapport (Vecchi et al., 2005; Vecchi, 2009).

#### **2.1.1.2.2 Distinction by Motivation**

In addition to an assessment of the subject's mental state and effort of pre-planning, an exploration of the underlying factors that motivate their actions plays an important role in the expedient determination of appropriate measures and crisis negotiation strategies and tactics (Head, 1990; van Groote, 2002). While primary data from hostage-takers are scarce and standardization of corresponding research is lacking, Daniels et al. (2016) conducted a study to address these shortfalls and interviewed eight convicted hostage-takers. The researchers identified 23 "micro-motives" that include mental status, affect,

mental illness, self-preservation, adaptive response, moral outrage, and group involvement. Even though hostage-takings account for a small fraction of all crimes committed in a country (see below), a sample size that small imposes significant limitations on the generalizability of the results. The results are still relevant for crisis negotiators. The micro-motives the researchers identified approach subject motivation on a higher level. This allows them to capture incidents with different circumstances and different types of subjects under similar motivational conditions. These distilled motivations, in turn, can ultimately inform strategy (e.g., principled bargaining or crisis intervention, for details, see below) and tactics (e.g., addressing certain aspects of demands or concessions). Feldman (2001) analyzed 120 hostage and barricade incidents in the United States of America (USA) and found the most common motivation for the perpetrator's actions to be the resolution of interpersonal disputes, including domestic ones, complicated by an underlying psychiatric disorder as well as alcohol or drug use. Marth (2003) conducted interviews with 23 hostage-takers that have been arrested by police in Germany and found motivations to include financial gain, improvement of detention conditions, conflict resolution with their romantic partners, and avoidance of returning to jail. What all 23 hostage-takers had in common was that they all were going through a difficult life situation or crisis without seeing alternative ways of coping.

Facing difficult life situations without seeing alternative ways of coping is a theme that is shared by extremist hostage-takers and suicide bombers: Building on Docherty's (2001) in-depth analysis of the Waco siege in the US in 1993, when a Christian extremist group took hostages in Waco, Dolnik and Fitzgerald (2007, 2011) argue that religiously motivated subjects are driven by tangible, real-world grievances. These aspects of ideological motivation (including religion) are reflected in Daniels's et al.'s (2016) empirical work: self-preservation, adaptive response, moral outrage, justification, negative past experiences, control, purpose of control, racial awareness, victim, internal struggle, and group involvement have all been identified as motives in several empirical studies of extremist/terrorist hostage-takers and corresponding radicalization accounts (Borum, 2011; Dolnik & Fitzgerald, 2007, 2011; McCauley & Moskalenko, 2008).

Analyzing secondary literature on recent case studies of religiously motivated terrorists, Dolnik and Fitzgerald (2011) assessed the negotiability of such incidents. The authors point out that religiously motivated terrorists present new challenges to crisis negotiations, such as sophisticated levels of preparation and knowledge of police tactics or greater willingness to enforce deadlines by executing hostages (all of which point to a high conflict situation). Yet, they argue in favor of a crisis negotiations-first approach to address the real-world grievances, the expressive portion of their behaviors, which have been exploited by extremist religious ideology and are masked by their instrumental behaviors. In this context, social scientists stress the distinction between terrorists' expressive willingness to die for their cause in general and their unwavering intention to die as a preferred outcome of a particular incident. Even though dated, Corsi's (1981) statistical analysis of barricaded hostage-takings recorded in the International Terrorism: Attributes of Terrorist Events-database showed that in 94% of all cases subjects articulated their willingness to give up their lives. In only 1% of all cases terrorists displayed actual suicidal behavior. Zartman (2003) reasoned how such declarations can be interpreted as rational courses of action that increase the religiously motivated terrorists' bargaining position through negating police's threat of using force. Several incidents support this notion. Witness accounts from the Moscow Theatre and Beslan School barricades relayed the attacker's instrumental course of action underneath the extremist rhetoric (Dolnik & Fitzgerald, 2007). The 2004 Oasis residential compound attack in Saudi Arabia, left 22 people shot, before the attackers, while waiting to be killed, changed their minds, and fled the scene (Bakier, 2006). The Mumbai shooting spree in India, in which two terrorists attempted to escape, also showed how religiously motivated terrorists use hostage-takings to pursue ends, to which dying as a martyr may only be of secondary importance. Mohammed Kasab, the only survivor among the attackers, told police after his arrest that he had been trained to kill to his last breath, but pretended to be dead to escape prosecution (Dolnik & Fitzgerald, 2011; Prakash, 2008).

### **2.1.1.3 Distribution and Frequency of Incidents**

Most incidents that crisis negotiators respond to both in North America and in Europe are non-barricaded suicide attempts, followed by barricaded situations involving suicide or harm-to-self threats, and/or hostages (Grubb, 2020; Grubb et al., 2018; Hatcher et al., 1998; McMains & Lanceley, 2003; 2004; Rogan, 2011; Vecchi et al., 2005).

Giebels (1999) analyzed 747 incidents that occurred over the period from September 1998 to September 1999 in 10 European countries (not including the UK) and reported the following distribution of crisis negotiator deployments: 31% suicide attempts, 26% domestic situations involving subjects in crisis, 12 % criminal high risk arrest situations, 11% extortion, 10% kidnap and ransom, and 10% other. While this dataset provides a cursory overview of the distribution of deployment types, it is limited in its lack of detail: the author does not indicate if all or what fraction of the second most frequently occurring category, domestic situations, involves hostages.

Nieboer-Martini et al. (2012) analyzed data recorded in the Netherlands over the period of one year in 2006 from three of the country's seven crisis negotiation units and reported the following frequencies: 35% suicide attempts, 20% barricade incidents, 20% kidnap and ransom, and 25% other incidents.

Mohandie and Meloy (2010) analyzed 84 cases that were recorded the national hostage and barricade database system (HOBAS) of the United States of America from 1998 to 2006 and provided the following frequencies, limited to the three categories listed: 54% barricade incidents, 45.2% hostage incidents, 1% suicide attempt. However, over a period of 8 years and in a country of more than 250 million people at the time, HOBAS captured only 84 cases of the three mentioned categories. This indicates the analysis's very limited validity, which has been related back to two shortfalls of the database. One is the self-selection bias, as crisis negotiators across the country choose themselves if and which cases they report. The other one is the ambiguity of the terminology it uses in its interface, which affords differing interpretations among the participating crisis negotiators.



The frequency of crisis negotiation team deployments and incidents involving subjects with religiously or politically extremist motivation has not been captured by any of the reviews discussed above. The notoriety of corresponding hostage-takings in Western democracies, typically reflected in their pervasive media coverage, appear to limit their incidence to isolated cases (e.g., the November 2015 Paris attacks [Bataclan], the January 2015 Ile-de-France attacks [kosher supermarket], the 2014 Sydney hostage crisis [Lindt store], among others).

### **2.1.2 Crisis Negotiation Models**

As discussed above, incidents that police deploy crisis negotiators to are plentiful, as are the different types of subjects that they encounter. It is unrealistic to assume that crisis negotiators can be trained and prepared specifically for each potential configuration of incident and subject type (Grubb, 2010). While each incident dealt with by crisis negotiators is different from the other, research has identified characteristics that most critical and major incidents share. This allows for a set of basic steps to be derived, which can be flexibly adjusted to almost any situation to guide an initial response (Grubb, 2010; Kelln & McMurtry; 2007). These steps set the framework, within which appropriate strategies and tactics can be utilized and include the following (Greenstone, 2005, 2013; Grubb, 2010; Lanceley & Crandall, 2003; McMains, 2002, McMains & Lanceley, 2003; McMains et al., 2020; Miller, 2005; Noesner, 1999; Slatkin, 2015): (a) the isolation and containment of the subject, (b) the securing of the perimeter to keep the hostage-taker in and unauthorized persons out, (c) the maintenance of scene control (access to the perimeter, media, medical services), and (d) the establishment of some communication with the subject as soon as possible.

Once communication is established, further negotiation strategies and tactics are determined by the general categories of incident and subject type discussed above. Over time, several models have been developed to accommodate these categories. The remainder of this section will discuss a selection of models, whose relevance for this

literature review is substantiated by two considerations. First, they have made significant contributions to today's best practices of crisis negotiations. Second, viewing this research project's aim in better understanding empathy-based rapport-building, their analytic focus is on the interactive and interpersonal communication between crisis negotiator and subject<sup>1</sup>.

### **2.1.2.1 Principled Negotiation**

High-conflict situations, usually involving some degree of pre-planning by goal-oriented subjects who articulated instrumental demands, have traditionally been approached by police with principled negotiation, often referred to as the Harvard model of negotiations (Fisher et al., 1991; McMains et al., 2020). Introduced by Fisher and Ury (Fisher et al., 1991), the model suggests a solution to the problem of positional bargaining. If individuals or groups negotiate the positions they hold, they deprive themselves of the flexibility required to come to a mutually acceptable agreement. In this context, positions are understood to reflect what negotiators are hoping to get out of the specific interaction. The corresponding motivations underlying these hopes relate back to negotiators' self-concept and identity, which they usually understand to be non-negotiable. This narrow focus typically frames the negotiation as an adversarial zero-sum game. Consequently, any change to the position risks loss of face or cognitive dissonance and endangers the relationship between the two bargaining parties. It also challenges their ability to efficiently process an increasing amount of information, as every evolution of an offer or counteroffer requires fundamental appraisal and re-appraisal if the position can be altered to move the negotiation along.

To overcome potentially resulting impasses, Principled Negotiation lays out the following four steps to move the negotiation away from each party's position and, instead, put their

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<sup>1</sup> As compared to those models that have made significant contributions to the field but have a broader focus, often including stages outside the actual interaction between crisis negotiator and subject, such as preparation or debriefing. Noteworthy examples include the D.I.A.M.O.N.D. model of hostage and crisis negotiation (Grubb, 2020; introduced as part of the discussion of the results reported in Chapter 4) or the REACCT model (McMains et al., 2020).

interests at stake. First, people need to be separated from the problem, in order keep the negotiation at the substantial rather than the personal level. This allows, in a second step, to focus on mutual interests instead of individual positions, which detaches the parties' identity from the substantial negotiation and allows for greater latitude on both sides. Third, inventing options for mutual gain, demonstrates how position-based bargains, often perceived by both parties as zero-sum, can be re-appraised and reframed to be a constructive process that can benefit both sides. The fourth and last step lies in insisting on using objective criteria for both parties to be able to find agreement on the effectiveness of the (to be) negotiated outcome.

Principled negotiation has made significant contributions, without which crisis negotiations are rarely resolved successfully. These include its problem statement on how bargaining positions instead of interests undermines the potential for successful negotiation outcomes. The also include corresponding imperatives, especially the separation of the people from the problem. These insights both allow negotiators to build the rapport necessary to discuss the subject matter without either one contaminating the other. These are significant insights, which more recent models, rooted in crisis intervention principles, have built on. Still, principled negotiation assumes rational actors and does neither address socially intractable conflicts nor significant power imbalances between parties (Funken, 2001; McKeown & Psaltis, 2017). This limits the model's applicability to negotiations where both party's interests are compatible.

### **2.1.2.2 “Getting Past No”**

Ury (1991) addressed the shortfalls of Principled Negotiation and devised a new negotiation model with a focus on difficult people and situations. To negotiate from confrontation to cooperation, the author laid out the following five steps. The first step is to not react but rather assume the role of an observer of the negotiation, with a view to prevent confrontation and avoid emotion. Second, the model requires parties to step to each other's side to unlock the collaborative potential of the negotiation by viewing each other's opponent as an ally. The third step requires parties to reframe their demands to

increase the likelihood of identifying mutually acceptable courses of action. The fourth step encourages parties to involve each other in each other's decision-making process to make it easier to say "yes" than "no", as ownership of the negotiated agreement becomes shared. The fifth step calls for negotiators to use power to educate the other side instead of escalating the situation or forcing a non-sustainable agreement.

Especially for steps two (stepping to the other side), three (reframing), and four (involving the other side in the decision-making), Ury (1991) suggests the rapport-building techniques that the subsequent models rely on more saliently, and which are commonly used for crisis negotiations with subjects with higher emotional intensity. However, the generic situational context they are introduced in still assumes rational actors (Grubb, 2010). Furthermore, even though it discusses power as a variable, especially in the fifth step, this approach does not provide a prescription for how to deal with a significant power advantage of the other side. This, again, limits the model's applicability to the above mentioned high-conflict situations.

### **2.1.2.3 The S.A.F.E. Model of Crisis Negotiations**

Guided by empirically validated insight into sociolinguistic communication, Rogan and Hammer (2002) identified four functional goals that individuals pursue in when negotiating conflict. The authors explained how these can be understood as key triggers for assessing escalation and de-escalation patterns during critical incidents. They refer to each of these triggers as interpretative frames, through which conflict parties are shaping their discourse, i.e., negotiation. They organized these frames functionally in their S.A.F.E. model for negotiating hostage and critical incidents, which provides crisis negotiators with a pragmatic framework to assess their discourse with the subject and conduct negotiations. The frames are Substantive demands, Attunement (i.e., relationship and trust), Face (i.e., perception and judgment by others), and Emotion. The operationalization of S.A.F.E. follows three simple steps for crisis negotiations to engage. First, they need to identify the predominant frame of the subject. For instance, the subject might be elaborating how the crisis negotiator cannot be trusted, which would trigger the

attunement frame for police to respond to. Second, the crisis negotiator needs to match their communication to the subject's S.A.F.E. frame. Third, after some progress in de-escalation has been achieved, the crisis negotiator can now carefully attempt to shift the frame together with the subject towards a peaceful situation.

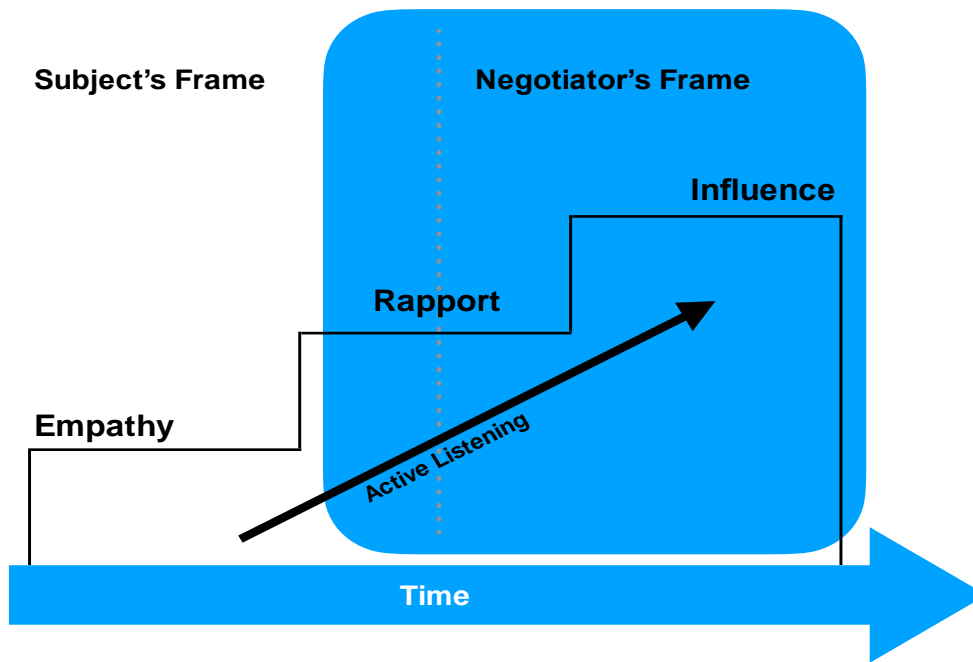
In contrast to Principled Bargaining and "Getting Past No", S.A.F.E. allows crisis negotiators to understand their interaction with subjects during critical and major incidents in distinct terms. Out of these terms, three of four are completely unrelated to the substance of the negotiation. In Rogan's and Hammer's (2002) work, attunement, face, and emotions have been empirically validated as major determinants of successful conflict resolution through crisis negotiations. This makes their model, along with its substantial demand frame, a versatile tool that can be used across all incident categories and for all subject types.

#### **2.1.2.4 The Behavioral Influence Stairway Model**

Inspired by insight from crisis intervention, the Behavioral Change Stairway Model (BISM; Vecchi et al., 2005) and its updated version, the Behavioral Influence Stairway Model (BISM; see figure 3; Vecchi, 2009) provide a simple, three-step process to achieve behavioral change by a subject. First, crisis negotiators empathize with the subject. This affords progression to the second step and the building of rapport. Once they have built rapport with the subject, they can proceed to the third step and influence the subject towards a peaceful resolution of the incident. To maintain and/or regain momentum throughout this three-step process, crisis negotiators need to listen actively. As they climb the stairway, the frame of reference of the negotiation gradually changes from the subject to the crisis negotiator.

**Figure 2.3**

*The Behavioral Influence Stairway Model (Vecchi et al., 2019).*



The authors stated that crisis negotiators confirmed over decades the model to be effective and that it is proven to be highly effective in achieving peaceful and timely conflict resolution (Vecchi et al., 2005, 2019). Despite a lack of robust empirical validation, the BISM has been recognized by practitioners through its routine application in the field, as well as by its place in the curriculum of the United Kingdom's National Hostage and Crisis Negotiations Courses of the London Metropolitan Police (P. Harper, personal communication, November 20, 2016) and of the Federal Bureau of Investigation, among others (Vecchi et al., 2019).

Its origin in crisis intervention and the parallels to motivational interviewing (Grubb, 2010; Vecchi et al., 2005, 2019) tailored the BISM primarily to be used for negotiations involving subjects in crisis or with increased emotional tension. Its simplicity through the focus on empathy and rapport-building as necessary conditions for behavioral influence has also been argued to make it an effective tool for high-conflict and terrorist negotiations. Especially since high conflict situations, including those involving terrorists, can evolve

into crisis situations with increasing emotional intensity of the subjects (Dolnik & Fitzgerald; 2011; Hatcher et al., 1998; Ireland et al., 2011; McMains & Lanceley, 2003; Regini, 2004; Vecchi, et al., 2005; Vecchi et al., 2005, 2019).

#### **2.1.2.5 The Structured Tactical Engagement Process Model**

Rooted deeply in crisis intervention literature, Kelln and McMurtry's (2007) Structured Tactical Engagement Process (STEPS) model takes the principles of the empirically validated and well-established trans-theoretical change model (Prochaska & DiClemente, 2005) and makes them accessible for crisis negotiators during critical and major incidents. The authors devised four stages that lead to behavioral change. First, subjects in pre-contemplation will see no reason for change and maintain the conflict with crisis negotiators. Second, in contemplation, subjects recognize issues or problems to be addressed and will develop ambivalence towards potential behavioral change. Third, in the preparation stage, subjects accept the need for change and buy-in to develop a plan of action. Fourth and last, subjects in the action stage will carry out the plan. STEPS relies heavily on techniques of motivational interviewing, most prominently on rapport-building (Kelln & McMurtry, 2007; Miller & Rollnick, 2002; Prochaska & DiClemente, 2005), especially to move from pre-contemplation to contemplation.

While the STEPS model's principles are built on a strong empirical foundation, this literature review did not identify any empirical validation of the model itself in a crisis negotiations context. Still, the central role of rapport-building and the underlying empathy suggest that STEPS might add valuable insight to crisis negotiations. In tandem with S.A.F.E., its range of applicability widens to include incidents with subjects who appear more instrumental with their actions and demands.

#### **2.1.2.6 Joint Contribution of the Models**

The introduction of relevant negotiation models started with Principled Negotiation and "Getting Past No", which typically apply to *high conflict* situations. The chronological order

that follows the models' conception reflects their evolution, which manifests an increased understanding of the prevalence of crisis situations. Accordingly, S.A.F.E., BISM, and STEPS draw from crisis intervention and counseling literature, which they account for in their primary focus on strategies and tactics addressing subjects in psychological crisis.

Each of the crisis negotiation models offers unique insights. Correspondingly, they mutually complement each other, as they inform strategy and tactics. STEPS presents a suitable approach to assess relational progress as well as the effect of a given strategy on the subject in terms of possible behavioral change as potentially contemplated by the subject. S.A.F.E. allows for a practical classification of the issues that are causing conflict and are being negotiated. Thus, S.A.F.E. provides crisis negotiators with guidance regarding which relevant issues (i.e., interpretative frame) require attention. BISM focuses on the rapport-building at the granular level and gives direction on how to progress and move through each of the other two models' steps and frames. Once the initial confusion of the incident is sorted out and/or the crisis of the subject diffused enough to allow them to engage in more rational problem-solving, Principled Negotiation and "Getting Past No" can give reference for corresponding negotiation strategies and tactics.



## 2.2 Empathy

Empathy is an undisputed key element not only in the repertoire of crisis negotiations (McMains et al., 2020; Rogan et al. 1997; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005) but for all officer-citizen encounters that aim to implement a de-escalative dynamic with the goal of a peaceful resolution (Engel et al., 2020; President's Task Force on 21st Century Policing, 2015; Zaiser & Staller, 2015).

In contrast with other species, humans are remarkably altruistic (Fehr & Fischbacher, 2003; Silk & House, 2011; Sober & Wilson, 1998). Understanding and cooperating with others are not only at the foundation of the pro-social behaviors that translate that altruism into action (Davis, 2015; Eisenberg & Miller, 1987, Silk & House, 2011). They are also assumed to lend humans the distinctive advantage over so many other species, include those that have physically adapted much better to their environments and are often relatively stronger and faster (Zaki & Ochsner, 2012; Tomasello, 2019). Research has broken down specific forms of pro-social behaviors (e.g., Boxer et al., 2004; Padilla-Walker & Carlo, 2014). Those primarily motivated by empathy include, for instance, *dire* pro-social behaviors, where another person is in crisis, and *emotional* pro-social behaviors, where an altruistic actor acts pro-socially following another person's emotional cues (Carlo & Randall, 2002; Eberly-Lewis & Coetzee, 2015).

Empathy is a multifaceted psychological construct, whose varied conceptualizations capture several related but distinct features (Zaki & Ochsner, 2012). This section will provide an overview of (a) the conceptual history of empathy, before it will (b) discuss current conceptualizations and (c) their empirical validation, first in crisis intervention in general, then in crisis negotiations in particular.

### 2.2.1 Conceptualization of Empathy

Conceptualizing empathy has been subject to several comprehensive literature reviews. They all reflect the notion that "empathy has different meanings for different people"

(Kerem et al., 2001, p.727). Correspondingly, its varied applications in a plethora of different contexts, as well as its blurred boundaries to neighboring concepts, such as sympathy or personal distress, make it a challenging phenomenon to grasp.

### **2.2.1.1 The Philosophical Foundation of Empathy**

Initial academic focus on the antecedents of empathy dates to David Hume and Adam Smith, who both argued the capacity to enter or share the minds of others are at the core of human emotional and social life (Ilyes, 2017). Within the broader philosophical discussion on *knowing other minds* and what they feel, John Stuart Mill (1885) offered the *argument by analogy* as an approach to understand the minds of other people. The argument assumes that others have bodies that react to emotions just like the self. Therefore, the self can observe others' bodies and behaviors and infer the feelings that cause the observed behaviors from the self's own experience.

Pargetter (1984) addressed the shortfalls of Mill's *argument by analogy*, including the extrapolation from one single data point (the self). The author argued in favor of *inference from best explanation* to better understand the minds of other people: the self chooses the hypothesis that best explains all available data. Put simply, the self makes a probable conclusion from what it already knows.

Viewing the shortfalls of the *argument by analogy*, McDowell (2018) and Dretske (1969) argued in favor of another way to understand other people's minds, which they referred to as *perceptual knowledge of other minds*. The *perceptual knowledge* argument addresses the understanding of other minds through a phenomenological lens and, as such, neglects understanding the minds of other people to be philosophically problematic: its basic assumptions include the intersubjectivity between all minds (Avramides, 2015).

Ultimately, the philosophical debate on *knowing other minds* comes down to answering the question on how people attribute mental states, such as thoughts, emotions, intentions, desires, and beliefs, for instance, to understand their behaviors and underlying

motivations (Apperly & Butterfill, 2009; Avramides, 2015). There is a variety of phenomenological and theoretical approaches in psychology that argue about the nature of this process of *mental state attribution* or *mind-reading*, as it is often referred to (Davis & Stone, 1995; Shanton & Goldman, 2010).

Titchener (1909) introduced the term empathy into literature with a series of lectures on the experimental Psychology of thought-processes as a conceptually related to but distinct from its semantic sibling sympathy (Jardine & Szanto, 2017; Stueber, 2019). He translated the term from Lipps's (1907) German concept of "Einfühlung" (German for "feeling into"), a process that draws from inner resonance and projection from the self to the other but acknowledges that the projected experience onto the other might be fundamentally different from the own experience (Jardine & Szanto, 2017). Sigmund Freud (1989) argued for the concept's central importance in psychoanalysis and moved empathy towards the focus of psycho-analytical practice (Kaluzeviciute & Walla, 2020). In his theory of therapy, personality, and interpersonal relations, an integral part of the person-centered approach to psychotherapy, Carl Rogers (1940, 1959) established empathy as a prerequisite of therapeutic success (Elliott et al., 2018; Hackney, 1978).

In contemporary literature, empirical studies on empathy are often conducted in psychotherapy and counselling settings (Elliott et al., 2018; Pederson, 2009), as well as in medicine and health care with a focus on practitioner empathy (Derksen et al., 2013; Smith et al., 2020), and crisis intervention (Mishara et al., 2007; Mueller & Waas, 2010). In social and developmental psychology, scholars have been interested empathy-related behavioral outcomes, such as pro- and anti-social behaviours (Duan & Hill, 1996; Eisenberg, & Fabes, 1990) or emotional intelligence (Goleman, 1985).

Over the course of time and across disciplines, empathy has been conceptualized in different ways and to date there is no consensual definition (Batson, 2009; Bohart & Greenberg, 1997; Duan & Hill, 1996; Smith et al., 2020).

### 2.2.1.2 Neighboring Concepts

Cuff et al. (2016) have compiled 43 discrete definitions of empathy. The authors then broke each definition down into its elements and subjected them to content analysis. As a result, they identified several themes, under which they categorized these definitions. In their conceptual approach, the authors distinguished empathy from related concepts. As a point of departure, the authors point to Ickes (2010), who determined three dimensions, along which empathy can be distinguished from neighboring concepts: (a) the degree of cognitive representations of the other person's emotional state, (b) the degree of sharing of emotions, and (c) the degree to which a distinction between the self and the other is maintained. Cuff et al. (2016) further point out that the distinction between empathy and *sympathy* is among those most frequently discussed in the literature. Several approaches to empathy do not distinguish but sometimes even merge the concept with sympathy (Barnett & Mann, 2013; Pavey et al., 2012; Stocks et al., 2011). Yet, many researchers argue explicitly to make that distinction (Cuff et al., 2016; Eisenberg et al., 1991; Hein & Singer, 2008; Scheler, cited in Becker, 1931; Singer & Lamm, 2009). Eisenberg et al. (1991) referred to sympathy as a vicarious emotional reaction, just like empathy, but based on the apprehension of another person's emotional state. Hein and Singer (2008) boiled the distinction down to a simple change in preposition: empathy entails the feeling "as", and sympathy the feeling "for" another person. Decety and Michalska (2010) devised an experiment, in which 57 individuals were exposed to different stimuli, associated either with an empathetic response or a sympathetic response, while their brain activity was scanned with functional magnetic resonance imaging (fMRI). Their results showed a difference in activation patterns, which the researchers interpreted as evidence for partially distinct neural mechanisms underlying the two concepts.

Another potentially overlapping concept that is regularly discussed along with empathy (Cuff et al., 2016) is *compassion*. Goetz et al. (2010) present empirical evidence for compassion to have a distinct appraisal process, which attunes the experience of compassion to undeserved suffering, shapes moral judgment and orients (pro-) social

action. As a result, compassion can be understood as an original emotional response of the self to another person's plight, which usually results in corresponding concern and supportive behaviours, rather than a mere change of perspective and sharing or convergence of emotions (Goetz et al., 2010; Kalawski, 2010; Lishner et al., 2011; Nakao & Itakura, 2009). Investigations into the neural correlates of compassion support the distinction between compassion and empathy. Studies capturing brain activity by people self-reporting feeling compassionate show that their emotional experience involves the detection of another person's suffering expressions (Saxe & Wexser, 2005) and mirroring their emotional experience (Immordino-Yang et al., 2009). These mechanisms are certainly associated with empathetic response, as well. But compassion has also been found to involve the assessment of the relevance/deservedness of the suffering of another person (Immordino-Yang et al., 2009) and the motivation to approach another person suffering (Davidson et al., 2004; Harmon-Jones et al., 2006).

Discussions on empathy usually involve its close relationship with *personal distress* (Eisenberg & Eggum, 2011; Goetz et al., 2010; Batson, 2009). Personal distress is generally understood as one's own response to recognizing or perceiving the negative emotions which another person is experiencing or the negative situation another person might be observed in (Stueber, 2019). The distinction from empathy lies in how the corresponding emotional experience is focused on the self and not on the other person. Batson (1991; Batson et al., 1987) presented a list of adjectives that indicate personal distress and which help distinguish it from an empathetic response to another person's distress: these adjectives are all oriented to the self rather than the other person experiencing distress and include feeling alarmed, upset, worried, or troubled, among others. Brain scans of participants experiencing personal distress have showed a lack of activation in areas that are associated with comprehending another person's emotions and thoughts (Adolphs, 2008; Saxe & Wechsler, 2005).

Doherty (1997) distinguishes *emotional contagion* from empathy by contextualizing it in context of the understanding, according to which empathy has (a) a sophisticated, cognitive component, and (b) a primitive, elementary motor mimicry and afferent feedback

component that generates vicarious emotional experiences. Cuff et al. (2016) use simple terms to draw this distinction: an empathetic observer is aware that experienced emotion originates from another person, while an emotionally infected observer thinks the feeling is their own, incapable of a self-other distinction. This points to a lack of sophisticated, cognitive appraisal process, which is understood as a part of empathy. Hartfield et al. (1993) refer to emotional contagion as an automatic process that mimics and synchronizes facial expressions, vocalizations, postures, and movements, which results in emotional convergence at the subconscious level. For instance, even neonates appear to adapt emotional responses and respond congruently when interacting with other people (Thompson, 1987). In addition, neuroscientific evidence has shown, for instance, that the observation of another person's pain activates the observer's brain areas responsible for pain (Singer & Lamm, 2009) and provided feedback that supports the automatic motor mimicry response associated with emotional contagion (de Vignemont & Singer, 2006).

### **2.2.1.3 Cognitive and Affective Elements of Empathy**

Empathy has repeatedly been conceptualized as a process involving both sophisticated cognitive components as well as primitive affective components (Barker et al., 2008; Baron-Cohen & Wheelwright, 2004; Batson et al., 2005, Decety & Moriguchi, 2007; Eisenberg et al., 2006). Blair (2005) refers to cognitive empathy as theory of mind (also often referred to as mentalizing, Tholen et al., 2020): the ability to recognize, represent, and understand the thoughts, desires, beliefs, intentions, and feelings of another person. The author approaches affective empathy as a mere response of the self to the emotional displays of another person (much like emotional contagion) or a response to other emotional stimuli, such as verbal representations of an emotion.

Researchers have pointed to the fact that cognitive elements have been found to modulate affective elements and, consequentially, empathetic outcomes (Baron-Cohen & Wheelwright, 2004; Duan & Hill, 1996; Jackson et al., 2006; Lamm et al., 2007; Marsh, 2018). Therefore, they rejected a separation of the two elements due to their mutually

constitutive and deeply interactive nature. However, more recent research into the neural correlates of empathy keeps demonstrating how each construct, cognitive and affective empathy, is associated with different patterns of neural activation in the brain (Shamay-Tsoory et al., 2009; Zaki & Ochsner, 2012; Marsh, 2018; Tholen et al., 2020; Zaki et al., 2009). Kanske et al. (2016) provided evidence from an experiment involving fMRI on cognitive and affective empathy with 178 participants, according to which people's capacity to directly share feelings (affective empathy) is independent from their capacity to mentalize and that the former may even inhibit the latter. The authors present results both on the neural and on the behavioral level (captured through self-reports).

Smith (2017) incorporates these insights and proposed a model that integrates cognitive and affective processes to constitute empathy as two separable but complimentary systems. As such, empathy operates as a single integrated system under certain circumstances or in certain situations but also separately in "key circumstances of functional and evolutionary significance" (p.7). For instance, cognitive elements may be needed to protect the self from overbearing emotional responses when teaching a toddler to perceive a superficial bruise as an injury more serious than it is by over-reacting to his or her crying. This approach does not only allow for a viable operationalization of empathy due to; (a) the separability of the concepts, and (b) the adaptability of each element to real life situations as they appear in crisis negotiations. Smith (2017) suggests the following simple sequence to represent the empathetic process: The self empathizes with another person only if; (a) the self is consciously aware of the other person's experience, (b) the self is consciously aware of what the other person's experience feels like, and (c) based on (a) and (b), the self is consciously aware of how the other person feels. Similarly, Elliott et al. (2018) synthesized recent neuroscience research and identified three major neural correlates with empathy, which integrate the conceptual considerations made to this point: (a) an automatic, intuitive process mirrors emotional elements of another person's emotional cues (Decety & Lamm, 2009), (b) a deliberate process facilitates a change of perspective (Shamay-Tsoory, 2009), and (c) an emotion-regulation process maintains distinction of the self from the other person and reappraises potentially vicariously experienced distress with the goal to facilitate helping or other pro-social

behavioral outcomes, including listening and rapport-building (Decety & Lamm, 2009; Eisenberg & Eggum, 2009).

#### **2.2.1.4 Situational and Dispositional Empathy**

In Cuff et al. review (2016), more than ten out of 43 discrete definitions of empathy referred to are either an ability or capacity, which implies some degree of stability of empathy beyond a single event or situation that elicits an empathetic response (Albiero et al., 2009; Baron-Cohen & Wheelwright, 2004; Cohen & Strayer, 1996; Colman, 2009; Decety & Lamm, 2006; Decety & Michalska, 2010; Decety & Moriguchi, 2007; Oliveira-Silva & Gonçalves, 2011). Despite arguments that associate empathy with a specific situation or context (Albiero et al., 2009; Cohen & Strayer, 1996; Hoffman, 2000), the literature suggests there is some level of trait that determines empathetic responding, including anatomical differences (Banissy et al., 2012), genetic and development factors (Eisenberg & Morris, 2001), and variation due to psychopathy (Baron-Cohen & Wheelwright, 2004; Blair, 2007, Derntl et al., 2012). Thomas et al. (1997) conducted an experiment with 74 married couples and showed how their findings correlated empathetic accuracy positively with level of education, among others. Providing further support for empathy as a trait, Derntl et al. (2010) presented data that demonstrates stronger neural activation in emotion-related areas in the brain while performing empathy tasks, compared to male participants. Even though the authors compared only 12 females and 12 males and didn't find any difference in empathy-related behavioral output, such as observable pro-social behaviours, the results point to dispositional differences that affect empathetic response beyond a single incident, situation, or context.

However, unaffected by these considerations on trait empathy, evidence suggests that situational factors (i.e., certain stimuli in temporarily contained periods of time), influence empathetic responses in these moments (Archer et al., 1981; Cuff et al., 2016; Rameson et al., 2012; Pithers, 1999). For instance, similarity between the self and the other person has been found to be a determinant of such situational empathy (Eklund et al., 2009). A case in point is the matching of crisis negotiators with subjects, which has been identified



to be a viable strategy used by British crisis negotiators (Grubb, 2016). Further examples include appreciation of the other person by the self (Batson et al., 2007), the power differential between the self and the other person (Galinski et al., 2006; Lishner et al., 2011), cognitive load (Rameson et al., 2012), mood state (Pithers, 1999), and/or possible ego depletion. (Fennis, 2011; Banja, 2011).

## **2.2.2 Empirical Validation of Empathy**

### **2.2.3.1 Empathy in Crisis Intervention**

Derksen et al. (2013) meta-analyzed 964 original studies to assess the effectiveness of health care practitioner empathy. Their quality assessment disqualified most of these studies, leaving only seven studies for analysis. The authors found a good correlation between practitioner empathy and patient satisfaction, positive correlation with strengthening patient relationship, and negative correlation with patient anxiety and distress. Overall, they concluded that practitioner empathy delivers significantly better clinical outcomes. The meta-analysis did not control for several contextual factors, including the healthcare setting, practitioner's workload, and socio-cultural factors, which poses limits to the results overall validity.

Elliott et al. (2018) conducted a meta-analysis of 82 independent samples which had been tested for empathy as a predictor of psycho-therapy outcome of ultimately 6,138 clients. Their results showed that empathy is a moderately strong predictor of positive therapy outcomes. The reviewed studies included operationalizations of both empathy and therapy outcome using various instruments, to which the authors attribute questionable validity. Their research identified further limitations in potential confounding by different conceptualizations and methodologies and often lacking construct validity, which do not allow for the conclusion that therapist empathy uniquely predicts positive client outcomes. Despite the limitations, the number of observations analyzed lends Elliott's et al. (2018) review analytic strength. The relevance of insights gained from the counsellor-client relationship for crisis negotiations has been supported by multiple discussions in crisis

negotiations literature (Kelln & McMurtry, 2007; McMains et al., 2020, Rogan & Hammer, 2002; Vecchi et al., 2005).

Mishara et al. (2007) monitored 14 suicide prevention helplines in the United States. In 1,431 calls, they found testable relationships between intervention characteristics and call outcomes, which they assessed through observation by two research assistants with high inter-rater agreement. The results of this study included a strong and significant, negative correlation with between empathetic understanding and caller hang-ups: the more empathetically the helpline responder intervened, the less likely callers were to hang up on them. Likewise, empathy was related significantly to reaching an agreement by the end of the call. In addition, higher empathy was significantly related to improvements on the side of the callers as observed at the beginning and the end of each call on the following continua: apprehensive-confident, sad-happy, helpless-resourceful, hopeless-hopeful, confused-decided. Correspondingly, the resulting recommendation of Mishara et al. (2007) is to recruit empathetic helpers for these hotlines as well as corresponding standardized training courses.

Mueller & Waas (2010) surveyed 334 college students in the United States with a validated empathy instrument, as well as with validated instruments designed to capture their attitudes about suicide, their likely response to a peer exhibiting suicidal symptomatology, and their perceived seriousness of a peer's suicide-related problems. Among the outcome variables that are associated positively with the participants' level of empathy are providing direct assistance, engaging in direct conversation, soliciting supports, and a higher level of perceived seriousness. Correspondingly, more empathetic participants viewed behavioral characteristics associated with suicide more seriously and were more likely to provide direct assistance and talk to troubled peers. The study's focus on suicide intervention and its findings, specifically on perceived seriousness of suicidal indicators underscores its relevance for crisis negotiations, especially considering the deployment frequency to suicide attempts (as discussed above in section 2.3.3 on Distribution and Frequency of Incidents).

### **2.2.3.2 Empathy in crisis negotiations**

McMains and Mullins (2020) address the scarce empirical validation of the discussed crisis negotiation models and state that their underlying principles from behavioral science “have not always been empirically validated in crisis negotiations” (p. 131). These principles, which include the use of empathy to build rapport, were introduced to and are established in the field because they have been empirically validated in other areas (like health care practitioners-patient interactions, psychotherapist-client relationships, and crisis intervention) and found to work in crisis negotiations (Kelln & McMurtry; 2007; McMains et al., 2020; Rogan & Hammer, 2002; Vecchi et al., 2005, 2019). Accordingly, empirical studies that investigate the impact of empathy on crisis negotiations are scarce and often limited to single or small-n case study designs (McMains & Lanceley, 2003; McMains et al., 2020).

Taylor (2002) integrated conceptualizations of communication behaviors identified previously as relevant to crisis negotiations in psychology, sociology, and communication literature to generate hypotheses, which he then tested with transcripts of nine actual hostage negotiations from the archives of various US police departments. He found empathy to be a recurrent theme associated with what he refers to as cooperative interaction between negotiator and captor.

Allen et al. (1991) assessed the psychometric assessments (Minnesota Multiphasic Personality Inventory and California Psychological Inventory) of 12 crisis negotiators from a large metropolitan police agency in the United States and delineated personality characteristics that they argue are correlated with successful crisis negotiations. While the criterion for success was merely a consensus between the agency’s staff psychologist and the crisis negotiations coordinator, the experience of each negotiator was rich (more than 500 deployments) and varied in incident and subject types.

Johnson et al. (2018) surveyed 188 crisis negotiators from various countries (75% from the United States) on the skills, behaviors, and qualities that characterize expert crisis

negotiators. The most frequently recorded responses included active listening (70%, which plays a crucial part in achieving empathy, according to Ireland et al., 2011; Vecchi et al., 2005), being empathetic (39%), and showing empathy (37%).

Grubb (2018) conducted interviews with 15 crisis negotiators, all from the UK, and analyzed data with grounded theory constructivist framework. 9 of the 15 crisis negotiators indicated to be empathetic with subjects, regardless of their history, background, or the context of the critical or major incident both parties might be involved in, as a requirement for success as a crisis negotiator.

In her unpublished cognitive task analysis of crisis negotiator decision making, Hunter (2015) conducted and analyzed structured interviews with 9 crisis negotiators from the United Kingdom. 8 of them advised they attempt to build rapport through supportive and open communication, to achieve their main goal of bringing the incident to a peaceful resolution. Building rapport is closely associated with and reliably achieved through empathy (Baron-Cohen, 2001; Vecchi et al., 2005, 2019).

## **Chapter 3. General Methods**

### **3. General Methods**

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#### **3.1 Research Paradigm**

As stated in the introduction (see Chapter 1) and the general literature review (see Chapter 2), this thesis documents research that investigated potential determinants of crisis negotiators' ability to effectively empathize with subjects. It is rooted in a positivist worldview and assumes that determinants of crisis negotiator empathy as well as empathy can be objectively measured. As such, it can be ontologically approached as an external reality rather than a mere construct of researcher or subject (Burrell & Morgan, 2017; Cassell et al., 2017). To achieve the best possible understanding of the relationship between ego depletion as well as cognitive bias and empathy, the research project was designed as a sequence of studies, which employed both qualitative and quantitative methods (Creswell & Creswell, 2018; Greene, 2007).

Qualitative methods involved structured and semi-structured interviews (see Chapters 4 and 6), as well as qualitative data analysis of primary and secondary data (see Chapter 6). The goal was to capture the subjective experience of participants with a view to better understand the demands of crisis negotiations and the strategies crisis negotiators employ to meet them. These inductive analyses allowed the identification of (measurable) variables and the generation of testable hypotheses, as well as an initial exploration of relevant cause and effect relationships (Auerbach & Silverstein, 2003).

Quantitative methods were used to test the hypothesized relationships between empathy and its determinants, which were deduced from literature and this research project's qualitative studies (Becker et al., 2012; Creswell & Creswell, 2018; Greene, 2007).

### 3.2 General Research Design

As stated, this research project utilized a mixed-methods approach, which was rooted in a broad spectrum of data collection and analytic strategies. The details on the use of semi-structured interviews, field experiments, and of an online survey, along with the corresponding analytic strategies will be discussed for each study in the corresponding chapter.

Table 3.1 provides an overview of the methods employed by each of this research project's studies. The details of each study's design is outlined in greater detail in the methods section of each corresponding chapter.

**Table 3.1**

*Overview of methods employed by study.*

Study	Chapter	Method	Design/Analytic strategy	IV	DV
1	4	Semi-structured interviews	Cognitive task analysis		
2	5	Field Experiment	Within subjects/inferential statistics	Ego depletion	Empathy
3	5	Field Experiment	Within subjects/inferential statistics	Ego depletion	Empathy
4	6	Content Analysis	Grounded theory	n/a	Rapport
5	6	Online-survey	Descriptive statistics		Cognitive Bias

Within respective methodological limits, all research aimed to achieve a maximum of ecological validity. According to Schmucker (2001), ecological validity refers to the generalizability from behaviours observed in artificial, criterion environments to the actual real-life, criterion environment. The interviews of Chapter 4 (Study 1) utilized a specific form of cognitive task analysis (CTA) that re-immersed participants in salient experiences of especially memorable incidents they had worked through. The research conducted in Chapter 6 (Study 4 and 5) built on the design of the research conducted in Chapter 5 (Study 2 and 3), which was conducted as field experiments that were embedded in reality-based scenario training. This field setting applied the principles of Naturalistic Decision Making (Elliott, 2005; Klein, 2008), such as testing in complex, fast-paced, and dynamic situations, and kept data collection in the context of its criterion environment.

### 3.3 Ethical considerations

This research project followed the University of Liverpool’s policy on research ethics. Accordingly, research ethics approval has been obtained by the Health and Life Sciences Committee on Research Ethics prior to any data collection. Following lessons learned over the course of this research project, Study 5 adopted the best practice of pre-registration. Table 3.2 below lists all relevant research ethics approvals, each of which is attached in Appendix 1.

**Table 3.2**

*Research Ethics and Pre-registration paper trail.*

Study	Chapter	Research Reference	Ethics	Date	Pre-registration
Interviews - Cognitive Task Analysis	4	PSYC-1112-084		09.03.2012	
Experiments - Ego Depletion	5	1065		10.05.2017	
Online survey - Empathetic Projection	6	7482		17.09.2020	<a href="https://osf.io/p8bxz">https://osf.io/p8bxz</a>



### **3.4 Methodological Challenges**

In addition to methodological challenges, which are discussed individually for each study in the corresponding chapters, this research project was impacted, as a whole, by (a) difficulties associated with conducting research in policing in general, (b) difficulties in access crisis negotiators in particular, and (c) by the COVID19 pandemic.

#### **3.4.1 Research in Policing**

Collecting data from police is challenging (Kraska and Paulsen, 1997). Barriers to successful collaborative research efforts are rooted in agencies' organizational culture as well as in their organizational governance (Goode & Lumsden, 2016). Police culture traditionally promotes distrust vis-a-vis outside actors, which includes research institutions (Loftus, 2010; Rojek et al., 2012; Terrill et al., 2003). Correspondingly, decision-makers and members on all hierarchical levels do not expect palpable benefits from research. Correspondingly, several police agencies rejected research requests, referring, among others, to that fact that "customarily, the [undisclosed police service] does not take part in external research surveys" (undisclosed name, personal communication, November 1, 2021). Most of this research project's data collection was conducted under conditions of strict anonymity for the partner agency. Likewise, the acquisition of participants followed snowball sampling via practitioner networks rather than direct recruit through partner agencies.

Organizational barriers stemming from governance frequently involve (a) the bureaucracy of authorization, (b) data protection, and (c) operational demands (Goode & Lumsden, 2016). The bureaucracy of authorization stems from potential liability exposure stemming specifically from data protection and personal safety risk. It is also rooted in resource allocation considerations regarding location, material, and participants, as well as associated financial means. Because of the varied nature of all these determinants, several stakeholders inside partnering institutions have to authorize a collaborative research project. This project's major partnering institution took longer than one year to

authorize this research and involved three different departments: the operational branch that the participants were part of (the Crisis Negotiations Unit [CNU]), the administrative branch/back office (including the legal department), and the internal research branch.

Data protection required safeguards to protect personally identifiable data, data that reveals partnering institutions, as well as data that represents or might allow inference of methods, especially of groups specialized to the degree that crisis negotiators are. Beyond the collection of completely anonymized data, considerations concerned their storage on the University's safe data server and on password protected flash and hard drives carried by the author.

Operational demands determine overall availability of police staff for research, given the potential deployment needs of the service. Especially for experimental and quasi-experimental settings, the number of participants is usually reduced by those police officers who are working and/or deployed at the time of the actual research being conducted. This challenge increases with specialized groups like crisis negotiators, who are usually smaller in numbers and, therefore, always face the possibility of being required and/or deployed together as a whole team. Consequently, training-embedded experiments are dependent on the absence of critical or major incidents that require corresponding deployment. While this research project was not interrupted by such an incident that required deployment of all participants, the number of participants for the ego depletion studies (see Chapter 5) was reduced by on-going incidents.

Physical access poses another challenge for police researchers. Generally, interviews and online surveys do not require physical access to police facilities. While the first series of interviews of this research project (see Chapter 4) were conducted over the phone, the second series of interviews was conducted at the partnering institution (see Chapter 6). Of the training-embedded experiments (see Chapter 5), the first one was set outside the partnering institution's facilities in a hotel that was booked as the crisis negotiation team's training camp. The second experiment was set inside the partnering institution's facilities, which required a significant amount of pre-planning to obtain authorization in time. The

partnering institution provided a research assistant from within their organization, which limited the corresponding bureaucratic requirements to processing the author as the only external visitor.

The author's previous role as a police crisis negotiator was reported to be helpful in gaining overall authorization for the experimental studies (see Chapter 5) as well as the subsequent research (see Chapter 6).

### **3.4.2 Research with Police Crisis Negotiators**

Two major constraints stem from the nature of the population studied by this research project. The first one relates to the fact that the high stakes of critical and major incidents requiring crisis negotiations do not allow for experimental studies involving real-life deployments to collect data in the actual criterion environment. Observational studies, for instance through ride-alongs with police officers on patrol assignments (e.g., Anderson et al., 2002; Plecas et al., 2010), are usually not permissible, because of the delicate dynamics inside the crisis negotiator's cell and the classification of the methods employed. The introduction of experimental treatments comparable to pharmaceutical studies are unethical because of the risk to life inherent in crisis negotiation.

The second constraint relates to the size of the population. Crisis negotiators are a small fraction of all sworn police officers in every police agency (McMains et al., 2020). The example of Germany, where both training-embedded experiments of this research project were conducted (see Chapter 5), illustrates the challenge: of the roughly 250,000 sworn police officers (as of 2019; Groß, 2019) who serve approximately 84 million citizens (as of 2022; Statistisches Bundesamt, 2023), only less than 1,000 (in 2018; the exact number is classified; undisclosed name, personal communication, February 9, 2018) have specialized as crisis negotiators.

### **3.4.3 COVID19 Pandemic**

Another challenge that confronted this research project was the disruption caused by the COVID19 Pandemic. The corresponding restrictions across the globe have had (a) direct impact on the research by restricting relevant activities as well as (b) indirect impact by restricting the principal researcher's work and private life.

#### **3.4.3.1 Direct impact**

Measures to combat the COVID19 Pandemic were implemented in the countries that this research project recruited samples from for both interviews and experiments: the United Kingdom (UK; see Chapter 4), Germany (see Chapter 5), Canada (see Chapter 4 and 6), and Hong Kong (see Chapter 6). As a consequence, the original plan to continue the line of research on ego depletion and its impact on crisis negotiator empathy was not feasible once the pandemic restrictions took hold in these countries. A third experiment to replicate Staller et al.'s (2018a, 2018b) ego depletion study, which involved patrol police officers and SWAT, with German and Canadian crisis negotiations had to be cancelled, due to the COVID19 pandemic (for more details, see Chapter 5). Both partnering institutions ceased all training in March 2020, which the experiments would have been embedded in.

Part of this research project's mitigation effort to the pandemic disruption was the online-survey that followed the investigation of another determinant of crisis negotiator empathy, which was serendipitously discovered during the coding and analysis of the two training-embedded experiments (see Chapter 6).

However, several researchers have observed and documented the emergence of COVID19 pandemic-related research and survey fatigue, which undermined this mitigation effort (de Koning et al., 2021; Hlatshwako et al., 2021; Patel et al., 2020). The potential reasons for this observed fatigue include: (a) an increase in web-based research, (b) online-communication saturation, and (c) accidental move of survey invitations to junk-mail or trash folders. As a viable mitigation strategy for research disruption caused by the

COVID19 Pandemic, many researchers took to web-based online surveys, which resulted in an overall increase in invitations to survey participations for a variety of research populations (de Koning et al., 2021; Patel et al., 2020).

#### **3.4.3.2 Indirect impact**

As an active-duty frontline police officer, the principal researcher worked through several increases in professional workload due to COVID19 Pandemic-related staffing shortages. At the same time, the principal researcher had to manage increased child-care responsibilities during repeated school closures and remote-learning only periods. This resulted in several months of being the sole child-care provider to two small children during weekdays off-shift, when the principal researcher's spouse herself was instructing online as a school-teacher. These challenges impacted the research project significantly, as they chronologically overlapped with the implementation of the online survey (see Chapter 6) as a COVID19 Pandemic disruption mitigation strategy.

### **3.5 Participants**

This research project sampled from a broader population of professionals who have regular professional exposure with suicide and crisis intervention. It employed three different sample frames to recruit participants from three different sub-samples: (a) crisis negotiators, (b) patrol police officers, and (c) crisis workers.

#### **3.5.1 Crisis Negotiators**

The main population studied by this research project was police crisis negotiators. The literature review documented in Chapter 2 elaborates the central role that empathy and empathy-based rapport-building play in crisis negotiations and how crisis negotiators periodically train in empathetic communication and corresponding listening and talking techniques. As professional practitioners using empathy and related skills, crisis negotiators were expected to provide insights into the study of empathy in crisis

intervention (within and outside policing) beyond those that are gained using student samples or samples other populations. Research in psychology is generally biased to university students (Smart, 1966; Hanel & Vione, 2016; Peterson, 2001).

### **3.5.2 Patrol Police Officers**

Most if not all encounters between police and citizens, which allow for a peaceful conflict resolution through de-escalation, have to rely on an empathetic approach (Compton et al., 2008; Wolfe et al., 2020; Zaiser & Staller, 2015; Zaiser et al., in press). In light of the intense discussion around excessive police use of force and the corresponding calls for a change in paradigm towards procedural justice, de-escalation, and communication (President's Task Force on 21st Century Policing, 2015), more and more police agencies teach crisis negotiations techniques to their frontline police officers (Engel et al., 2020). Also, frontline police officers are often the first on scene intervening in a person's crisis, including suicidal crisis as described in detail in Chapter 1 (Miller, 2006; President's Task Force on 21st Century Policing, 2015).

### **3.5.3 Crisis Workers**

The literature review presented in Chapter 2 illustrates how crisis negotiations are rooted in crisis intervention and counselling literature and practice. Correspondingly, crisis workers are assumed to have even more exposure to real-life psychological crisis than crisis negotiators, because the latter's threshold of deployment typically requires a suicide attempt, self-injurious behaviour, or barricade in progress, whereas crisis workers respond to and intervene in psychological crises of any emotional intensity. By the same token, frontline police officers only respond to persons in crisis where police have been called and not to the significantly larger number of psychological crises, where the person in crisis themselves, for instance, reaches out to one of the many helplines available in many communities (suicide prevention, domestic abuse, kids' issues, personal distress, etc.). Crisis workers included any frontline mental health professional or volunteer whose primary assignment included response to individuals going through psychological crisis

and who have been trained accordingly.

### 3.5.4 Participant Overview

This research project counts a total of 184 participants. Table 3.3 breaks down the overall number of participants by study and shows the participant number of each study.

**Table 3.3**

*Participant overview by study.*

Study	Chapter	Design	n				Countries	Sampling
			SUM	CN	PPO	CW		
1	4	Semi-structured interviews	5	5			Canada, UK	purposeful, snowball
2	5	Field Experiment	24	24			Germany	convenient
3	5	Field Experiment	40	40			Germany	convenient
4	6	Content Analysis	52	52			Germany	no sampling
5	6	Online-survey	132	31	59	42	CA, USA, HK	convenient, snowball

*Note.* *n* = participants; SUM = total number of participants; CN = crisis negotiators; PPO = patrol police officers; CW = crisis workers; UK = United Kingdom; USA = United States of America; HK = Hong Kong.

## **Chapter 4. Challenges and Strategies in Crisis Negotiations**



## **4. Challenges and Strategies in Crisis Negotiations**

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## **4.1 Introduction**

As discussed above in the literature review (see Chapter 2), empathy is understood to be an undisputed key element in the repertoire of crisis negotiations (Grubb, 2019a, 2019b; McMains et al., 2020; Rogan et al., 1997; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005). Yet, sophisticated studies and systematic, empirical investigations of factors determining empathy in crisis incidents remain rare (Neller et al., 2021). In order to identify empathy-relevant aspects of crisis negotiations and corresponding challenges, as well as the strategies crisis negotiators use to effectively overcome these challenges, this research project marked its point of departure with a series of semi-structured expert interviews.

### **4.1.1 Empathy Determinants in Crisis Negotiations**

The literature review conducted in the course of this research project did not identify any empirical and or conceptual research on the factors that predict or influence empathy experienced and communicated by crisis negotiators. Only few studies have investigated predictors of crisis negotiation success, usually in terms of resolution by negotiation or surrender by the subject following contact with crisis negotiators.

Beauregard and Michaud (2015) reviewed the relevant literature and compiled a list of indicators of both positive outcomes and of imminent danger. Predictors of positive outcomes in crisis negotiations include a relationship of trust between negotiator and subject, a subject who opens up and talks at length. Predictors of imminent danger include an increasingly expressive and emotionally charged individual in crisis, and subjects who recently had to cope with several life event stressors, such as a bereavement. Several studies have identified further risk factors and attempted to show which of these characteristics carry more weight in determining the outcome of an incident (Flood & Dalfonzo, 2005; Mohandie & Meloy, 2010, Monahan, 1981). McMains and Mullins (2020) pointed out that lists of characteristics and associated frequencies and proportions cannot account for all the potential interactions between all variables over the course of a messy and complex critical incident.

Beauregard and Michaud (2015) addressed this shortfall in their analysis of 534 hostage and barricade incidents, which occurred in Quebec, Canada, between 1990 and 2004. They used logistic regression and regression-tree-analyses to predict the presence of auto-aggressive behaviours (behaviours directed against oneself) and the presence of hetero-aggressive behaviours (behaviours directed against others) on the side of the subject. Their results showed several predictors, which included for auto-aggressive behaviours the history of suicide attempts, known mental illness or psychological crisis, the incident being triggered by domestic problems, and the absence of a hostage. Prevalent predictors of hetero-aggressive behaviours included a hostage being taken, the home being the location of the siege, intoxication of the subject, the number of convictions for violent crimes of the subject, and the number of weapons in the subject's possession.

Beauregard and Michaud (2015) revisited the same sample and analyzed the data with the goal to devise an actuarial tool to aid decision-making during critical and major incidents. To offer a valid decision-making tool, the authors set out to examine all possible combinations of risk factors identified in their 2008 study discussed above. In their results, they presented 32 possible combinations of previously identified risk factors, which they attributed a certain level of risk in terms of auto-aggressive and hetero-aggressive behaviours. They found the three most prevalent predictors of auto-aggressive behaviours to be: (a) known mental illness or psychological crisis (which was present in 70.6% of the dangerous combinations), (b) the home being the location of the siege (which was present in 69.2% of the dangerous combinations), and (c) a history of at least one suicide attempt (which was present in 64.7% of the dangerous combinations). The three most prevalent predictors of hetero-aggressive behaviours were: (a) the home being the location of the siege (which was present in 81.8% of the dangerous combinations), (b) intoxication of the subject (which was present in 76.5% of the dangerous combinations), and (c) known mental illness or psychological crisis (present in 64.7% of the dangerous combinations).

In an unpublished dissertation, McGowan (2007) analyzed 360 critical incidents involving

crisis negotiators from the New York City Police Department between 1988 and 1997 with the goal to determine predictors of violent and non-violent resolution. He determined that favourable context in terms of the absence of violence or injury to any involved party prior to police arrival lowers the risk of a violent resolution by more than 79%. The author identified containment as the next best predictor, accounting for an approximately 53% lower risk of violent resolution. Finally, when crisis negotiators develop and continue a dialogue, the odds of a violent resolution were found to be more than 46% lower than when not.

Yun and Roth (2008) used script theory to analyze 234 cases of terrorist hostage-taking and kidnapping that had occurred across the globe and were collected by the Institute for the Study of Violent Groups at Sam Houston State University. Script theory originated in cognitive psychology and assumes that human behaviour follows certain patterns, which can be understood to be scripted, to some degree, by previous experiences, to facilitate certain actions and behaviours. The purpose of the analysis in Yun and Roth's (2008) study was to identify predictors of hostages' safe return or their deaths respectively. The authors identified several variables from which they extrapolated certain patterns to argue that hostage-takings and kidnappings are not random but rather patterned behaviours that are predictable. The Islamist motivation of a subject or group of subjects, the articulation of demands by the hostage-takers, the differing nationality of hostage and subject(s), and the presence of a negotiation in the first place were all significantly associated with a hostage's safe release.

Finally, Neller et al. (2021) analyzed a dataset containing 7,216 hostage and barricade incidents, which were captured by the Federal Bureau of Investigation's (FBI) Hostage Barricade Database System (HOBAS) over a 35-year period. Similar to Beauregard's and Michaud's work (2015), the HOBAS analysis identified potential predictors of resolution by either negotiation or violence, and attempted to provide an actuarial risk assessment tool that can be applied in the field. The authors conclude that, to the best of their knowledge, their results yielded the only empirically validated, cross-validated, calibrated decision-making tool currently available to law enforcement in the United States of

America (USA) that identified and investigated predictors of outcomes of critical involving crisis negotiations. Among the meaningfully and significantly associated predictors of the negotiation outcome were the (a) incident type (suicide, hostage-taking [non-barricade], barricade, and barricade with hostage), (b) the presence of violence at the onset of the situation, by whom communication with the subject was initiated (police, family, third party), (c) the means of communication (bullhorn, voice-contact from cover, face-to-face, robot), (d) the duration of the incident, and (e) the number of on-scene negotiators. None of the studies discussed in this section has captured the potential of empathy as a predictor of crisis negotiations outcomes.

#### **4.1.2 Empathy Determinants in General**

The general empathy literature offers more insight on factors that influence the experience of empathy. Research on the affective elements of empathy showed that individual differences in emotionality and regulation, stemming from personality and socialization, account for corresponding variation in vicarious emotional responding (Eisenberg et al., 1991, 1994; Eisenberg & Fabes, 1990, 1992). Based on the results of their analysis of 164 psychology students, Eisenberg et al. (1994) concluded that measures of dispositional empathy, such as Davis's (1983, 1992) Interpersonal Reactivity Index (IRI), generally were clearer and more consistent with the authors' hypothesized expectations than situational measures. For instance, empathetic concern (as captured by the IRI) was associated with moderately high emotionality, while perspective-taking (as captured by the IRI) was associated with high emotional regulation, after participants watched an empathy-inducing video. Furthermore, the authors investigated measures of situational responding with regards to their impact on state empathy. In the same sample, they found that self-reported sadness, personal distress, and sympathy were differently associated for men's and women's experience of emotionality and emotional regulation.

Also, Eisenberg and Fabes (1992) suggested a relationship between inhibition and empathy. They argued that people with lower inhibitory control might experience vicarious emotion as aversive, whereas highly controlled people might not engage with others'

emotions. By the same token, moderate levels of inhibitory control might be highly associated with sympathy and empathy. In this context, Eisenberg et al. (1994) argue that their sample's self-reports of sadness and personal distress can be interpreted as empathy and, as such, support this prediction on the role of inhibition control. While research on inhibitory control in general is abundant, especially in the domain of self-control and self-control failure (e.g., Baumeister, 1998; Dang et al., 2021; Muraven et al., 1998; Vohs et al., 2021; discussed in detail below in Chapter 5), only a limited number of studies has investigated the relationship between self-control and empathy. Within the context of health professional-patient interactions, arguments have been brought forward, according to which stigmatizing of chronic-pain patients (Cohen et al., 2011) and ego depletion of physicians (Banja, 2011) might prevent empathetic response by health professionals. Fennis (2011) conducted two experiments ( $n = 75$  and  $n = 73$ ) and found, with insufficient statistical power, that ego depletion attenuates the capacity to effectively change perspectives, a manifestation of the demonstration of empathy. In a methodologically rigorous yet statistically under-powered ego depletion experiment, 272 undergraduate students in the USA were tested in a between-subjects design for the relationship between their level of agreeableness and empathetic concern, as moderated by ego depletion (Finley et al., 2017): with ego depletion, the participants' empathetic concern decreased.

In a study involving 84 university students, Eklund et al. (2009) collected self-reports from study participants in relation to fictional, empathy-evoking stories. Their results indicate that prior similar experience increased empathy for the (fictional) persons with correspondingly described experiences. Batson et al. (2007) conducted two experiments ( $n = 80$  and  $n = 60$ ; both between subjects) and found, with insufficient statistical power, that valuing another person increased change of perspective and, with it, empathetic concern to the valued person. In a functional magnetic resonance imaging (fMRI) study with 32 participants (statistically sufficiently powered within-subjects), Rameson et al. (2012) showed that cognitive load significantly reduced self-reported empathetic experience as well as neural activity in empathy-related areas. Pithers (1999) conducted 3 experiments (even though within subjects, statistically insufficiently powered:  $n = 15$ ,  $n$

= 20,  $n = 15$ ) and showed how the mood state convicted sexual offenders were in prior to committing their crimes reduced their level of experienced empathy. Finally, several studies have shown how empathy is biased towards members of the in-group and against members of the out-group (Hudson et al., 2019; Vorauer & Sasaki, 2009; Cikara et al., 2014).

#### **4.1.3 Problem Statement and Research Questions**

As a result, empirical research on situational factors that affect an individual's capacity to empathize in a given situation, especially in policing and crisis negotiations, is limited and often limited in its external validity, due to lacking statistical power. In addition, within the context of policing, no research has been found on the factors that affect empathy within a self-contained situation.

To gain an initial understanding of empathy-relevant aspects of crisis negotiations and corresponding challenges, as well as the strategies they use to effectively overcome these challenges, this Study 1 utilized a series of semi-structured expert interviews.

The overarching research questions that guided the interviews (see Appendix 3 for the interview schedule) are the following:

1. What are the challenges crisis negotiators face over the course of a demanding critical incident?
2. How do crisis negotiators manage these challenges?

## **4.2 Methods**

Study 1 consisted of semi-structured interviews with five nationally accredited crisis negotiators. The corresponding results were matched and supplemented with secondary data obtained by a different study, which drew from interviews conducted with a comparable sample (Hunter, 2015).

### **4.2.1 Research Design**

The interviews conducted in Study 1 were examined using cognitive task analysis (CTA). With this qualitative approach, the study sought to investigate the subjective experience of a sample of participants with broad experience in crisis negotiations, in order to identify meaningful variables, generate relevant hypotheses, and to provide the underlying context (Auerbach & Silverstein, 2003). CTA refers to a variety of methods that attempt to capture, elicit, represent, and transfer knowledge, typically gained from direct interaction with domain experts (Clark et al., 2007; Cooke, 1994; Shadbolt & Smart, 2015). It uses interviews and observation to capture a detailed description and representation of the explicit and implicit knowledge as well as of the mental demands that experts typically use and face to perform complex tasks (Clark et al., 2007; Cooke, 1994; Militello et al., 1998).

Within CTA, the critical decision method (CDM) has proven to be a valid method to capture cognitive processes of interviewees' naturalistic decision-making (NDM; Elliott, 2005; Klein, 2008). NDM is a research paradigm that studies how people use their experience to make effective and efficient decisions (Gore et al., 2006; Klein, 1997; Orasanu & Connolly, 1993; Zsombok, 1997). It applies to the performance of domain experts who perform cognitively demanding tasks in complex and dynamic real-world environments. Examples include ill-structured tasks and goals, uncertainty, ambiguity, and missing data, shifting and competing goals, dynamic and continually changing conditions, real-time reactions to changing conditions fed back (action-feedback loops), multiple players, time stress, and high stakes like life or death. These are the conditions



that crisis negotiators are routinely exposed to, when deployed (Grubb et al., 2018, 2019a; Greenstone, 2005).

Based on the assumption that it is within such contexts where experts excel and expertise develops, CDM is typically used to model such non-routine tasks through a repetitive, objective interrogation of an expert. The method utilizes a protocol that has interviewer and interviewee discuss a single event of interest several times, as they work their way from an initial, high-level overview down to a low-level focus, addressing the contextual elements of the event and the corresponding cognitive experiences at the detail-level (Hoffman et al., 1998; Crandall et al., 1993; Klein, 1997; Klein et al., 1989).

#### **4.2.2 Participants**

Primary data was collected from five participants. They were acquired purposively with a view to their experience to satisfy the premise of the CTA, which requires a minimum level of expertise of the subjects. The crisis negotiators from the UK were selected out of a pool of personal acquaintances. The crisis negotiators from Canada were snowball-sampled with the help of Participant 1:1:2 and Participant 1:1:2. They are all nationally accredited crisis negotiators with several years of experience that they had drawn from multiple deployments, all within the primary jurisdiction of their affiliated services.

Altogether, three crisis negotiators were Canadian, two were from the UK. At the time of the interviews, the sample's mean age was 54 years and its mean experience as crisis negotiators was 14.4 years. At the time of the incident discussed in the interviews, the sample's mean age was 45.2 years, its mean experience as crisis negotiators was 6.8 years. Table 4.1 provides the description of the sample.

**Table 4.1:**

*Descriptive statistics of the sample.*

<b>Participant</b>	<b>Country</b>	<b>Sex</b>	<b>Age in years</b>	<b>Experience in years</b>
1.1	Canada	male	58(47)	25 (14)
1.2	Canada	female	59 (51)	12 (4)
1.3	Canada	male	41 (38)	6 (3)
1.4	United Kingdom	male	54 (38)	19 (3)
1.5	United Kingdom	male	52 (52)	10 (10)

*Note.* Years without parentheses reflect each participant's age at the time of the study, the years in parentheses reflect each participant's age at the time of the incident discussed.

The CTA of the interviews of this sample was complemented with secondary data obtained from the transcripts of interviews with eight nationally accredited crisis negotiators of the UK, with their mean age at 41 years and the mean experience as crisis negotiators at 6 years (Hunter, 2015). These participants were sampled purposively and with the snowball principle. No further information was available on the secondary dataset sample as the data were collected anonymously.

### **4.2.3 Materials**

All interviews were guided by an electronic version of the interview schedule (see Appendix 3) on the Evernote note-taking application to guide the interview and take notes along the way. The interviews were recorded using the tapMEDIA voice recording application on the principal researcher's password-protected iPad mini-2. The recorded audio-files were transcribed using the Scribie audio-transcription software into Microsoft Word 2019 documents.

### **4.2.4 Procedure**

The University of Liverpool's Institute of Psychology, Health & Society Research Ethics Committee approved this study on March 9, 2012, under reference PSYC-1112-084. The interviews that produced the complementary, secondary dataset were conducted under the same ethics approval.

After participants were identified, contacted, and provided informed consent, they received instructions to select an incident, where they (a) acted as the primary negotiator, (b) felt challenged in their capacity to empathize with the subject, and (c) experienced exhaustion. Each participant was interviewed through Skype audio-call.

Each participant was interviewed individually, on the previously agreed upon date and time, once by a single interviewer, who followed the CDM script introduced above (see interview schedule in Appendix 3). The interviewer facilitated several iterations of each participant's account of the event of interest, including (a) incident identification, where experts are asked to identify and provide a brief account of a non-standard routine event they experienced to be challenging, (b) timeline and decision-point identification, where experts determine a timeline of the identified event to identify key elements, address inconsistencies, and fill gaps, (c) deepening, where the expert works out goals, expectations, perceptions, judgements, confusions and uncertainties to gain a complete, detailed, and contextualized understanding of the expert's perspective on the event, and (d) hypothetical questions, where interviewer and interviewee discuss the relevant what-ifs to gain further knowledge.

Data was successfully captured for all participants. The interviews lasted between 59 and 79 minutes, with a mean length of 71 minutes, resulting in a total of 353 minutes of processable data. After completion of the interview, notes and audio-recordings were backed-up locally and interview transcripts created.

#### **4.2.5 Data Analysis**

The interviews were analyzed with a constructivist framework using grounded theory (Auerbach & Silverstein, 2003; Charmaz, 2006). In a first step, open coding was completed line-by-line chronologically for all interviews to break up all data and enable it for comparison amongst each other. As one interview was coded after the other, the use of the constant comparative method (Glaser & Strauss, 1967) and clustering allowed for a meaningful comparison of the data across participants. Once a theme appeared in two

or more interviews, corresponding clusters were, in a second step, documented in an initial list of relevant, broader categories in a separate document (Charmaz, 2006). In a third step, the initially formed categories were comparatively analyzed and coded axially to associate lower-level concepts with higher level theoretical constructs. The results were compiled into a table in yet another separate document. In a fourth step, an iteration of focused coding reviewed the table and consolidated the results. A final referential review of the initial table (Step 2) indicated saturation of data (Strauss & Corbin, 1998; Marshall et al., 2013).

To increase the overall merit and trustworthiness of the analysis (Lincoln & Guba, 1985), the study incorporated secondary data obtained from a previous CTA conducted by Hunter (2015), who granted permission to use her dataset. The researcher operated under the same, above-mentioned ethics approval, following the same protocol as this study. However, Hunter's (2015) secondary dataset reflected interviews that had a different analytical focus and asked different questions in the interviews. While her focus was to "explore crisis negotiator decision-making" (Hunter, 2015, p.8), this study's focus was specifically on the challenges crisis negotiators experience and how they manage those challenges. However, as the presentation and discussion of the results will show, a lot of the challenges and corresponding management strategies involve decision-making as captured by Hunter (2015). Consequently, a large overlap between the datasets allows for credible, transferable, confirmable, and dependable results. Furthermore, both datasets investigated samples from the same population with the same exact method.

Incorporating this secondary dataset involved two additional coding iterations. The first was an axial coding iteration that captured corresponding themes and ideas in the secondary data set, the previously analyzed interview transcripts. The second one was a final focused coding iteration, which consolidated the results and indicated saturation of data (Strauss & Corbin, 1998; Marshall et al., 2013).

### 4.3 Results

The primary dataset, two crisis negotiators discussed barricaded hostage-takings, three spoke about suicide attempts, two of which involved heights (one bridge over a river, one high-rise building), one involved a firearm. Of the secondary data set, three crisis negotiators spoke about incidents involving barricaded individuals, five discussed suicide attempts.

The CTA identified two overarching theoretical constructs that determine the cognitive, affective, and behavioural manifestations of crisis negotiator conduct over the course of an incident: the Task and the Strategies they use to approach it. The *task* comprises of four distinct themes, each one based on several individual ideas that were coded across the interviews. Table 4.2 provides an overview of the themes that make up the Task as well as of the corresponding ideas, along with the number of participants that discussed them (broken up by dataset and all together). A more detailed presentation of findings, including quotes and examples, will follow below.

**Table 4.2***Overview of the themes and ideas that make up the Task.*

Theme	Idea	Dataset		
		Primary	Secondary	Both
External Challenges	Environment	5	2	7
	Weather	3	4	7
Internal Challenges	Physical Exhaustion	5	1	6
	Mental Exhaustion	3	1	4
	Cognitive bandwidth	2	3	5
	Emotions	5	7	12
	Egotism	5	1	6
Third Party Challenges	No briefing	2	1	3
	No team	2	6	8
	Incident management	2	3	5
	Lack of incident command	2	0	2
	Scene management	4	2	6
Subject Challenges	Risk Factors	5	7	12
	Disturbing sensory input	3	2	5
	Subject ego depletion	4	3	7
	Difficult person	4	3	7
	Subject determination	4	3	7
	Subject-related escalation	5	2	7
	Dead-ends	5	2	7

*Note.* Numbers represent the number of participants who mentioned each idea.

The crisis negotiators mentioned three distinct Strategies, which they utilize over the course of an incident. Again, each Strategy represents a theme, each of which covers several individual ideas. Table 4.3 provides an overview of the Strategies' themes and ideas, along with the number of participants that discussed them.

**Table 4.3**

*Overview of the themes and ideas that make up the Strategies.*

Theme	Idea	Dataset		
		Primary	Secondary	Both
Meta-strategies	Confidence	3	3	6
	Instincts	2	4	6
	Adaptability	5	6	11
	Perseverance	3	5	8
Assessment strategies	Sense of typicality	3	5	8
	Recognizing subtle clues	4	3	7
	Awareness of unpredictability	4	4	8
	Modelling consequences	1	4	5
	Reflection	4	3	7
	Rapport	5	7	12
Tools	Gathering information	2	3	5
	Buying time	2	3	5
	Seek hooks	4	3	7
	Utilizing positives	1	3	4
	Using self-disclosure	1	1	2

*Note.* Numbers represent the number of participants who mentioned each idea.

The remainder of this section presents the findings of the CTA in detail. The text discusses each idea in detail, based on the statements made by the participating crisis negotiators that lent themselves as most illustrative representations of each concept identified.

#### **4.3.1 The Task**

The analysis of the task resulted in four distinct themes: external challenges, internal challenges, challenges resulting from third parties, and challenges stemming from the subject.

#### **4.3.1.1 External challenges**

External challenges represent those that can be assumed to be outside the realm of control of the crisis negotiator and included both human and non-human factors: (a) the (physical) environment, and (b) the weather.

##### **4.3.1.1.1 Physical Environment**

The (physical) environment has primarily been described in terms of geography, topography, and structural limitations within the space where the incident took place. Participants reported long en-route times to isolated places, primarily in rural (in the UK) and remote (in Canada) areas. One challenge that was reported was that of a face-to-face negotiation over a long distance “from the front yard behind cover and through the subject’s window” (1:1:2). In contrast, one crisis negotiator was constrained by “the restrictions of a backyard of a terraced house, the furthest I could back away was this window” (1:1:4). Other participants negotiated on heights like bridges or on top of apartment buildings.

##### **4.3.1.1.2 The Weather**

The weather found ample mention across several interviews. All participants who mentioned it referred to cold and windy conditions, for instance the “wind was really blowing a lot and it was hard to hear him because his voice was carried away” (1:1:2). The statements of the following crisis negotiators point out with distinct clarity, how the intersection of environmental features with adverse weather conditions can compound external challenges, which crisis negotiators have very limited means to address. They illustrated situations, where exposure to high altitude and wet and cold weather had the potential to interfere with a subject’s ability to move safely: “We were very conscious of him and around how cold he would get, whether he would lose grip and slip” (1:2:5).



#### **4.3.1.2 Internal challenges**

Internal challenges represent those stemming from cognitive, physiological, and affective demand and which can be assumed to be, to some degree, within the realm of control of the crisis negotiator. They include human factors exclusively: (a) physical exhaustion, (b) mental exhaustion, (c) cognitive bandwidth, (d) emotions, and (e) egocentricity.

##### **4.3.1.2.1 Physical Exhaustion**

Crisis negotiators advised they were challenged by *physical exhaustion*. This included being short on sleep and the corresponding impact, as one participant put it: “when you begin to be tired, you lack concentration” (1:1:4). Another participant experienced exhaustion following an adrenaline dump, followed by an “adrenaline drop making it hard [...] you needed to recover from your own body responses” (1:1:5).

##### **4.1.3.2.2 Mental Exhaustion**

Physical exhaustion often brought mental exhaustion with it:

[W]ith me the empathy drain was twofold as I began to freeze more and more my patience and tolerance decreased you know I was trying to use all my active listening skills but you can only do that for so much when your teeth are chattering. (1:1:3)

One crisis negotiator realized that “when you begin to be tired, you lack concentration” (1:1:4). Another crisis negotiator explained how cognitive load increases, when there is no team to share it with: “It is very sort of mentally draining listening and trying to think about you going to deliver the next line” (1:2:2).

#### **4.3.1.2.3 Cognitive Bandwidth**

Crisis negotiators often reported demand for their cognitive bandwidth, i.e., their capacity to pay attention, retain information, solve problems, as well as initiating and inhibiting actions (cp. Mullainathan & Shafir, 2013; Mani et al., 2013): “[Y]ou know you’re no longer paying attention while you gotta get up and move, I wasn’t able anymore to do what I wanted to do, because you have to manage those physical needs” (1:1:3). Often, cognitive bandwidth was consumed by decisions crisis negotiators took over the course of an incident: “I took command decisions about how a negotiator should do business, I set the strategy which should have been set for me, I arrange logistics of the cell and the additional resources [...]” (1:2:3).

#### **4.3.1.2.4 Emotions**

Emotions on their own have also figured prominently amongst most of the participants’ accounts on the challenges of the Task. Crisis negotiators reported variance in emotional intensity from “pretty high” (1:1:4) to “a huge drop in intensity” (1:1:5), when they “started thinking now we’re safe” (1:1:5). Among the most often mentioned emotions were frustration and some level of concern, followed by worry and anger (see Table 4.4). Participants’ frustration resulted from different sources. For instance, one participant reported his frustration to be rooted in the law enforcement response: “there was the frustration of the failure of the tactical resolution” (1:1:1). Another participant pointed to the subject: “Probably felt more frustration that we weren’t getting anywhere and we couldn’t reason with this guy” (1:2:5). Crisis negotiators felt concern about the subject’s intentions: “He started reciting the Lord’s prayer, I think. And that was a real concern” (1:2:9). They also reported frequent concern about the subject accidentally coming to harm: “I was concerned that because he’s had some drink, and the thing he was stood on was probably not much bigger than my A4 sized” (1:2:2). One crisis negotiator concluded: “And that is one of the reasons why negotiators don’t make decisions because you in effect get emotionally, you become involved” (1:2:9). For a complete list of reported emotions, see Table 4.4.

**Table 4.4**

*Overview of all ideas making up the emotions theme of the task.*

<b>Emotion</b>	<b>Both Datasets</b>
Emotional intensity	3
Frustration	5
Concern	5
Worry	3
Anger	2
Disappointment	2
Unnervingness/enervation	2
Hope	2
Desperation	1
Anxiety	1
Fright	1
nervousness	1
Emotionally involved	3

*Note.* Numbers represent the number of participants who mentioned each idea.

#### **4.3.1.2.5 Egocentricity**

*Egocentricity*, which is defined as a lack of differentiation between the crisis negotiator and the other, due to the (situational) inability to change perspective and appraise the subject's experience (cp. Pronin & Olivola, 2005), marks the final internal challenge the CTA identified. One participant elaborated on their experience of egocentricity: "[A] young 17 year old, how hard can it be [...] I genuinely thought I'd resolve that with negotiation in a relatively short length of time, you don't want to see that as being seen as unsuccessful" (1:1:4). The participant further explained: "Because negotiators like to think they can resolve everything" (1:1:4). Several participants gave account of how adverse or unexpected events during the incident affected their ego, which resulted in emotional experiences, posing a high risk to crisis negotiators themselves (as discussed in the previous section):

I remember being angry. I actually was angry. I've been here for 2 hours, under full

stress, and I don't know how long that process took but at that point I went forward and jumped, and the gun went bang. (1:1:3)

### **4.3.1.3 Third-party challenges**

Third-party challenges of the *tasks* include (a) lack of briefing, (b) lack of a team partner or back-up, (c) incident command or lack thereof, (d) and scene management.

#### **4.3.1.3.1 Lack of Briefing**

Crisis negotiators perceived lack of briefing before going into the negotiation to be a challenge: "I didn't get any briefing [...] so I had the information that was in our call history, and I simply walked up out of the bridge" (1:1:3). Included in the lack of briefing were accounts, where an incident command structure was already set up but arriving negotiators were not given additional information: "it was just reiterating what I'd already got" and "[o]nly a very brief overview and that would have been from the CIM, the critical incident manager" (1:2:4).

#### **4.3.1.3.2 Lack of a Team Partner**

Participants perceived the lack of a team partner or back-up was perceived to be particularly challenging. Secondary or number-two crisis negotiators play a crucial role in relaying information from the primary or number-one crisis negotiator, i.e., the actual crisis negotiation, to the incident commander or any other involved police unit or officer (McMains et al., 2020). In addition, secondary crisis negotiators are "acting as a second brain [...], kind of steering and shepherding" (1:2:3). Consequently, primary crisis negotiators found it "harder when you are on your own" (1:2:2), with added stress resulting from the uncertainty of knowing if they would get a secondary crisis negotiator at all or not, which, in itself, surfaced as a recurring theme.

#### **4.3.1.3.3 Incident Command**

Challenges posed by incident command or lack thereof related, for instance, to the fact that crisis negotiators experienced pressure emanating from incident managers' need for information and constant updates: "IC [incident command] was always saying what's going on what's going on" (1:1:2). Another set of ideas that make up such challenges involved a lack of role clarity among incident commanders:

But because of the different police ranks that were I'll turn up to an incident as a negotiator and I may be more senior than the incident commander and so they sort of look at you for almost like their answers. (1:2:2)

Among the most recurrent ideas was interference by IC in a way that lacked consideration for the crisis negotiators process and crisis negotiator input: "My advice wasn't be listened to about how she would set ourselves up. I was being told 'just get on with it. Stop arguing. Get it sorted'" (1:2:3). In one case, a participant illustrated the extent to which they perceived incident management to disregard the crisis negotiators: "negotiators working towards reciprocity and trust-building, and then you have their efforts undermined by a tactical resolution" (1:1:1). This had a lasting effect on the law enforcement operation: "The trust in the command triangle in it wasn't operating as it should be for our shift the trust in the command triangle wasn't working" (1:1:1).

On the flipside, those crisis negotiators that discussed an incident where there was no formal IC structure set up experienced challenges resulting from a corresponding lack of command and control, as one participant illustratively put it: "nobody was actually making decisions behind me" (1:1:4).

#### **4.3.1.3.4 Scene Management**

Other concerns included scene management, including crowd control "The scene wasn't very well managed. There were people milling about. But it was hard to manage because

there were restaurants and people walking around outside of them [...]. Some passers-by “were shouting at him” (1:2:7). However, the most prevalent challenge several crisis negotiators pointed out was a lack of control of third parties that were indirectly involved in the incident, like, for instance individuals with the potential to trigger the subject:

But this girl was at the cordon, and he could see her. Which wasn't ideal. So all the stuff I wanted to put delays in about why he couldn't speak to her, because at the time it was a case of, there was clearly a relationship issue that and I didn't know if it was with her [...]. (1:2:7)

#### **4.3.1.4 Subject challenges**

The final category of challenges associated with the Task relates to the subject that crisis negotiators encounter during the critical incident. The underlying themes include: (a) risk factors, (b) disturbing sensory input, (c) subject ego depletion, (d) difficult personality, (e) subject determination, (f) subject-related escalation, and (g) dead-ends.

##### **4.3.1.4.1 Risk Factors**

Risk factors include acts of violence during the incident, drug or alcohol influence, or challenges related to mental health. Two participants reported shots fired before crisis negotiations began: “a man in [blank] with a loaded gun who had been shooting at various people throughout the day” (1:2:1) and another subject, who “fired a round into the social services car” (1:1:1). Several participants reported having dealt with individuals under the influence of alcohol and/or drugs: “he had been drinking all night” (1:1:2) or “he has been taking a load of drugs” (1:2:1). Crisis negotiators observed behaviours apparently interfered with by mental illness: “he was quite likely schizophrenic and that he was quite likely suffering from some form of episode at that point and that his attachment to reality was not very good” (1:1:3). Other participants advised of both dealing with subjects whose behaviours were influenced by both drugs and alcohol as well as mental illness: “[a]nd he had a drink and cocaine problem as a result from stress at work, possibly, and underlying

mental health” (1:1:5) and “[h]e claimed to have a mental illness, seemed like he’d been drinking, claimed that he had been taking cocaine I think it was” (1:2:7).

#### **4.3.1.4.2 Disturbing Sensory Input**

Disturbing sensory input posed another challenge for the participants. One report graphically displayed the pervasive distraction that hours of crying by a baby held hostage posed. This situation culminated, when “at one point, he takes a 13 months old and outside the window, and just for no reason whatsoever, so we're like, Oh my god [...] it was unnerving” (1:2:2). Another participant reported how they witnessed a change in demeanour of a suicidal subject on a bridge, which indicated an imminent escalation, until “he jumps on me, but he lands on this thing and my heart like is through my head at that point” (1:1:3).

#### **4.3.1.4.3 Subject Ego Depletion**

Subject ego depletion, which is here referred to as visible signs of compromised self-control (Baumeister, 1998; Muraven et al., 1998), stemmed, for instance, from fatigue, drug, or external influences, such as weather or other distractors. A recurrent theme that emerged was suicidal subjects at heights, whose ego depletion gave rise to crisis negotiators’ worries they might end up accidentally falling, rather than intentionally jumping: “he was shivering uncontrollably” (1:1:3) or “we were very conscious of him and around how cold he would get, whether he would lose grip and slip, whether he would go into unconsciousness, fall asleep” (1:2:5).

#### **4.3.1.4.4 Difficult Personality Traits**

Several crisis negotiators advised they found subjects to display difficult personality traits that made it challenging to build rapport: “And I don’t think that was alcohol related, just

his persona” (1:1:2). Participants reported “not many hooks at all with him” (1:1:3)<sup>2</sup>, “[b]ut that first hour was incredibly difficult” (1:2:3), or “[h]e would not look at you, he would not acknowledge anything you said” (1:2:6).

#### **4.3.1.4.5 Subject Determination**

Several crisis negotiators pointed out the determination of the subject to be another challenge. Many of the analyzed suicide attempts were characterized by a period, where the subject displayed signs of imminent action to achieve their goal of suicide. Reports included signs of imminently perceived action, such as subjects saying prayers or taking off their wedding ring. One participant advised: “I felt he was building the confidence to pull that trigger” (1:1:4). A subject, who alleged he was going to suicide-bomb a whole neighbourhood, conveyed his determination in different ways:

He turns up with this belt with a mobile phone which he explains how it is wired up, he talks about failsafe devices, he talks about the training that he’s had in manufacturing explosives, he’s talked about vaguely how we can source it and where he can source it from without being overly specific. Everything is exceptionally credible. (1:2:3)

#### **4.3.1.4.6 Dead-Ends**

Finally, crisis negotiators reported consistently running into conversational *dead-ends*, where they felt they tried a variety of approaches, without making any progress in terms of rapport-building in particular, and with the crisis negotiation in general. One participant reported the situation to be “just frustrating because it didn’t seem to go anywhere. All these techniques we talk about, the active listening, the emotional labelling, it just didn’t go anywhere” (1:1:2). The analysis also recorded several mentions of participants experiencing a ‘now what’ moment, for instance: “once the story was out, that became a

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<sup>2</sup> Hooks are topics that perpetuate a conversation between a crisis negotiator and a subject and allow for rapport to be built (cp. Grubb, 2019a; Slatkin, 2009; Strentz, 2013; Vecchi et al., 2005).



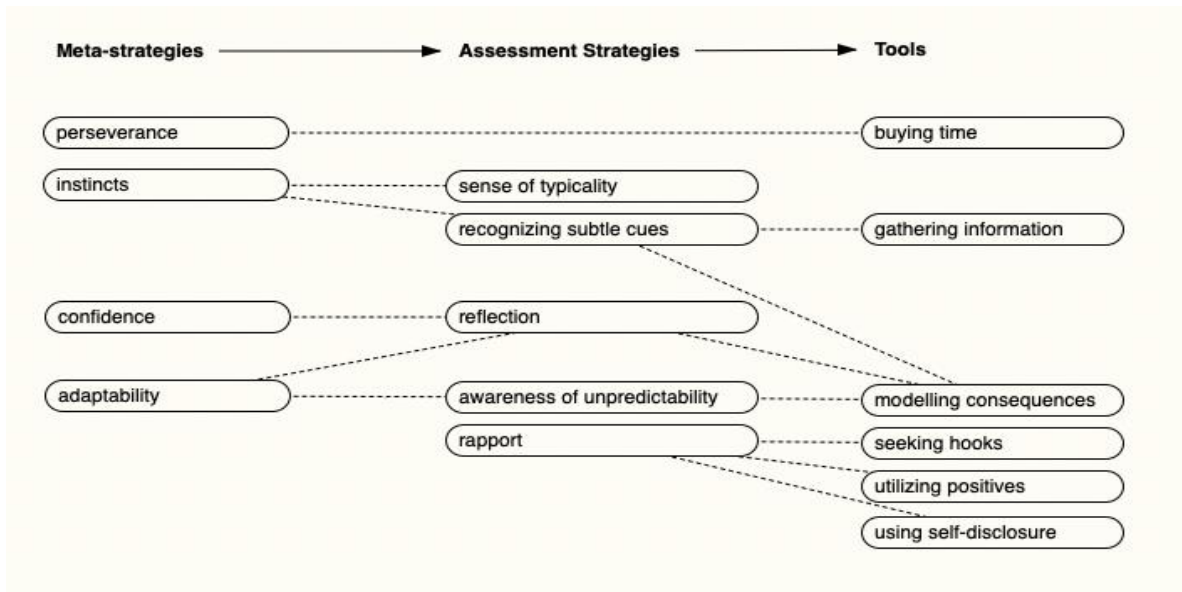
problem, cause it was like now you got my story, what are you gonna do now” (1:1:4).

### 4.3.2 The Strategies

The CTA identified three different Strategies that crisis negotiators appeared to implement on different levels of application over the course of an incident. At a higher level, non-incident specific meta-strategies keep crisis negotiators grounded and provide initial orientation of the incident within their experience. At a medium level, assessment strategies help guide crisis negotiators choose the right tools, which they apply at the lower applied and incident-specific level (Figure 4.1 provides a schematic overview of this break-down).

**Figure 4.1:**

*Hierarchy of strategies discussed by participants.*



### **4.3.2.1 Meta-Strategies**

The meta-strategies are (a) confidence, (b) instincts, (c) adaptability, and (d) perseverance.

#### **4.3.2.1.1 Confidence**

Several crisis negotiators mentioned how they rely on confidence in their ability to achieve a positive outcome, which they gained through training and, more importantly, experience: “Experience gives you the confidence that the training is as good as it is [...]. You grow with confidence at the techniques at which you have trained” (1:2:6). The breadth of ideas making up the theme of confidence within the strategic repertoire of a crisis negotiator spans from going into the incident, “I don’t doubt my ability to get to speak to somebody” (1:2:2), to its end: “It made me feel better in the fact I knew I was having a solution” (1:1:3).

#### **4.3.2.1.2 Instincts**

Crisis negotiators pointed out how their instincts, which they rely on to assess and navigate an incident. Most prevalently, participants took cues from their instincts about the determination of their subjects: “I sort of sensed in my mind that he didn’t really want to do it” (1:2:1), Furthermore, crisis negotiators pointed out how their decision-making was instinctual: “there was something inside of me that just realized it was the right thing to do” (1:2:3).

#### **4.3.2.1.3 Adaptability**

Another meta-strategy was adaptability, which was the most frequently mentioned meta-strategy within the analysis, with several participants pointing out the necessity of being flexible. They further mentioned adaptability as a general approach to recognize which strategies and tactics work and which don’t: “This is where the active listening negotiation ended and it was more bargaining based, I did what I had to do to try to get him to not jump again.” (1:1:3). Further accounts elaborated on different examples how they adapted

flexibly to dynamically changing critical incidents: “He did it so quickly that I had to make a decision how I would respond” (1:2:7).

#### **4.3.2.1.4 Perseverance**

Last, crisis negotiators identified *perseverance* in itself as a meta-strategy. It helped them overcome many of the challenges mentioned above, especially those stemming from internal and external exhaustion and difficult to deal with subjects and dead-ends: “[W]e just need to remain calm and play this out. It was just a waiting game and hoping that nothing negative was happening that time” (1:1:2). While some participants elaborated on perseverance as a necessary feature of their response in reaction to the elongating and aggravating challenges of the incident, one participant framed their reliance on perseverance with a more strategic, pro-active outlook: “I’m constantly trying to do little things. Feeding loads and loads of goodwill because at some stage I’m going to, asking to do something back” (2:2:3).

#### **4.3.2.2 Assessment strategies**

One level down, crisis negotiators indicated they used different assessment strategies to inform and guide their actions. These assessment strategies include the following themes: (a) sense of typicality, (b) recognizing subtle cues, (c) the awareness of unpredictability, (d), modelling consequences, (e) reflection, and (f) rapport.

##### **4.3.2.2.1 Sense of Typicality**

As they approached the incidents that were discussed during the interviews, crisis negotiators made sense of the situation they were facing through the lens of typicality: “If you’ve done it regularly, like the repetitiveness of any task, it becomes familiar” (1:2:5). Participants also derived meaning from an incident’s deviation from what they referred to as typical. One participant’s account sheds light on the complexities of potential deviance from the typical, which tie back to several themes discussed above, including disturbing

sensory input, confidence, and adaptability: : “I’ve been to countless people stood on high things threatening to jump off but this was the first person that I had gone to who also had a noose wrapped round the neck and when I realized that it did sort of take me back a second” (1:2:2).

#### **4.3.2.2.2 Recognizing Subtle Cues**

Crisis negotiators further assess critical incidents by recognizing subtle cues, for instance by “[p]icking up on little bits of hooks on things that they say” (1:2:2). One participant pointed out how the subtle use of possessive pronouns indicated an alleviating factor:

He would shoot the kids, he made reference to them as my children. I'm recalling, so thank God we've got at least, if he believed or at least is referring to that as his children, maybe they'll be protected kind of a thing. (1:1:2)

#### **4.3.2.2.3 Awareness of Unpredictability**

This presentation of the relevance of such subtle clues segues into another feature that crisis negotiators have built into their assessment strategies. An awareness of the unpredictability of the event seems to keep their minds open and check against pre-conceived assumptions that might bias their attention: ”I was truly prepared for him to go at any point” (1:1:3). One participant’s account illustrates, how despite valuable information on a subject gained from previous incidents, unpredictability still plays a crucial role in the assessment of the subject’s determination:

[W]e also knew that he was talked to a month ago and on the one hand you think that’s good, ‘cause he’s been up there once and he came back but it might also be bad because he’s back up and might really want to - it’s fifty-fifty. (1:1:3)

#### **4.3.2.2.4 Modelling Consequences**

To navigate the tension between the known and the unknowns and to effectively adapt to dynamic situations, crisis negotiators projected different actions, behaviours, and events and modelled corresponding consequences: “I was constantly thinking if this gets near daytime and gets to rush-hour, we’re going to have absolute chaos down here” (1:2:2). Once participant illustrated how they considered and compared two different options, based on each one’s projected outcome: “Now one, that might scare him and make him go but two, he could grab her and if it is a thing, then we both go together” (1:2:7).

#### **4.3.2.2.5 Critical Reflection**

Crisis negotiators also used critical reflection to assess their own actions and the progress of the crisis negotiation with a view to optimizing their approach and furthering the crisis negotiation: “when the self-doubts would come in, we would look into what we’re doing, a critical analysis” (1:1:1). This reflection was not only reported within self-contained, explicitly designated moments of critical analysis. Several participants gave account of how they self-assessed during their interaction with subjects: “So I’m going to take a backward step” (1:2:9).

#### **4.3.2.2.6 Rapport**

Finally, almost all crisis negotiators pointed out the central role that building rapport plays over the course of an incident: “I know there are various stages of negotiation and it’s initially building a rapport, you know, empathetic, you know influence, the stages of negotiation” (1:2:6). This participant’s reference to Vecchi et al.’s (2005, 2019) Behavioural Influence Stairway Model (BISM) exemplifies how crisis negotiators use rapport, often through the lens of the BISM, to assess the progress of the crisis negotiation from “[a]t best we had a pseudo-relationship and I had zero or almost no rapport” (1:1:3) to “I think we have a good working relationship” (1:1:1).

### **4.3.2.3 Tools**

Using rapport as an assessment strategy as well as an applied tool to move the crisis negotiation forward transitions the discussion of the *strategies* crisis negotiators employ to the lower, applied level. The CTA identified the following tools: (a) gathering information, (b) buying time, (c) seeking hooks, (d) utilizing positives, and (e) using self-disclosure.

#### **4.3.2.3.1 Gathering Information**

Participants indicated they understood the continued gathering of information to be one of the ways they could further the crisis negotiation: “Part of my role really is around, while we are negotiating, but gathering intelligence to bring it to a conclusion” (1:2:2). Early on during the incident, several participants advised they were gathering information about the subject’s intentions and determination: “I would directly ask them why they want to kill themselves” (1:2:2).

#### **4.3.2.3.2 Buying Time**

Furthermore, crisis negotiators indicated they sought to buy time. Across the interviews, different purposes of buying time came to light. Several participants indicated that subjects would eventually get into a more rational state of mind, which would increase chances for a peaceful resolution of the critical incident: “[W]aiting until he got into some state of rationality and have the brother’s girlfriend persuade him to come down” (1:1:5). Another reason that was mentioned was to manage drug or alcohol influence with a view to allow their impact to wear off. Buying time also allowed one participant to slow the crisis negotiation down to a level that they would be better able to manage cognitive bandwidth: “I just wanted to build thinking time in for myself and obviously use as an opportunity to go back and communicate and further provide updates” (1:2:2). Ultimately, buying time was mentioned in conjunction with rapport-building: “So I buy time by speaking to him establishing a rapport and trust” (1:2:1).

#### **4.3.2.3.3 Seeking Hooks**

As a means to build that rapport, which moves a crisis negotiation forward, participants gave several accounts of how they *sought hooks*, topics that they felt would help them perpetuate the conversation without aggravating the subject but rather reducing their emotional intensity (Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005). Participants explained the connection between hooks and rapport: "I was looking to find some hooks to climb up the staircase" (1:1:4). This staircase refers to the above mentioned BISM, which reflects how, crisis negotiations ideally move from empathy to rapport to behavioural influence. Ultimately, participants described how they listen to identify relatable information that keeps the conversation going: "Picking up on little bits of hooks on things that they say" (1:2:2).

#### **4.3.2.3.4 Utilizing Positives**

Similarly, participants indicated they sought to utilize positive topics, which, themselves, might serve as a hook as discussed above. However, as a more pro-actively introduced topic, crisis negotiators explained how they attempted to utilize such positives to trigger reciprocity by pointing out things that they had done for the individual: "I would make out 'look I've done massive amounts for you'" (1:2:2). Participants also advised using positives in an attempt to widen the perspective of the subject and take their focus away from the negative to the positive to talk about "what sits beyond today" (1:2:6), or to "find something for him to sort of turn it around" (1:2:2).

#### **4.3.2.3.5 Self-Disclosure**

Finally, some crisis negotiators made mention of using self-disclosure to find the common ground that they felt they could build rapport on together with their subjects: "one thing that did help, was listen to my story, and I told him about when I was young" (1:1:4). However, as one participant pointed out:

That's very dangerous territory from me. Because I have got this line in the sand that I won't bring my family into that sort of business [...] he wanted some confidence that I was a family man [...] and when it satisfied himself that I was a father and that I had some values around me that he could identify with, he then asked me for advice. (1:2:3)

### 4.3.3 Interaction Effects

The CTA captured an abundance of statements that indicate that crisis negotiators perceived different challenges that characterize the Task to be aggravated by concurrence and interaction amongst each other. Table 4.5 provides an overview of interaction effects that participants mentioned explicitly.

**Table 4.5**

*Interaction matrix to illustrate intersecting challenges as mentioned by participants.*

		External Challenges		Internal Challenges					Third Party Challenges				Subject Challenges					
		Environment	Weather	Physical Exhaustion	Mental Exhaustion	Cognitive Bandwidth	Emotions	Egotism	No Briefing	No Team/Backup	ICM (including no ICM)	Scene Management	Risk Factors	Disturbing Sensory Input	Subject Depletion	Difficult Person	Subject Determination	Dead Ends
<b>External Challenges</b>	Environment		3	1						1								
	Weather	3		1	1	1	4					2		1				
<b>Internal Challenges</b>	Physical Exhaustion	1	1		2	2			1									
	Mental Exhaustion		1	2		3	1		1									
	Cognitive Bandwidth		1	2	3		2		2	2								
	Emotions		4		1	2		4			1	2	3		4	5	3	
	Egotism						4		2						2	2		
<b>Third Party Challenges</b>	No Briefing																	
	No Team/Backup	1		1	1	2		2			2	2						
	ICM (including no ICM)					2	1			2	4							
	Scene Management								2	4		1	1					1
<b>Subject Challenges</b>	Risk Factors		2				2				1		1		1	1	2	
	Disturbing Sensory Input						3				1	1		1	1	1	3	
	Subject Depletion		1										1		1			
	Difficult Personality						4	2				1	1	1				3
	Subject Determination						5	2			1	2	3					
	Dead Ends						3									3		

*Note.* Numbers represent the number of participants who mentioned each idea.



Among those that were mentioned most frequently were the effects of the primarily cold and windy weather on participants' emotions (e.g., the resulting concern and worry for a potentially accidental fall of a subject), the interplay between emotions and crisis negotiators' ego-centricity/egotism (e.g., the anger, disappointment, and/or frustration of a subject not responding to self-perceived best efforts), emotions experienced when dealing with difficult subjects (e.g., the frustration of dealing with a difficult personality), emotions caused by subject determination (e.g., the concern, after a suicidal subject starting to pray), and the overlap between incident and scene management (e.g., a direct line of sight between subject and a triggering family member). Table 4.6 provides an overview of interaction effects between the Strategies brought forward by all participants.

**Table 4.6**

*Interaction matrix to illustrate intersecting strategies as mentioned by participants.*

		Meta-strategies				Assessment Strategies					Tools					
		Confidence	Perseverance	Instincts	Adaptability	Reflection/seek advice	Sense of typicality	Recognizing subtle cues	Awareness of unpredictability	Modelling consequences	Rapport	Gather information	Buy time	Seek hooks	Positives	Self-disclosure
<b>Meta-strategies</b>	Confidence (cp. ego)		1						1							
	Perseverance	1			4			2		3	1	2			1	
	Instincts				1		1			2	1					
	Adaptability		4	1		2	1		1	2	2		1			
	Reflection/seek advice				2											
<b>Assessment Strategies</b>	Sense of typicality	1		1	1				1							
	Recognizing subtle cues								2	2			1			
	Awareness of unpredictability		2		1				3	1						
	Modelling consequences	1		2	2		1	2	3			1				1
	Rapport		3	1	2			2	1				1		2	1
<b>Tools</b>	Gather information		1							1						
	Buy time		2		1				1							
	Seek hooks						1			2						
	Positives		1							1						
	Self-disclosure								1							

*Note.* Numbers represent participants who discussed each idea.

Among those that were mentioned most frequently were the relationship between perseverance and adaptability (e.g., a continued commitment to trial-and-error to engage the subject in a conversation), the perseverance to build rapport (e.g., the continued commitment to keep building rapport to the point a subject can be influenced, regardless

of how long it may take), or the role that awareness of unpredictability plays in modelling consequences (e.g., the calculation of residual risk of a suicidal subject jumping, after they climbed back from the ledge over the railing in the course of a favourable development of the crisis negotiation).

## **4.4 Discussion**

### **4.4.1 Significance and practical implications**

Study 1 results are significant in several ways. First, they provide novel insight on challenges and items that have not yet or only scarcely been addressed. Second, the CTA provides indication of how crisis negotiators perceive interactions effects to compound the impact of challenges and strategies. And third, the discussion of select items identified by the CTA shows how certain strategies, which have conventionally been associated with positive impact, are ambiguous in the way they play out and can have unintended, negative impact on the subject and/or the situation.

#### **4.4.1.1 The Task**

##### **4.4.1.1.1 External challenges**

As discussed in the introduction, literature is limited in this area. The only reference identified on factors discussed as external challenges is Grubb's (2020) analysis of the English National Negotiator Deployment Database. It found that most deployments included incidents located in houses or apartments (54%), followed by bridges (10%), followed by others (36%), including commercial premises (4.2%). All accounts discussed within this CTA have occurred in one of those locations. Yet, due to its different analytical goal, this CTA's results provide a structured account of challenges that crisis negotiators experience to have existential impact on the safety of both themselves and of the subject as well as on the crisis negotiations. These ramifications begin with the level of remoteness and isolation of the *environment*, i.e., incident location. This has the potential to significantly delay both initial response times and the arrival of secondary and further negotiators or the setup of a critical command structure all together. They include the

challenges resulting from structural features that dictate the distance between crisis negotiator and subject during face-to-face negotiations, which, in turn, determine risks to officer safety (e.g., heights or short distances between both parties) and pose barriers to clear communication (e.g., long distances between both parties).

More than half of the participants described how specifically cold, wet, and/or windy *weather* either interfered with their capability to efficiently negotiate with the subject or increased the risk to the subject and hostages. Grubb et al. (2019b) quoted one crisis negotiator referring to “bad weather” (p. 18) in a discussion on resilience (also discussed in greater detail below).

There are two operationally holistic approaches to crisis negotiations, which have a focus on pre-deployment risk assessment and information gathering. McMains’ & Mullins’ (2020) REACCT model has a designated focus on recognition, engagement, and assessment, before it reflects the more interactive stages of contracting, controlling, and transferring. Grubb’s (2020), D.I.A.M.O.N.D. model starts the engagement cycle of crisis negotiations with the Deployment and Information and intelligence gathering as well as Assessment of risk and threat, before it, too, proceeds to the interactive stages of Methods of communication, Open dialogue, Negotiator toolbox, and Debriefing procedures. The pre-interactive stages of both models focus exclusively on incident type (Recognition), scene control (Deployment), and the gathering of intelligence with regards to subject and subject-specific context, such as mental health, events precipitating the critical incident, or drug and alcohol influence or availability. However, neither model discusses external challenges as relevant intelligence or assessable risk factors. Given the impact of the (physical/topographical) environment and weather both potentially and as experienced by the participants in this CTA, the results warrant a formal proceduralization of the corresponding consideration, especially in the pre-engagement stage of a crisis negotiator deployment.

#### 4.4.1.1.2 Internal challenges

Similarly, challenges experienced by crisis negotiators stemming from cognitive, physiological, and affective load have been found to be mentioned only scarcely across relevant literature. Especially with regards to *physical and mental exhaustion* experienced by crisis negotiators, no research has been located in the course of this research project. Based on self-reported data, Milner (2002 as cited in Ireland et al., 2011) and Grubb et al. (2019b) made mention of resilience to be an attribute associated with a successful crisis negotiator profile. Similarly, Allen et al. (1991) and San Jose State University Administration of Justice Bureau (1995, 2004 as cited in Strentz, 2013) mentioned, based on crisis negotiator self-reports, persistence as a success predictor. While both characteristics as well as resilience and persistence, imply applicability to deal with physical and mental exhaustion, none of the mentioned references builds conceptually on exhaustion and corresponding ego depletion (Baumeister, 1998; Muraven et al., 1998) in light of a challenge experienced by crisis negotiators. Still, these categories were reported by this sample as posing mission-critical risks. Based on this CTA, crisis negotiators exhaust and deplete for several reasons. They include the environment and the weather but also stem from the experience of the competition of multiple stimuli for a crisis negotiator's attention, the experience of emotions, third parties, and the subject (all discussed below). Crisis negotiation units and teams have procedures in place for minimum staffing of critical incidents and rotating crisis negotiators over the course of prolonged incidents. However, the results of this CTA provide an opportunity for both academics and practitioners to research and contemplate problem-solving and mitigation strategies beyond the reactive rotation or substitution of crisis negotiators but also potentially proactive measures that might manage and/or mitigate risk factors that cause physical or mental exhaustion.

Limited *cognitive bandwidth* (cp. Mullainathan & Shafir, 2013; Mani et al., 2013) appears to be implicitly addressed by several qualitative assessments of self-reported crisis negotiator competencies. They all identified some level of functionality under stress, referred to as mental agility, level headedness, thinking clearly under stress, or the ability

to “multi-task” (Fuselier, 1981; Grubb et al., 2019b; McMains et al., 2020). However, this CTA provides a perspective different from the lens of stress. Corresponding challenges resulting from limited cognitive bandwidth can be rooted in a crisis negotiator’s individual capacity itself. Such challenges can also be moderated by other challenges discussed in this section, including, for instance, the lack of a secondary negotiator or team, who might take on some of the cognitive load consuming bandwidth. These results underscore the necessity for crisis negotiators to deploy in teams and inform training and procedure.

Crisis negotiators experience a wealth of *emotions*, which, in their totality, before the resolution of the incident, have been predominantly negative in valence, i.e., unpleasant in their experience (Solomon & Stone, 2002). Traditionally, the research has focused on emotions and emotional intensity as experienced by the subject (which is reflected in the models that guide police approaches to crisis negotiations, as discussed in Chapter 2). An increasing number of studies has started to shift focus on the emotional experience and emotional regulation of crisis negotiators (Grubb et al., 2018, 2019a, 2019b; Young, 2016). Most of these inquiries approach the emotional state of the crisis negotiator in light of competency (e.g., emotional intelligence, Grubb et al., 2018) or regulation (e.g., cognitive-emotion regulation or control, Young, 2016; Grubb et al., 2019a). In contrast, Grubb et al. (2019b) reported that “[m]ost interviewees [ $n = 8$ ] experienced a variety of positive emotions, often referring to feelings of excitement and thrill” (p.378). These findings stand in stark contrast with the results of this CTA, where crisis negotiators mentioned being affected by unpleasant emotions, primarily frustration, concern, and worry. It is likely that this discrepancy relates to the different interview schedules and research questions both studies attempted to answer. In addition, crisis negotiators’ emotional experience might change over the course of an incident, and different interview schedules might have targeted different stages of the negotiation.

What does stand out and requires mention is that both pleasant emotions as reported in Grubb et al.’s (2019b) study or unpleasant emotions as reported in this CTA, do not reflect the emotional experience of the subject. Even the unpleasant emotions reported here are, for instance, rooted in a lack of progress (frustration) or in a lack of control (concern and

worry). This consolidates these emotions as primary emotions of the crisis negotiators rather than secondary emotional experiences following empathizing with the subject. As such, emotions experienced by crisis negotiators, regardless of being positive or negative, might bias their attentional focus towards their own emotions instead of those of the subject, which might impede successful de-escalation and crisis intervention (Vecchi, 2009; Vecchi et al., 2005, 2019; Hammer, 2007). This process stresses the importance of crisis negotiators' capacity for emotional regulation (see Grubb et al., 2018, 2019a; Young, 2016). However, further research to better understand this mechanism might produce actionable insight into corresponding management and/or mitigation strategies that can be utilized even when crisis negotiators with higher capacity to control and regulate their emotions are pushed to their limits.

Crisis negotiators can also become emotionally involved in an ego-centric way, when they perceive the subject to be resistant to behavioural change despite their best efforts. Six of the 13 participants in this CTA reported such challenges stemming directly from *egotism*. Two articulated feelings of disappointment, two feelings of frustration, and two feelings of anger. These emotions interfere with the crisis negotiator's mission-critical approach of building rapport, based on which peaceful resolutions of critical incidents are typically achieved (Vecchi, 2009; Vecchi et al., 2005, 2019). Ego-centric challenges can be easily incorporated into reality-based scenario-trainings and should be part of crisis negotiators' self-awareness, especially during critical incidents.

#### **4.4.1.1.3 Third Party Challenges**

The CTA identified several challenges stemming from operational incident management, some of which support initial mentions in literature. These include primarily: (a) the above-mentioned operational rank and role conflict, as identified by Grubb et al. (2019b) in great detail, (b) competing tactical orientations between SWAT and crisis negotiators (Grubb et al., 2019b; Kidd, 2005, as cited in McMains et al., 2020), (c) failure to follow standard practices (Kidd, 2005, as cited in McMains et al., 2020), and (d) insufficient or no use of secondary/number two negotiators (Kidd as cited in McMains et al., 2020), and (e) poorly

managed scenes (Grubb et al. 2019b), which resulted in direct escalation of the subject due to direct line of sight on triggering family members or partners. The reports of having been deployed without briefing, despite an implemented incident command structure, does not yet appear to be covered by existing literature.

#### **4.4.1.1.4 Subject Challenges**

Crisis negotiators made ample mention of experiencing challenges resulting directly from the subject. In addition to conventional *risk factors*, such as prior exhibited violence, the influence or accessibility of drugs and alcohol, mental health, and recent suicide attempts (Grubb et al., 2020; McMains et al., 2020, Strentz, 2013), they reported a number of challenges that are more novel and not addressed by crisis negotiation literature. Participants gave several accounts of *disturbing sensory input* that they perceived to be challenging, depleting, or just throwing them off their approach to crisis negotiations. Disturbing visual, auditory, and even olfactory input can be incorporated into periodic reality-based scenario training for crisis negotiators, as well as incident-specific contingency planning to decrease detrimental impacts and increase preparedness and associated stress resistance of crisis negotiators (cp. Meichenbaum, 2017).

One important insight gained from this CTA is in contrast with the basic assumption that incidents de-escalate as time progresses (e.g., Grubb et al., 2020; Hatcher et al., 1998; Vecchi, 2009; Vecchi et al., 2005, 2019<sup>3</sup>). Crisis negotiators reported specific ways that subjects *ego depleted*, which turned out to be challenging, as they seemed to increase risk to the subject and/or crisis negotiator. A case in point is one participant's account of how they felt the subject was only building the confidence to pull the trigger of a gun to their head as time went by. Several others pointed out the increased risk of suicidal subjects at height to accidentally fall, especially in conjunction with other challenges discussed above, such as the environment and weather. While participants reported time

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<sup>3</sup> Crisis negotiators buy time to decrease the emotional intensity of the subject, have potential drug effects wear off, wait for windows of opportunity to open during symptomatic episodes of mentally ill subjects, and wait for other law enforcement resources to get in place for an optimal incident resolution.

as well as tired subjects to play in their favor (positive impact), they also mentioned how these indicators of progress can backfire (negative impact).

Participants further articulated challenges associated with the more stable characteristics of the subject they were dealing with. They perceived subjects to be *difficult persons*, based on several observations. One participant, for instance, discussed the difficulty of finding common ground with a suicidal teenager, another possibly unexpected difficulty stemming from the personality of the subject that initially may not appear as such.

Several crisis negotiators mentioned higher degrees of *subject determination* to either complete their suicide attempt or materialize (one of) their threats to be challenging. This adds another level of acuteness and associated *escalation*. These dynamics resonate with crisis negotiation literature in terms of risk management (Hillbrand, 2001; Neller et al., 2021; Rueve & Welton, 2008), with Rueve's and Welton's (2008) dynamic risk factors, such as impulsivity, feasibility of a suicidal or homicidal plan, or access to weapons, being a suitable example. When there are no SWAT capabilities in place to deal acceptably and risk-effectively with such an imminent risk, crisis negotiators need to be prepared to manage and/or mitigate such risks. Corresponding training and education, including on awareness of corresponding indicators, is imperative, especially since several crisis negotiators reported such incidents.

*Dead-ends* are another challenge within the conversational scope of crisis negotiations, which the majority of participants pointed out they had to overcome at one point or another during the incident they discussed. While it is plausible to assume crisis negotiators are all familiar with such conversational dead-ends to some degree, pointing them out as a common challenge raises awareness and allows for effective preparation. Through training and proceduralization of using "bunches of fives", which crisis negotiators typically use to have a list of readily available reasons for a primary negotiator to explain why, for instance, an ultimatum wasn't met or why the subject might not want to materialize a threat (Waddington, 1999), moving the conversation and, thus, the rapport-building past such dead-ends is a viable approach to counter this kind of challenge.



#### **4.4.1.2 The Strategies**

Crisis negotiator strategies are typically informed by the models discussed in Chapter 2. They capture the characteristics of the subject and the incident with the goal to guide crisis negotiators' actions as they engage in negotiations.

##### **4.4.1.2.1 Tools**

As such, the crisis negotiations literature usually discusses these approaches as repertoires of *tools* and techniques (McMains & Lanceley, 2003; McMains et al., 2020; Vecchi, 2009; Vecchi et al., 2005, 2019) and corresponding categories they can be organized in, such as the quasi-therapeutic communication techniques (Grubb et al., 2020; Vecchi, 2009; Vecchi et al., 2005, 2019) or enhanced persuasion techniques (Grubb et al., 2020; McMains et al., 2020). These include this CTA's identified tools of utilizing hooks and positives, alongside buying time and gathering information. Within the scope of quasi-therapeutic communication techniques, a novel concept within crisis negotiations appears to be the use of self-disclosure to build rapport (introduced by Grubb et al., 2020; cp. the corresponding literature review for self-disclosure in counselling, Watkins Jr., 1990), as reported by two participants in this CTA.

In addition, the results of this CTA add additional layers that help crisis negotiators overcome challenges that they encounter over the course of an incident: meta-strategies and assessment strategies.

##### **4.4.1.2.2 Meta-Strategies**

Strategies at the meta-level provide an easily applicable way to methodically connect general crisis negotiator competencies, as exemplified by Grubb et al. (2019b), with the ways crisis negotiators apply them during incidents. Several of the meta-strategies that the CTA identified have been addressed by literature as relevant crisis negotiator

competencies, including *confidence* and *perseverance/persistence* (Grubb, 2019b), and *adaptability* (Grubb, 2016; Grubb, 2019b). Almost half of the participants mentioned reliance on their *instincts* to be a strategy that helped them assess risks and navigate incidents. In this context, they described accessing subconsciously available, tacit knowledge that allowed them to efficiently act and react in response to environmental cues (cp. Abernathy & Hamm, 1995; Epstein, 2010). As such, the quality, applicability, and usefulness instincts in guiding decision-making and other behaviours depends on the amount of the exposure and the predictability/consistency of the corresponding situations in which experiences are formed (Epstein, 2010; Kahneman, 2011). Grubb et al. (2019b) identified intuition as related concept and found it has not been discussed as a crisis negotiator strategy prior to their analysis, where four out of 15 crisis negotiators mentioned it. In contrast, six out of 13 crisis negotiators of this CTA pointed out they followed their instincts when addressing the challenges they identified during critical incidents involving crisis negotiations. Instincts and/or intuition have been pointed out to be relevant strategies in both analyses, this CTA and Grubb's et al.'s (2019b). Yet, little insight has been gained on crisis negotiators' (self-critical) awareness of the limits of their instincts, as well as of the role that expertise and experience play in lending instinct-based decisions value (Baylor, 2001; Dane & Pratt, 2007; Epstein, 2010; Kahneman, 2011; Sadler-Smith & Shefy, 2004; Salas et al., 2010).

#### **4.4.1.2.3 Assessment Strategies**

Crisis negotiators also reported the use of assessment strategies that differ from conventional assessment of risk along the categories of subject and situation (Grubb, 2020 et al.; 2020; McGowan, 2007, Vecchi et al., 2005), or static and dynamic (Rueve & Welton, 2008). They navigate incidents by benchmarking the situation they are encountering to what they experienced to be a typical, comparable case (*sense of typicality*). They gave several accounts of how they kept in mind, consciously and subconsciously, to expect unknowns and unpredictables (*awareness of unpredictability*). They used the concept of *rapport* not only as a goal, towards which they used their repertoire of tools and techniques. They also regularly assessed the progress of the crisis

negotiation through the lens of rapport. Several references to where they saw themselves on the BISM illustrate the use of rapport as an assessment tool. Lastly, crisis negotiators use expert decision-making skills through *modelling consequences* of different potential courses of action and reaction to challenges and situational changes they are confronted with. The level of typicality, as well as unknowns and unpredictables are variables that lend themselves easily to introduce variance to reality-based training scenarios for crisis negotiators.

Crisis negotiators also mentioned how they rely on critical *reflection* throughout an incident. Grubb et al. (2019b) advised that reflection was mentioned by a few participants in different contexts, yet without elaborating on its own relevance for crisis negotiations. Most participants in this CTA reported using reflection as a meta-strategy to overcome challenges that they encountered during incidents. In addition to this, the literature on cognitive reflection and its relevance to decision-making and judgment underscore its potential relevance in the context of crisis negotiations (Campitelli & Labollita, 2010; Frederick, 2005; Oechssler et al. 2009). Against the backdrop of these general findings on cognitive reflection, the results of this CTA warrant the conclusion that critical reflection is a relevant competency that deserves further attention by both academics and practitioners, alongside corresponding training and education.

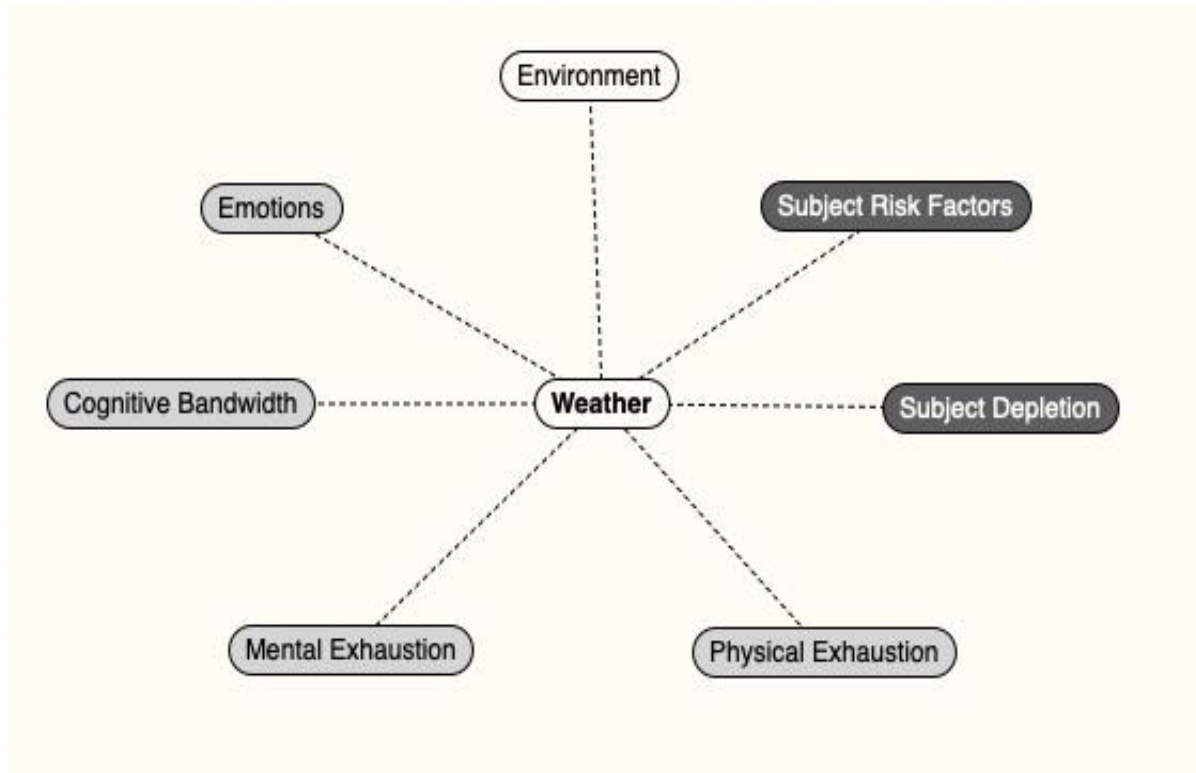
#### **4.4.1.3 Interaction Effects**

Participants reported several interaction effects between both challenges and strategies. The benefit of being aware of them lies in the possibility of managing and/or mitigating risk associated with several challenges by addressing one. The matrices above (Table 4.5 and 4.6) make it easy to spot bilateral intersection of task features or strategies. Figures 4.2 and 4.3 illustrate how a single challenge or strategy is associated with several others. For instance, planning for a prolonged crisis negotiation in cold weather can mitigate physical and exhaustion of the crisis negotiator, free up cognitive bandwidth, and mitigate negative emotional impact on the crisis negotiator. The provision of blankets or jackets for suicidal subjects might mitigate risk emanating from intersection of weather

and environmental risk (e.g., an accidental fall) and reduce other subject-related risk factors and subject ego depletion.

**Figure 4.2**

*Mind map illustrating leverage effects among the task themes identified by the CTA, related to weather.*

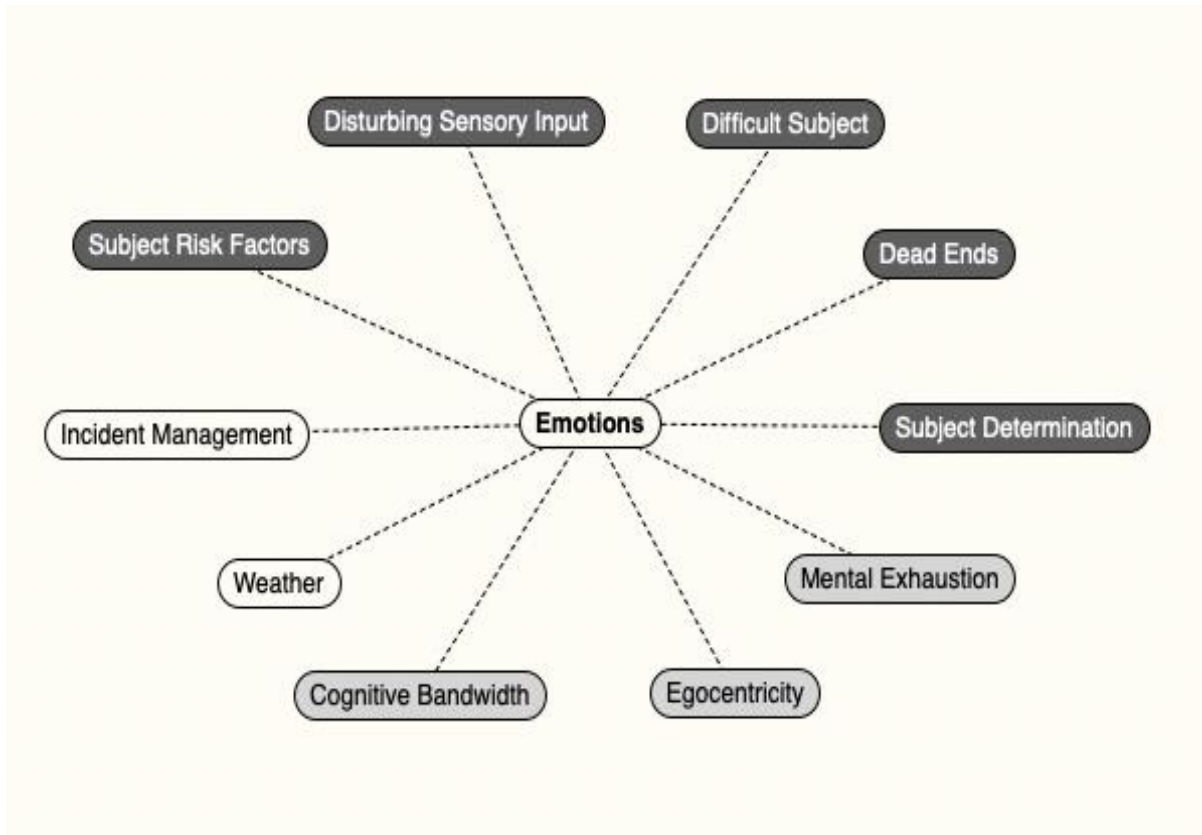


*Note.* Light grey items represent internal challenges, dark grey items represent subject challenges.

Another scenario to exemplify how addressing one challenge can be leveraged to mitigate risk from other challenges would be a focus on emotional regulation in selection and training to manage the variety of risks associated with the emotional experience of crisis negotiators. This was another key finding of the CTA, which was amply discussed in the interviews. Figure 4.3 represents the long list of challenges intersecting with emotion. These can be addressed by recruiting emotionally self-aware crisis negotiators (Leary & Gohar, 2014), who further develop the strategies of emotional regulation they bring with them and learn new ones through relevant continuing training (cp. Thompson et al., 2022).

**Figure 4.3**

*Mind map illustrating leverage effects among the task themes identified by the CTA, related to emotions.*



*Note.* Light grey items represent internal challenges, dark grey items represent subject challenges.

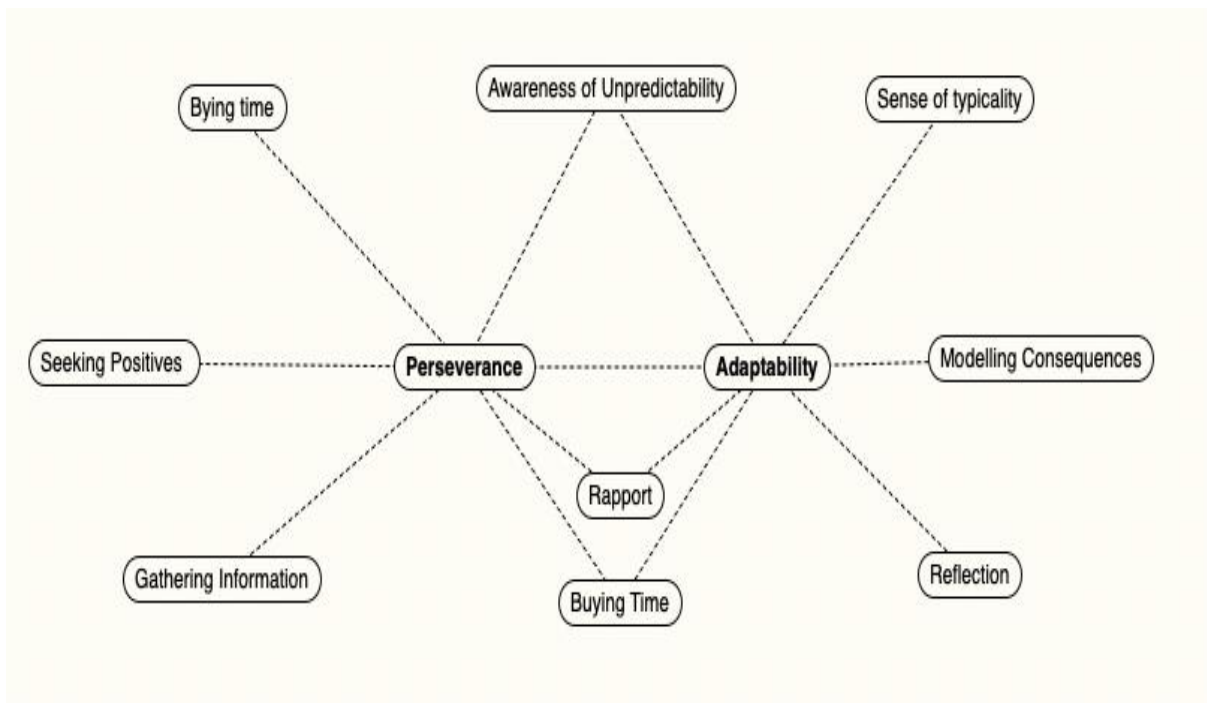
Another important insight can be gained from comparing Figure 4.2 (weather-centric approach) with Figure 4.3 (emotion-centric approach): preparing for and mitigating adverse impact from the weather helps crisis negotiators manage more self-related risks (marked in both figures in light grey). At the same time, it helps managing risks of emotional experience addresses significantly more subject-related risks (marked in both figures in dark grey). The less affected crisis negotiators are by adverse emotional responses, the more they can leverage their positive impact on any of these subject-related challenges through empathy and rapport-building.

Likewise, awareness and proficiency in one strategy makes it easier to apply another one. For instance, perseverance, especially in light of what is known about critical incidents involving personal crisis (i.e., de-escalation takes time), can compound its positive impact

on the crisis negotiation if crisis negotiators are flexible and adaptive. As such, perseverance and adaptability appear to be core competencies that the participants described as helping them implement a variety of assessment and problem-solving strategies/tools over the course of an incident. For a detailed representation of how participants associated perseverance and adaptability with assessment strategies and tools, see Figure 4.4.

**Figure 4.4**

*Mind map illustrating leverage effects among the task themes identified by the CTA, related to perseverance and adaptability.*



#### 4.4.1.4 Emerging Insight: Ambiguity

The discussion of these results also points to an emerging insight: the number of items identified by the CTA shows how certain strategies, which have conventionally been associated with positive impact, are ambiguous in the way they play out and can have unintended, negative impact on the subject and/or the situation.

Crisis negotiators' reported reliance on instincts helped them assess risks and navigate

incidents. While instincts have been pointed out to be relevant strategies by this CTA as well as by Grubb's et al.'s (2019b) study, little insight has been gained on crisis negotiators' (self-critical) awareness of the limits of their instincts, as well as of the role that expertise and experience play in lending instinct-based decisions value (Baylor, 2001; Dane & Pratt, 2007; Sadler-Smith & Shefy, 2004; Salas et al., 2010). The risk associated with instinct-based decision-making is best illustrated by one crisis negotiator's humble account of an ultimately tactical intervention that put his own life in jeopardy: "I automatically covered the short ground between us and jumped on him, and the gun went off for real, so it was loaded, thankfully nobody got hurt" (1:1:4). As such, instincts require a certain level of awareness of the underlying factors and corresponding reflection among crisis negotiators, so they have a better understanding of the tacit, unconscious knowledge they are drawing from is sufficient to account for the situation they are relying on it.

Similarly, crisis negotiators buy time to decrease the emotional intensity of the subject, have potential drug effects wear off, wait for windows of opportunity to open during symptomatic episodes of mentally ill subjects, and wait for other law enforcement resources to get in place for an optimal incident resolution (Hatcher et al., 1998; Vecchi et al., 2005, 2019). However, accounts captured by this CTA show specific ways in which subjects deplete, which appear to actually increase risk to the subject and/or crisis negotiator. These considerations illustrate the ambiguous impact subject ego depletion and passing time on the progress of the crisis negotiation and the risks for the subject, hostages, and crisis negotiators.

Seeking hooks and positives are also strategies that are prescribed as best practice in the literature (Grubb et al., 2019a; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005). As such, there is no critical reflection on their potential to have adverse effects on a conversation. Some participants indicated a latent risk in relying on hooks as a tool that has a solely positive impact. Despite Vecchi's et al.'s (2005) discussion of events precipitating the critical incident as hooks, crisis negotiators might perceive the lines that separate hooks from triggers or hot buttons differently. These topics can only be relied on

as viable hooks if information gathered directly from the subject over the course of the conversation. Even if parallel information gathering with family includes a statement of, for instance, the subject's father's or mother's love for them, the statement made by the participant can turn out to be trigger or hot button that escalates the subject.

#### **4.4.2 Limitations**

This CTA is limited in its trustworthiness (Lincoln & Guba, 1985), including its credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (Cohen et al., 2006). Limitations to its credibility primarily stem from the lack of analyst triangulation during the coding process (Shenton, 2004) of both the primary and secondary dataset. Due to a lack of resources during the pandemic, potential analysts that could handle the workload could not be recruited. However, several efforts to compensate for the lack of analyst triangulation were undertaken. Through the use of two datasets (the primary and the secondary dataset), which have been collected by two different researchers, sources have been triangulated (Denzin, 1978; Patton, 1999). The application in the vernacular of task specific as well as behavioural (strategy-specific) features of the data, analytical perspective, and theory have been triangulated (Denzin, 1978; Patton, 1999). Negative case analysis (Lincoln & Guba, 1985, Patton, 1999) led to the discussion of ambiguity of the corresponding results. Furthermore, prolonged engagement (Shenton, 2004) was facilitated by the researcher's immersion into the subject matter as a nationally accredited crisis negotiator in the Federal Republic of Germany (from 2007 to 2014), along with international deployments and the completion of cross-training received from English crisis negotiators, which afforded the trust that is necessary for participants to fully commit to the research (two participants gave account of a subject completing their suicide attempt in front of them - even though both subjects were not successful, it requires a certain level of trust by the participants to show the corresponding vulnerability and humility). Several peer-debriefings along the way ensured corresponding methodological rigour (Lincoln & Guba, 1985; Slevin & Sines, 2000).

While the use of member-checking would have certainly enhanced this study's credibility



by providing participants the opportunity to correct errors and challenge what they would perceive to be misinterpretations of the data, several criticisms of this technique have been brought forward (Angen, 2000; Morse, 1994; Sandelowski, 1993; Schwartz-Shea, 2020). Member-checking implies commonly agreed upon ontological assumptions, which, as illustrated by the example of the ambiguously interpretable results discussed above, are ontologically not necessarily as stable as member-checking assumes. Similarly, interpretations of participants might change, either towards social desirability or away from it. When a member check confronts the researcher with meaning the participant wants to correct (i.e., change) the question of which interpretation is to be deemed the accurate or credible one arises. In addition, the context within which members check the data they provided might be different from the initial interview setting and not be conducive to a prudent (as an analogy to methodologically rigorous) review. Finally, members might also be at risk of conforming to the data presented to check (i.e., priming and confirmation bias) and not critically check it, undermining the purpose of the endeavour in the first place. As a result, this research project steered clear of any member-checking efforts.

Limitations to the study's transferability are rooted in the fact that only 13 crisis negotiators have been interviewed, which constitutes a fairly small sample of the overall population of nationally accredited law enforcement crisis negotiators in the world. However, the thorough nature of the CDM and the corresponding extensive interview script can be argued to reflect thick descriptive features (Lincoln & Guba, 1985), which allow for transferability of conclusions to comparable situations and actors. Furthermore, the sample consists of English and Canadian crisis negotiators, which, despite both countries' affiliation with the British Commonwealth might add to the study's transferability. Still, the categories identified in this CTA would benefit from further validation through quantitative methodology, further prolonged engagement, such as the observation of live deployments or cross-referencing with audio recordings of crisis negotiations. Another promising avenue of research could focus on cross-cultural comparisons between policy, procedures, and practices as well as between either category across different countries (Grubb et al., 2020).

The lack of analyst triangulation also increases the study's limitation in terms of its dependability. Lincoln and Guba (1985) recommend external audits to address dependability limitations. However, Morse (2015) found that findings of a qualitative researcher are rarely challenged and recommends audits only based on suspicion. In addition, most of the above-mentioned criticism on member-checking appears to be applicable to external auditing as well. Most notably, external auditing assumes ontological stability by its very nature. Also, while the purpose of external auditing is to check the intimate relationship between the researcher and their data (Lincoln & Guba, 1985), external auditors can be expected to interpret the data from a different point of view and therefore arrive at different conclusions, which, again, raises the question of which interpretation should stand. Silverman (2019) proposes five approaches to enhance the dependability of both process and the corresponding results: negative case analysis, constant data comparison, comprehensive data use, inclusion of all deviant cases, and the use of tables. As addressed in the discussion on the study's credibility, negative case analysis, comprehensive data use, and inclusion of all deviant cases have resulted in a whole category of insight presented in the discussion on the CTA results' ambiguity. In addition, the methodologically rigorous data analysis, comprising of seven iterations of coding and consolidation, allowed for constant data comparison. The use of tables both during analysis and in the presentation of the results in the previous section introduced quantitative aspects, which further addressed concerns on the study's dependability (Patton, 1999).

Finally, limitations to the study's confirmability, the extent to which its results are rooted in the participants accounts rather than the researcher's bias, motivations, and interests, primarily arise from the principal researcher's level of immersion into the subject matter. As an experienced crisis negotiator, their time as a practitioner exceeds the time they spent as a researcher. The undeniable degree of corresponding personal bias (Tong et al., 2007) results in both beneficial and detrimental impact on the research (Arber, 2006). Aside from the easy access to a hard-to-access population (as discussed in detail in Chapter 3), the principal researcher acknowledges their bias in an idealistic belief that every crisis negotiation has the potential to be resolved peacefully. By extension, the

principal researcher realizes that their perception of empathy and rapport-building as predictors of a peaceful resolution might be biased towards an inflated applicability even beyond the ample empirical evidence discussed in Chapter 2. However, this potentially negative impact has been counteracted by the triangulation efforts as discussed above (Denzin, 1978; Hsieh & Shannon, 2005; Patton, 1999) as well as by this sections' critical reflection of the principal researcher's bias and beliefs. Finally, the methodologically rigorous audit trail discussed above in the procedure section provides effective checks against compromises of this study's confirmability (Lincoln & Guba, 1985).

#### **4.5 Chapter Conclusions**

To obtain an initial, practically relevant overview of the challenges that crisis negotiators face, including potential factors that determine crisis negotiator empathy, and the strategies they use to manage them, this research project conducted, as an initial probe, CTA with 13 nationally accredited crisis negotiators from the UK and Canada, using the CDM.

The subsequent CTA identified sets of challenges associated with the crisis negotiator task profile as well as strategies how crisis negotiators manage corresponding demands. While some challenges are addressed in the crisis negotiation literature as well as mitigated by corresponding procedures, training, and selection criteria, many of them have been reported to be difficult to implement in reality. In addition, a significant number of items identified in this initial study have not yet been systematically captured and processed in the literature and go beyond the mere description of the repetitive ideas shared among the participants. Challenges can compound through interaction with each other, which illustrates an increase in risk to the crisis negotiations but also shows potential leverage points, where addressing one challenge prevents or mitigates one or more other challenges.

One emerging insight from this CTA is the fact that many of the approaches, which are conventionally understood to work in a certain way or direction, are subject to a high

degree of ambiguity. Tacit knowledge available through instincts is limited by the amount of previous exposure and experience crisis negotiators have had to comparable and otherwise relevant situations, along with the way they engage with and interpret those experiences.

#### **4.5.1 Further research**

One set of challenges reported by the participants has not yet been systematically investigated: the mental but also physical exhaustion and the demanding experience of emotion during critical incidents. Previous research at the University of Liverpool (Staller, 2016), and the start of the ongoing debate on the ego depletion effect (following Hagger & Chatzisarantis, 2016) nudged this research project's trajectory conceptually towards self-control and self-control failure. The strength model of self-control appeared to be a suitable concept to approach and test these above-mentioned internal challenges identified by this CTA.

## **Chapter 5. The Effect of Ego Depletion on Empathy in Crisis Negotiators**

## 5. The Effect of Ego Depletion on Empathy in Crisis Negotiators

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## 5.1 Chapter Introduction

The challenges that participants pointed out in Study 1 (see Chapter 4) range from unfavourable weather and physical exhaustion over ego depletion to negotiator self-centricity (i.e., *egotism*) and the demanding experience of different emotions during critical incidents. Their potential to exhaust and deplete the crisis negotiators' capacity to not only deal with these challenges but also to control themselves and maintain composure has emerged as a common theme.

Research has shown that, at times, humans fail to control themselves or inhibit, for instance, aggressive impulses in response to being insulted or provoked (DeWall et al., 2007; Finkel et al., 2009; Stucke & Baumeister, 2006). Such self-control is an empirically validated crisis negotiator competency that has been associated with negotiation success (Allen et al., 1991; Grubb et al., 2019b; McMains et al., 2020). It also serves as a prevalent selection criterion for crisis negotiators, who are not only frequently subjected to insults and verbal abuse but exposed to other stressors, including team conflict and hostage dynamics, whilst being conscious that their every action may make the situation worse (Grubb et al., 2019b; McMains et al., 2020).

As a result, the subsequent trajectory of this thesis continues a previous line of research at the University of Liverpool (Staller, 2016) on self-control and self-control failure in police officers, as it aims to contribute to the continuing debate on the ego depletion effect (e.g., Hagger & Chatzisarantis, 2016). This chapter reports two randomized-controlled field experiments (Study 2 and 3) that tested the ego depletion effect on 52 crisis negotiators' communicated empathy towards a subject in a simulated hostage situation.



## 5.2 Literature: Ego Depletion in General

In the past two decades, research in the field of self-regulation has supported the notion that self-control can be understood to be dependent on what is often referred to as self-regulatory resource (Baumeister, 1998; Baumeister, 2002; Dang et al., 2021; Hagger et al., 2010; Inzlicht & Schmeichel, 2012; Muraven & Baumeister, 2000; Muraven et al., 1998). The corresponding literature holds that this resource can be exhausted by responding to self-regulatory demands, much like a muscle. Such demands typically involve controlling short-term gain-oriented, behavioral impulses to achieve long-term desirable outcomes. As we exert self-control, our capacity to do so becomes depleted over time, until we ultimately give in to the demand or behavior we initially tried to avoid. In the literature, this state has been conceptualized as ego depletion, which is the most famous strength or resource model of self-regulation theory (Baumeister, 1998; Baumeister et al., 2000; Baumeister, 2002; Dang et al., 2021; Hagger et al., 2010; Inzlicht & Schmeichel, 2012; Muraven & Baumeister, 2000; Muraven et al., 1998).

### 5.2.1 The Conceptualization of Ego Depletion

The ability to inhibit, override, or to otherwise circumvent thoughts and responses that favor short-term over long-term benefits, which are motivated by short-term rewards at the expense of long-term benefits, is commonly referred to as self-control (Casey, 2015; Fujita, 2011; Mischel et al., 1989).

Referring to the traditional concept of *willpower*, which Mischel (1996) argued is exercised through the delay of gratification, Muraven et al. (1998) laid out their conceptualization of a strength model of self-control. In a first step, they showed how controlling emotions like inhibiting facial expressions or pain (Lanzetta & Kleck, 1970; Notarius et al., 1982; Holroyd & Gorkin, 1983), controlling or consciously directing attention (Kahneman, 1973; Pribram & McGuinness, 1975), suppressing thoughts (Wegner et al., 1990), or lying (Pennebaker & Chew, 1985) are all associated with physiological arousal. Correspondingly, they concluded that self-control requires cognitive, emotional, and physical effort. The authors

then contextualized these insights with Gilbert's et al.'s (1988) study, according to which self-control can be exhausted: participants who were instructed to ignore distractive stimuli while trying to perform a task ended up performing worse at that task than participants who were not instructed to ignore the distractors. Even though statistically underpowered ( $n = 51$  with a between subjects-design), the theoretical idea represented by the study's design aligns with Muraven's et al.'s (1998) conclusion that effortful self-control draws from a limited resource. To illustrate their argument, the authors draw an analogy to the physical exhaustion of a muscle. In addition, based on previous research (Eysenck, 1960; Thornton, 1939), they argue that controlling a wide variety of behaviors draws from the same resource. In summary, Muraven et al. (1998) arrived at the prediction that "an act of self-regulation will be followed by poorer self-regulation even in other, quite different, spheres" (p. 775). They corroborated this insight with four experiments. At this point, it needs to be noted that none of the experiments involved a sample ( $n = 60, n = 58, n = 49, n = 86$ , all between subjects-design) that yielded sufficient statistical power.

In the same year, Baumeister et al. (1998) presented the results of another series of similarly designed and equally underpowered experiments ( $n = 67, n = 39, n = 30, n = 84$ , all between subjects), whose results align with the strength model of self-control. They refined the model at the granular level and coined the underlying theoretical construct *ego depletion*, to which they attributed the following characteristics. First, a limited resource of mental energy is used for all acts of conscious volition, which include the initiation of behaviors, the overriding of responses, active choice (as opposed to passive choice), and controlled processing (as opposed to uncontrolled processing). Second, any act of volition draws from the same resource and temporarily exhausts it. Baumeister et al. (1998) also assume that this resource replenishes after a period of rest. As will be discussed below, several studies (sufficiently powered) provided evidence, corroborating this initial theoretical account of this strength model of self-control.

Subsequent research adopted and refined the basic logic of the research designs of Muraven et al. (1998) and Baumeister et al. (1998) and grew the evidence-base for the ego depletion effect (Baumeister, 2002; Baumeister et al.; 2000; Hagger et al., 2010;

Inzlicht & Schmeichel, 2012; Muraven & Baumeister, 2000). Several studies found ego depletion, for instance induced by the direction to resist eating rewarding food, to result in a decrease in the ability to control aggressive impulses, either in response to being insulted or provoked (DeWall et al., 2007; Stucke & Baumeister, 2006), or in context of domestic violence, when the participants' partner provoked their ego depleted counterparts (Finkel et al., 2009).

Hagger et al. (2010) then conducted a meta-analysis of 83 studies and presented evidence in support of the ego depletion effect as conceptualized by Baumeister et al. (1998). In addition, the authors found that motivational incentives, the training of self-control tasks, and glucose supplementation increased self-control among ego-depleted samples. In contrast, the expectation of having to exert more self-control exacerbated the depletion effect. As a result, they concluded that the potential of motivation and fatigue as alternative explanations for ego depletion requires an integration of the strength model with other theories. For instance, dual process approaches (as proposed by Pocheptsova et al., 2009) or dimensional approaches (as proposed by Masicampo & Baumeister, 2008). On the one side, there are effortful, intentional decisions, which require information processing and active deliberation. On the other side, there are reactive responses that rely on heuristic processing and are characterized as spontaneous and often not reflected upon. In this vernacular, maintaining focus on long-term goal attainment and ensuring corresponding decisions and behaviors, i.e., overriding reactive responses, is most effectively achieved by active deliberation, which is effortful and requires motivation. As a result, ego depletion can be understood as a process that dictates whether decisions and behaviors are determined pro-actively with effort and motivation or reactively as a spontaneous and/or intuitive response. Motivation, then, can help maintain active deliberation when faced with a behavioral choice and counteract or delay heuristic processing (Hagger et al., 2010).

Similarly, further studies documented results that reflect the limited knowledge of the mechanisms underlying the ego depletion effect. For instance, several studies suggested that the mere perception of being ego depleted, rather than being actually depleted, can

induce ego depletion and decrease task performance (Ackerman et al., 2009; Alberts et al., 2011). On the other side, research has shown that the manipulation of beliefs about ego depletion can prevent its exhaustive effect: subjects who were primed to believe that they had self-control resources available or unlimited self-control resource appeared to be resistant to the ego depletion effect (Clarkson et al., 2010; Job et al., 2010).

As a result, several researchers have disputed the ego depletion effect in that self-control does not draw from a finite self-regulatory resource (Beedie & Lane, 2012; Clarkson et al., 2010; Job et al., 2010; Kurzban, 2010; Magen & Gross, 2007; Molden et al., 2012; Muraven & Slessareva, 2003) or, at least, that the ego depletion effect may not be as simple and linear as initially proposed (Carter & McCullough, 2014; Inzlicht & Berkman, 2015), and called for alternative approaches to ego depletion.

## **5.2.2 Alternative Models of Ego Depletion**

### **5.2.2.1 The Opportunity Cost Model of Subjective Effort & Task Performance**

An approach to self-control that considers the domain-general nature of self-control (Cohen & Lieberman, 2010; Dang & Hagger, 2019; DeWall et al, 2007; Finkel et al., 2009; Stucke & Baumeister, 2006) is Kurzban's et al.'s (2013) Opportunity Cost Model of Subjective Effort and Task Performance (OCMSETP; see Figure 5.1), which focuses on the mechanisms that motivate the negotiation between competing cognitive demands. The model assumes that the human brain can simultaneously process only a very limited number of tasks at any given time. As a result, there is an opportunity cost associated with the allocation of these finite cognitive resources, which requires a cost-benefit calculation for every effort expended and every performance reduced. "*[T]he sensation of "mental effort" is the output of mechanisms designed to measure the opportunity costs of engaging in the current mental task*" (Kurzban et al., 2013; p.7; emphasis in original). The authors understand this cost-benefit analysis to be the estimation of the utilities of different possible actions to solve the prioritization problem of which task to pursue. Therefore, the model predicts that mechanisms that can be flexibly deployed require more effort and account for steeper declines in performance (e.g., solving four-digit

multiplication puzzles), as compared to mechanisms that are singular in function (e.g., spatial vision while driving a car).

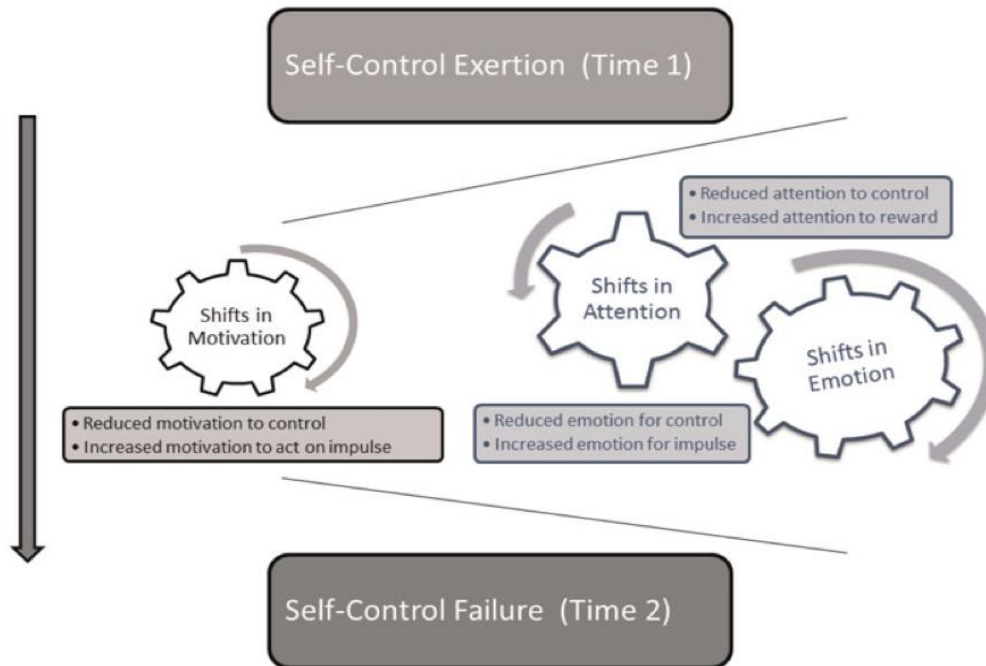
A distinctive feature between the OCMSETP and the strength model of self-control is the nature of the limits to mental activity. The former's finiteness stems from a limited cognitive capacity, i.e., number of tasks that can be completed at the same time. The latter's finiteness refers to the actual depletion of whatever resource cognitive capacity is drawing from. The OCMSETP does provide a more granular account of the mechanisms underlying self-control, which includes potential explanations for the variety of ego depletion mediators and moderators. However, it assumes that people are rational actors, calculating costs and benefits in an objective and dispassionate manner, which has been shown to be a fallible assumption (Kahneman, 2011; Kahneman & Tversky, 1979). As such, this model fails to account for several relevant findings, which represent self-regulatory failure to be associated with rather irrational choices (Inzlicht & Schmeichel, 2013).

#### **5.2.2.2 The Process Model of Self-Control Fatigue**

Inzlicht and Schmeichel (2013) proposed their Process Model of Self-Control Fatigue (PMSCF; see Figure 5.1), which addresses this shortfall. They conceptualize self-control failure as the result of a shift in motivation: An initial self-control exertion to override a behavioral impulse shifts the motivation away from restraint and towards gratification by acting on that impulse. This motivational shift entails a corresponding shift in attention, away from self-control cues and towards reward cues. The subsequent shift in emotion sets the pathway for a corresponding behavioral response. In other words, people lose motivation to control (or inhibit) themselves and gain motivation to self-gratify (or act on impulse). While several ego depletion researchers have acknowledged and investigated the capacity of motivation to replenish self-regulatory resource (Baumeister, 1998; Baumeister et al., 2007; Muraven & Slessareva, 2003).

**Figure 5.1**

*The Process Model of Self-Control Fatigue (Inzlicht & Schmeichel, 2013)*



Inzlicht and Schmeichel (2013) argue that their model distinguishes itself from the OCMSETP in that it provides an account of how the calculation of utility can be expected to change over time. It allows for predictions of directions in the dynamics of “processing allocations”: as time passes, individuals move away from inhibition and self-regulatory effort, towards reward and gratification. As such, the model accounts for delay or temporal discounting tendencies, which individuals exhibit when facing decisions that involve tradeoffs between costs and benefits occurring at different times: they often assign future rewards relatively less value than immediate rewards (Frederick et al., 2002). Loewenstein (1988) showed experimentally how the results of such a utility calculation comparing “now” with “later” depend on the substantial reference point, based on which it is made. Depending on how the decision-problem is framed, corresponding impulses are either acted upon or overridden by re-directing motivation and, with it, attention.

In this context, the PMSCF can account for the results of many studies that identified conditions under which self-control can be maintained or restored (e.g., vicariously

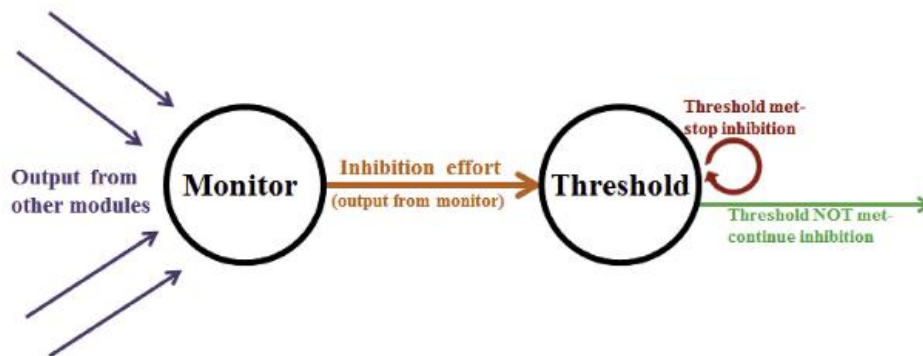
through perspective-taking, Ackerman et al., 2009; by increasing corresponding self-awareness, Alberts et al., 2011; or through the mere perception of resource depletion, Clarkson et al., 2010, Job et al., 2013). It is important to note that the PMSCF does not refute any of the tenets proposed by the original ego depletion hypothesis. In fact, it expands its explanatory power, as it approaches some of the underlying mechanisms that the theory struggles to explain. By addressing and incorporating the role which fatigue and motivation play within the self-control depletion sequence, Inzlicht's and Schmeichel's (2013) model advances insight into the complex and dynamic nature of self-control and invites, with its own empirical validation outstanding, a broader scope for ego depletion research.

### **5.2.2.3 The Dual Component Model of Inhibition Regulation**

Reynolds and McCrea (2016) focused on the functional aspect of self-control and devised their Dual Component Theory of Inhibition Regulation (DCTIR; see Figure 5.2). The model is based on three assumptions. First, the authors assume that it is functional to apply self-control in certain situations to regulate impulsive behavior. Second, they hold that it is undesirable for self-control to be applied indefinitely. This incorporates the notion that there is an end to self-control and that there is a beneficial point in time for each situation when it can come to a halt. Third, self-control varies across contexts, meaning that people show different levels of self-control for different behaviors, all using to the same, underlying mechanism. This mechanism is modular. A monitor component detects that an impulsive behavior needs to be inhibited and calculates the level of temptation to finally trigger inhibitory effort if determined self-control is required. A threshold component processes the corresponding signal from the monitor to determine whether inhibition has happened and ceases inhibitory effort if that threshold of successful inhibition has been met.

**Figure 5.2**

*The Dual Component Theory of Inhibition Regulation (Reynolds & McCrea, 2016)*



A central tenet of the DCTIR is that inhibitory self-control is understood to be a mechanism of information processing. Compared to the strength or resource model, this is a distinctive feature: it is a result of (different) configurations of monitor and threshold components, rather than an exhaustion or failure of self-control. In addition, the DCTIR is domain specific and assumes different levels and routines of inhibitory behaviors depending on context or domain. In other words, some people may exert successful self-control over their diet by detecting the potential for an impulsive grab for a cookie and inhibiting it due to a low threshold. At the same time, they may be not successful in inhibiting an emotional response to the loss of their favorite sports team. Reynolds and McCrea (2019) tested 59 participants with an online game within subjects through different iterations of a short-term versus long-term reward decision and presented results that support the model.

Still, the model's assumption of context or domain contingency, which has not yet been empirically validated, does not account for instances where self-control is not domain specific: several studies provide evidence that the exertion of self-control in one domain, such as delaying gratification, affects the exertion of self-control in another domain, for instance, emotion regulation or memory inhibition (Cohen & Lieberman, 2010; Dang & Hagger, 2019; DeWall et al, 2007; Finkel et al., 2009; Stucke & Baumeister, 2006).



## **5.2.3 Empirical Validation of Ego Depletion**

### **5.2.3.1 Initial Evidence**

A multiplicity of studies investigated the ego depletion effect on executive functioning and other cognitive capacities (Baumeister, 2002; Baumeister et al., 2000; Englert et al., 2015; Furley et al., 2013; Hagger et al., 2010; Inzlicht & Schmeichel, 2012; Muraven & Baumeister, 2000). Relevant studies found that exhaustion of self-regulatory resource through accomplishing a demanding task reduces self-regulatory resource for subsequent demands. Hagger et al. (2010) meta-analyzed 83 studies with a total of 198 experiments to test the ego depletion effect on task performance and related outcomes, along with alternative explanations and corresponding moderators. They found a significant effect on self-control task performance, with significant effect sizes on effort, perceived difficulty, negative emotional experience, subjective fatigue, and blood glucose levels. Furthermore, they reported the effect size to be moderated by depleting task duration, task presentation by experimenter, time in-between tasks, and by the complexity of the dependent task. The authors stated that motivational incentives, such as training on self-control tasks, promoted better self-control in ego-depleted samples. In conclusion, they argued their findings provide preliminary support for the ego-depletion effect. However, they also pointed out that their analyses provided support for motivation and fatigue as alternative explanations, propagating the need to for an integration of ego depletion with other models (which was met, for instance by the PMSCF discussed above).

### **5.2.3.2 Replication Crisis**

Despite many studies that support the ego depletion effect, the underlying dynamics are still not completely understood (Staller, 2016) and assumed to be not as straightforward as initially proposed (Berkman & Miller-Ziegler, 2013; Staller et al., 2018a). Several studies found that the mere perception of being ego depleted causes the effect, rather than real exhaustion of self-regulatory resource (Ackerman et al., 2009; Alberts et al., 2011; Clarkson et al., 2010; Job et al., 2013). Recent findings further demonstrated that self-control might not be as energetically dependent as initially conceptualized (Beedie &

Lane, 2012; Clarkson et al., 2010; Dang, 2016; Job et al., 2010; Kurzban, 2010; Molden et al., 2012; Magen & Gross, 2007; Muraven & Slessareva, 2003). In addition, the manipulation of beliefs, for instance by corresponding priming stimuli, has been found to mitigate the ego depletion effect (Clarkson et al., 2010; Dang et al., 2021; Job et al., 2010).

A multilab preregistered replication study (Hagger & Chatzisarantis, 2016) of the ego depletion effect by 23 laboratories ( $n = 2141$ ) failed to replicate the ego depletion effect. This indicated that, if there is any ego depletion effect, it is close to zero. However, a recent complimentary analysis of the data (Baumeister & Vohs, 2016; Dang et al., 2016) suggests that the failure of Hagger's and Chatzisarantis' (2016) replication study may result from the ineffectiveness of their manipulation task (a letter crossing task). Analyses of only those datasets, where people consider the manipulation as effortful, that is, depleting, indicate the presence of an ego depletion effect (Baumeister & Vohs, 2016; Dang et al., 2016).

In what Dang (2018) claimed to be a stricter and updated meta-analysis that accounted for the methodological shortfalls of previous reviews, he analyzed 32 ego depletion effects that were reported in 27 articles. The results included small to medium effect sizes, after correcting for publication bias. He concluded the state of the evidence at the time would not allow for a final verdict on the validity of the ego depletion effect. His study further pointed out that not all the manipulations that were used to induce ego depletion resulted in statistically significant effects on subsequent self-control.

Garrison et al. (2019) published the results of two pre-registered experimental studies that enlisted over 1000 participants. The research team found evidence of an ego depletion effect resulting in poorer attentional control (Garrison et al., 2019), which the authors claimed represents some of the most rigorous evidence of the ego depletion effect to date. Dang et al. (2021) reported the results of another pre-registered experiment with 1,775 participants from 12 laboratories across the globe, which were a significant but small ego depletion effect, similar to Garrison's et al. (2019) study. The authors concluded that the combined results of both research projects suggest ego depletion to be real but

with smaller effect sizes than previously assumed. In contrast, Vohs et al. (2021) published the results of their pre-registered multi-laboratory replication effort, drawing data from 36 independent labs and 3,531 participants. They reported overall non-significant results with miniscule to small effect sizes and concluded them to support several potential interpretations. One is that the ego depletion effect does not exist. Another one is that the reliability of the effect is still not known. A third one is that there may be a reliable but small depletion effect. Ultimately the authors concluded that ego depletion is not as reliable or robust as previously assumed.

In summary, the evidence on ego depletion to this point is inconclusive. Table 5.1 provides an overview of relevant meta-analytic reviews as well as pre-registered replication efforts and their results, which supports the current conclusion that the existence itself as well as the extent to which ego depletion can explain self-control remain contested. One lesson to be drawn from a critical review of the literature is to ensure appropriate and standardized operationalization (Englert & Bertrams, 2021). This includes both depletion and subsequent self-control tasks, which have been repeatedly pointed out as concerns (Baumeister & Vohs, 2016; Cunningham & Baumeister, 2016).

**Table 5.1**

*Relevant meta-analytic reviews as well as pre-registered replication efforts and their results.*

Study	Design	Dataset	Sample	Sig.	Effect Size
Hagger et al. (2010)	meta-analysis	83 experiments	$n = 10,782$	$p < .001$	$d = 0.62$
Carter & McCullough (2014)	meta-analysis	Hagger et al. (2010)	$n = 10,782$	$p < .001$	$d = 0.35$
Carter et al. (2015)	meta-analysis	116 experiments	n/a	$p < .001$	$g = 0.24 - g = 0.43$
Hagger & Chatzisarantis (2016)	multi-lab RRR	23 laboratories	$n = 2,141$	$p = .045$	$d = 0.04$
Blázquez et al. (2017)	meta-analysis	Hagger et al. (2010) Carter et al. (2015)	$n = 10,782$ n/a	n/a n/a	$d = 0.64 - d = 0.65$ $d = 0.66$
Dang (2018)	meta-analysis	32 experiments	n/a	$p < .001$	$g = 0.24 - g = 0.38$
Garrison et al. (2019)	single-lab RRR	2 experiments	$n = 951$	$p = .006$	$d = 0.16$
Dang et al. (2021)	multi-lab RRR	12 laboratories	$n = 1,600$	$p = .003$	$d = 0.16$
Vohs et al. (2021)	multi-lab RRR	36 laboratories	$n = 3,531$	$p > .05$	$d = 0.06$

*Note.* RRR = registered replication report;  $g$  = Hedges'  $g$ .

### 5.2.3.3 Ego Depletion in Policing

Only a limited number of policing scholars and practitioners have taken interest in self-control as it affects police officers. Donner and Jennings (2014) collected data from 1,935 US-American police officers to investigate the relationship between self-control and police conduct. The authors surveyed self-reports and publicly available datasets to operationalize self-control and misconduct. Their attempt to answer the question whether low self-control influences police (mis)conduct at the individual level found low self-control to be a significant predictor of officers with a history of citizen complaints for physical abuse, verbal abuse, being the subject of an internal affairs investigation, and having engaged in general misconduct.

In a statistically under-powered, explorative field experiment that was embedded in a reality-based scenario exercise, Staller et al. (2018a) tested a sample of 37 German police officers (between subjects) for the impact of ego depletion on the officers' decision to use force against a provocative and non-compliant citizen. The depleted experimental group did end up using force at a significantly earlier time during the encounter, compared to the non-depleted control group. In a follow-up study, the researchers tested a sample of 200 German police officers (again between subjects), this time in a table-top style exercise where they watched a video of a provocative, non-compliant citizen (Staller et al., 2018b). In line with the first study (Staller et al., 2018a), the ego depleted experimental group indicated the intention to use force significantly earlier against the citizen than the non-depleted control group. Ultimately these studies show an association between ego depletion and a lower threshold for using force. Furthermore, several studies found that insulting provocations and disturbing visual stimuli (DeWall et al., 2007; Vohs et al., 2011), as often experienced by police officers, can deplete individuals' self-regulatory resource and decrease their capacity to inhibit aggressive impulses. In addition, research has shown that ego depletion can reduce attentional control in stressful situations (Englert et al., 2015; Furley et al., 2013).

#### 5.2.4 Problem Statement and Hypotheses

Since the beginning of policing, the use of force always been codified and proceduralized as a means of last resort (dating back to the Peelian Principles of Policing of 1829, referenced in Loader, 2016). After all, use of force: (a) often undermines compliance (Barker et al., 2008; Gerber et al., 2018; Terrill et al., 2016), (b) risks public trust and alienates police from the community (Ang et al., 2021; Giles et al., 2021; Tyler & Fagan, 2008; Wolfe & Piquero, 2011), and (c) risks an escalation of violence and injury and/or even death for some or all involved parties (Donner et al., 2015; Ryan, 2019). Consequently, many situations in which the use of force is generally deemed legitimate, can be resolved more efficiently and with less risk by officers who successfully exercise self-control (Zaiser & Staller, 2015; Wolfe et al., 2020; Zaiser et al., in press). As a result, evidence-based best practices in policing rely heavily on empathy as a means for officers to de-escalate, especially in crisis negotiations (McLean et al., 2020; Police Executive Research Forum, 2015; President's Task Force on 21st Century Policing, 2015; Vecchi et al., 2019; Zaiser & Staller, 2015; Zaiser et al., in press; also see Chapter 2). Yet, systematic evaluations of its successful application in policing are still lacking.

At the same time, most research into ego depletion, including the recent replication efforts, has focused on the ego depletion effect on executive functioning and capacities involved in completing cognitively demanding tasks, such as solving puzzles or delaying gratification. Only a limited number of studies have investigated affective outcomes of ego depletion, where emotional self-regulation and empathy are studied as dependent variables. Especially emotion regulation does figure prominently in ego depletion research, typically in shape of emotional suppression tasks that are used as a manipulation to induce ego depletion (e.g., Muraven et al., 1998; for a more detailed discussion of manipulation/depletion tasks, see Dang, 2018; and Mangin et al. 2021). However, based on the literature review of this thesis, research on emotion regulation as an outcome variable remains limited.

To date, only a few studies have investigated the effects of loss of self-control on empathy.

In addition, this literature review did not identify any ego depletion study involving crisis negotiators. Correspondingly, the following two studies' primary goal was to see if the findings of previous research on ego depletion and affective responses like aggression transfer to affective responses that aim at facilitating connection through empathy rather than conflict.

*Hypothesis 1:* Ego depletion decreases crisis negotiators' level of communicated empathy.

The studies' secondary goal was to extend previous findings on the robustness of different depletion manipulations to validate experimental paradigms for further studies on ego depletion within policing and related fields (cp. Mangin et al., 2021)<sup>4</sup>.

*Hypothesis 2:* The e-crossing task induces ego depletion in crisis negotiators.

*Hypothesis 3:* The cold-pressor task induces ego depletion in crisis negotiators.

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<sup>4</sup> Letter crossing/e-crossing tasks have been found to work with different populations but not with patrol and tactical officers (Staller, 2018a).

### **5.3 Experiment 1 (Study 2 within this overall research project)**

The first of two ego depletion studies consisted of a randomized-controlled field experiment, designed within-subjects. 24 crisis negotiators participated in the trial, which was embedded in one of the partnering institution's periodic training weeks.

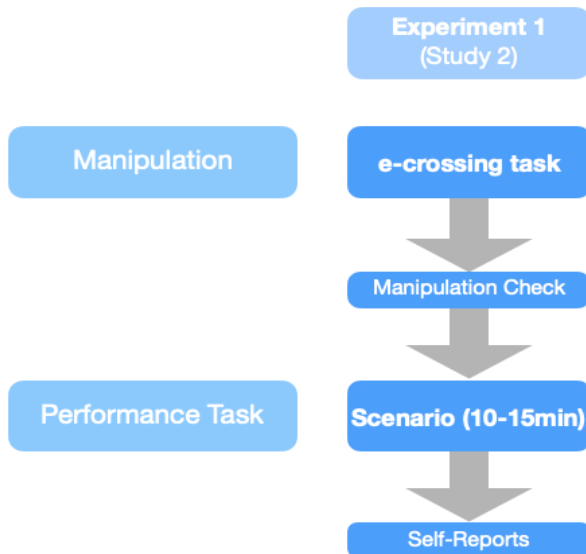
#### **5.3.1 Methods**

##### **5.3.1.1 Research Design**

Study 2 took advantage of the sample's annual periodic training, in which it was embedded in as a field experiment. Data was collected within-subjects, who completed a reality-based scenario exercise, in ego depleted (manipulated) and non-ego depleted (control) condition. The task simulated the initial phase of a hostage situation, in which each participant negotiated with a subject on the phone, according to standard operating procedure. To counter-balance possible familiarization and other learning effects from day one to day two (Bortz & Döring, 2007), participants were randomly assigned to start with either control or experiment condition on the first day. On the second day, they were completing the trial in the respective other condition.

**Figure 5.3**

*Research Design of Experiment 1 (Study 2)*



### **5.3.1.2 Participants**

A priori power analysis using G\*Power (version 3.1; Faul et al., 2008) for sample estimation indicated that the required sample size for detecting a medium-sized effect at 80% statistical power with a significance criterion of  $\alpha = 0.05$  was  $n = 27$  (one-tail) for the paired samples t-tests reported below.

Ultimately, a total of 24 German crisis negotiators with federal domestic and international jurisdiction (abroad hostage-takings and kidnap & ransom) took part in the trial. Police services across the Federal Republic of Germany counted less than 1,000 trained and active crisis negotiators (BKA, personal communication, April 1, 2020). All participants were formally trained, qualified, and designated crisis negotiators with a minimum of 4 weeks basic training in crisis and hostage negotiation. The sample's mean age was 39.7 years with mean experience as crisis negotiators of 6.83 years. Further details and descriptive statistics on the full sample are illustrated in Table 5.2. All participants provided informed consent before starting their involvement in the research project. They were asked to participate in a field experiment that tested their crisis negotiation



performance in a reality-based scenario task.

**Table 5.2**

*Study 2 sample descriptive statistics.*

n	sex		age				experience					
	f/m	M	20-29	30-39	40-49	50+	M	0-4	5-9	10-14	15-19	20+
24	7/17	39.75	2	10	9	3	6.83	8	8	8	-	-

All participants were a convenience sample from the partnering institution’s Crisis Negotiations Unit (CNU), which entered into a research agreement with the University of Liverpool for the purpose of this research project.

### 5.3.1.3 Materials

Participants used a desk with a conventional phone, where they completed the field experiments, which included (a) manipulation task, (b) manipulation check, (c) the scenario, and (d) a follow-up, self-report questionnaire (see above, figure 5.4).

*Manipulation task:* Each participant was individually required to complete an ego depletion manipulation task. The task was working through a letter crossing task using an excerpt of an unrelated, peer-reviewed text. In the control condition, participants were required to cross out all “e”s, following a simple rule for 10 minutes. In the experimental condition, participants first crossed out all “e”s, following the same simple rule for five minutes. Then, they were required to cross out all “e”s, following a different, significantly more difficult rule for another five minutes (Baumeister et al., 1998; DeWall et al., 2007). Letter crossing tasks with this design have established themselves as one of the most commonly used ego depletion manipulation tasks (Arber et al., 2017; Hagger et al., 2010).

*Manipulation check:* Immediately after the manipulation task, participants completed a manipulation check questionnaire, which assessed participants’ perception on the following five items on 25 point visual analogue scales: (a) the amount of energy they put into the manipulation task, (b) how difficult they found it to complete the task, (c) how

frustrating they found it to complete the task, (d) how exhausting they found it to complete the task, and (e) the difficulty they experienced in overriding the habit formed after the change in cross-out rules. These categories reflect the commonly employed ones in ego depletion research, including recent and above discussed replication efforts (e.g., Hagger et al., 2010; Vohs et al., 2021). The literature review for this thesis did not find any reports of corresponding psychometric properties or any other discussion of validation.

*Scenario:* The scenario conversations were recorded through an in-house engineered, feedback-filtered microphone and recorded on a conventional Olympus WS series digital recording device. The recorded audio-files were then downloaded from the recording device onto the primary investigator's password protected MacBook Pro and backed up on the primary investigator's password protected Seagate Expansion Portable Drive, where they remained for further analysis.

To allow for a reliable comparison between conditions, two different scenarios were written along the same phenomenological parameters (Kalus, 2014). The plot evolved over the course of a barricaded hostage situation that required participants to negotiate with radicalized Islamist terrorists. The scenarios were written in collaboration with the sample's training officers to maximize scenario fidelity, realism, and relevance to reflect training and preparedness profile of the sample.

Each of the two scenarios' subject characters were based on a biography that contained a detailed synopsis of the radicalization, including the real-life hardships that drove them into extreme religious ideology. It is those secular challenges that facilitate radicalization and which crisis negotiators have to address to build rapport and work towards a non- or less violent resolution of the hostage taking (Dolnik & Fitzgerald, 2011; Ireland & Vecchi, 2009; McMains et al., 2020; Zartman, 2003). To facilitate maximum reliability in the comparison between conditions, subject actors kept the communicative dynamic of each scenario as natural as possible. At the same time, they followed a partial script of benchmarks that they were required to hit in the course of the simulated negotiation (Kalus, 2014). Each benchmark was associated with a standardized level of emotional

intensity and designed to elicit a response by the participants. These benchmarks were then coded by two research assistants, who received training in accordance with the validated Empathic Communication Coding System (ECCS; Bylund & Makoul, 2002, 2005), to measure communicated empathy as a dependent variable. The ECCS identifies empathetic opportunities (i.e., the scripted benchmarks) in a conversation and rates an interlocutor's (i.e., the participants') response to such an opportunity on a scale from "denial/disconfirmation" ("0") of the empathetic opportunity over "implicit recognition" ("2") and "acknowledgement" ("3") to "shared feeling or experience" ("6"). Appendix 4 includes a full-some overview of the ECCS. Bylund and Makoul (2002) reported good overall inter-rater reliability (Kohen's  $\kappa = 0.79$ ) and an initial measure of content validity.

In addition, participants talked to the same subject actor in both scenarios/conditions to control for any confounding by a different subject. A total of two subject actors, both female and trained negotiators, were employed.

*Self-report.* After the scenario, both participants and subjects filled out a self-report questionnaire about their own perceptions on the communicated empathy by the negotiator. On a five-point Likert-scale with "1" marking "not at all" and 5 "absolutely", the questionnaires covered nine items, which were designed to capture each party's subjective experience during their conversation, as illustrated on table 5.3. These nine additional variables afforded an exploratory comparison between subjective subject perception and objective coder measurement. They have not been psychometrically validated.

**Table 5.3***Study 2 self-report questionnaires.*

<b>Item</b>	<b>Participant</b>	<b>Subject</b>
1	I was able to communicate with the subject in a sincere manner.	Crisis negotiator communicated sincerely.
2	I was able to communicate with the subject in a genuine manner.	Crisis negotiator communicated genuinely.
3	I was able to convey my concern for the subject's well-being.	Crisis negotiator conveyed their concern for my well-being.
4	I was able to calm the subject down.	Crisis negotiator calmed me down.
5	The subject felt my empathy.	I felt the crisis communicator's empathy.
6	I realized the religious-ideologic motivation of the subject reflected real-life hardships they had experienced.	Crisis negotiator realized my religious-ideologic motivation of the subject reflected real-life hardships I had experienced.
7	In this respect, I feel I was on the right track.	In this respect, I feel the crisis negotiator was on the right track.
8	I was trustworthy.	Crisis negotiator was trustworthy.
9	I acted with self-assurance.	Crisis negotiator acted with self-assurance.

#### **5.3.1.4 Procedure**

The University of Liverpool's Institute of Psychology, Health & Society Research Ethics Committee approved this study on March 9, 2012, under reference 1065. Participants provided informed consent and demographic information prior to the study.

On the days of the experiment, each participant reported individually to the experimenters and exchanged their signed consent form for their e-crossing materials. After they were instructed in the e-crossing task and confirmed they understood what they were expected to do, they completed the task. They then filled out the manipulation check questionnaire. Immediately thereafter, they were provided with a briefing sheet that laid out the scenario they were going negotiate within. Every participant was given three minutes to familiarize themselves with this scenario brief, before they picked up the phone and dialled the number of the subject to start the reality-based scenario exercise (approximately 15 minutes in duration). Immediately after the scenario, both participants and subjects filled

out a self-report questionnaire about their own perceptions on the communicated empathy by the negotiator, which completed the involvement for the day.

The study followed the sequential- or dual-task paradigm (see figure 5.1), the accepted method to test ego depletion (Baumeister, 1998; Lee, et al., 2016). Correspondingly, participants returned the following day to repeat the procedure in the condition that they had not completed yet. Data was successfully captured for all participants. The scenarios lasted between 12 and 19 minutes, with a mean length of 15 minutes.

### **5.3.1.5 Data Analysis**

Manipulation check questionnaires for both experiments were analyzed with a series of paired-samples t-tests. To compensate for potential violations of the t-test assumptions, means of each condition were, in addition, compared based on the results of a series of Wilcoxon signed-rank tests (Field, 2018; Wilcoxon, 1945). Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) indicated that the data were not normally distributed for all variables.

Participants' and subjects' subjective perceptions of how the participants performed in empathizing and building rapport with the subject were captured across 9 variables each (participant self-report and subject self-report). Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) indicated that the data were not normally distributed for all variables. Variables with normally distributed data were analyzed using paired-samples t-tests. Variables with not normally distributed data were analyzed non-parametrically using Wilcoxon-signed rank tests.

The ECCS-coded dataset captured three variables, coded by the two research assistants. Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) indicated that the data were not

normally distributed for all variables. Variables with normally distributed data were analyzed using paired-samples t-tests. Variables with not normally distributed data were analyzed non-parametrically using Wilcoxon-signed rank tests. Significance levels were consistently set to  $p < 0.05$ . The data were analyzed using SPSS version 24.0.

## 5.3.2 Results

### 5.3.2.1 Manipulation

Participants found it more difficult to complete the task, when manipulated ( $M = 16.46$ ,  $SD = 4.72$ ) as opposed to when not manipulated ( $M = 10.54$ ,  $SD = 5.3$ ). Experimental manipulation elicited a mean increase of 5.92 on a 25 point VAR scale, 95% CI [3.02, 8.81], in the perceived difficulty of the participants in completing the e-crossing task, compared to when they were not manipulated. The experimental manipulation elicited a statistically significant increase of reported difficulty in completing the manipulation task,  $t(23) = 4.226$ ,  $p = 0.001$   $d = .86$ .

Furthermore, participants found it more difficult to override the habit formed during the first segment of the e-crossing task, when manipulated ( $M = 14.83$ ,  $SD = 5.85$ ) as opposed to when not manipulated ( $M = 6.17$ ,  $SD = 5.99$ ). Experimental manipulation elicited a statistically significant mean increase of 8.67 on a 25 point VAR scale, 95% CI [-5.59, 11.740] in perceived difficulty in overriding the habit formed in the manipulation task's first segment in completing the second segment,  $t(23) = 5.826$ ,  $p = 0.001$ ,  $d = 1.19$ .

Participants did not report a statistically significant difference in; a) how much more energy they used to complete the task across conditions, b) how exhausting they found it to complete the task across conditions, and c) how much more frustrating they found it to complete the task in the experiment condition.

This indicates that the employed manipulation did not lead to a state of ego depletion in the participants.

### **5.3.2.2 Self-reports**

Differences across conditions among all 9 self-report variables assessed by each participant and subject actor were not statistically significant.

### **5.3.2.3 ECCS**

Participants' responses to both scripted empathic opportunities as well as the summarized rating for each scenario as a whole did not differ on a statistically significant level across conditions.

### **5.3.3 Discussion: Experiment 1**

In this first experiment, the manipulation failed to deplete the participants. Following the logic of hypothesis 1, no statistically significant changes in the participants' level of communicated empathy across condition were found, neither for the independently rated nor for the self-report measurements.

What seemed surprising in this initial experiment is that the sample of crisis negotiators did not respond to the e-crossing task. Letter crossing tasks are among the most frequently employed manipulations and have regularly induced ego depletion across a multitude of studies (Baumeister et al., 1998; Dang, 2018). The e-crossing task in this experiment followed Baumeister et al.'s prescription (changing rules of what letters to cross and overriding corresponding habits). It was not reduced to a single task design as employed in Hagger et al.'s multi-lab RRR that failed to replicate the ego depletion effect (Baumeister et al., 1998; Baumeister & Vohs, 2016; Dang 2017; Hagger et al., 2016). Following several replication efforts that started with Hagger et al.'s (2010) research, the efficacy of the "e"-crossing task to induce ego depletion has itself become subject to debate (Wimmer et al., 2019).

Accordingly, crisis negotiators seem to differ from many of the participants in previous

ego depletion research, as they appear harder to be depleted with a cognitively demanding task like crossing letters. A possible explanation might lie in their qualification. Their occupational requirements require crisis negotiators to withstand high levels of stress. They have to be able to perform cognitively demanding tasks, such as consciously assessing and re-assessing the verbal, para-, and non-verbal communication of whom they talk to (Grubb, 2010; Grubb et al., 2019a, 2019b; McMains et al., 2020). In addition, they have to adapt their own communication accordingly, to move the negotiation towards the goals prescribed by their incident commanders (Kalus, 2014; McMains et al., 2020). At the same time, they need to interact and problem-solve within their teams. These challenges occur during volatile situations, with stakes as high as life and death, often over extended periods of time (Grubb, 2010; Grubb et al., 2019a; McMains et al., 2020). Selection processes focus on candidates that appear to excel in such a demanding environment (Grubb et al., 2019a, 2019b; McMains et al., 2020). Hence, the e-crossing task might not have crossed crisis negotiators' ego depletion threshold.

## **5.4 Experiment 2 (Study 3 within this overall research project)**

The second experiment consisted of a randomized-controlled field experiment, designed within-subjects. 40 crisis negotiators participated in the trial, which was attended by the participants as a periodic training measure.

### **5.4.1 Methods**

#### **5.4.1.1 Research Design**

Experiment 2 followed the basic features of Experiment 1's research design, with one major modification. Based on the insights gained from experiment 1, the sequential-task paradigm was modified for experiment 2 in an attempt to increase its construct validity and make it overall more robust: a third task was added to the conventional sequence of depletion (manipulation) and performance task: (a) depletion (manipulation task), (b) performance task 1 (simulated hostage negotiation), and (c) performance task 2 (a validated German translation of Baron-Cohen's Reading the Mind in the Eyes Test



[RMET]; Baron-Cohen et al., 2001)<sup>5</sup>. Figure 5.5 illustrates a schematic overview both research design, experiment 1 and 2.

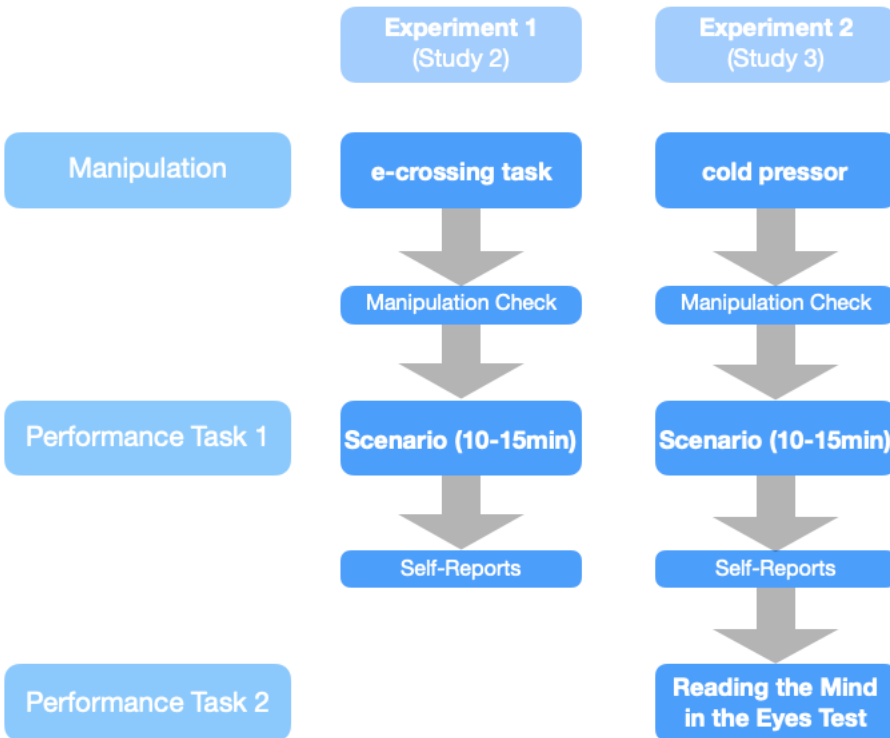
The RMET served as a secondary dependent variable to measure and confirm the hypothesized ego depletion effect (induced by the manipulation task). This modification entails two benefits. First, participants had increased exposure to potentially depleting activities beyond the depletion task. Thought suppression and emotional self-control have been another common method of inducing ego depletion, normally by means of emotionally demanding videos (Christiansen et al., 2012; Dang et al., 2016; Muraven et al., 1998; Baumeister et al., 1998; Tice et al., 2007). Both are also necessary cognitive operations that allowed crisis negotiators to communicate and empathize in the scenario of performance task 2 (Banja, 2011; Dang, 2018; Muraven et al., 1998; Stucke & Baumeister, 2006). Accordingly, it can be assumed that performance task 2 added an additional depletion iteration. As a consequence, it can be argued that measuring performance in task 3 increases reliability and validity of the research design. The second benefit is that performance task 3 served as a control for performance task 2 by either confirming or disconfirming a potential effect measured in performance task 1 (see Figure 5.4).

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<sup>5</sup> The 'Reading the Mind in the Eyes' test presents 36 images of female and male eyes that express different emotional states. For each image, participants have to choose from four options the emotional state that best fits the expression of the eyes (Baron-Cohen et al.; 2001).

**Figure 5.4**

*Research Design of Experiment 2 (Study 3).*



Further changes to experiment 1’s design are minor and relate to the materials discussed below in the corresponding section.

### 5.4.1.2 Participants

A priori power analysis using G\*Power (version 3.1; Faul et al., 2008) for sample estimation indicated that the required sample size for detecting a medium-sized effect at 80% statistical power with a significance criterion of  $\alpha = 0.05$  was  $n = 27$  (one-tail) for the paired samples t-tests reported below.

40 German crisis negotiators (police services across the Federal Republic of Germany counted less than 1,000 trained and active crisis negotiators; BKA, personal communication, April 1, 2020) took part in the trial. They consisted of four sub-samples, three from partnering police agencies of the partnering institution’s CNU, one from the

partnering institution’s CNU. 12 crisis negotiators had participated in Study 2. All participants were formally trained, qualified, and designated crisis negotiators with a minimum of four weeks basic training in crisis and hostage negotiation. The sample’s mean age was 45.1 years and its mean experience as crisis negotiators was 9.47 years. Further details and descriptive statistics on the full sample are illustrated in Table 5.3. All participants provided informed consent before starting their involvement in the research project. They were told to participate in a field experiment that tested their crisis negotiation performance in a scenario task.

**Table 5.4**

*Sample Descriptive Statistics.*

n	sex		age				experience					
	f/m	M	20-29	30-39	40-49	50+	M	0-4	5-9	10-14	15-19	20+
40	13/27	45.13	3	11	13	13	9.47	11	15	8	4	2

Participants were acquired conveniently and through snowball-sampling through the partnering institution’s Crisis Negotiations Unit (CNU), which entered into a research agreement with the University of Liverpool for the purpose of this research project.

### 5.4.1.3 Materials

Participants used a desk with a conventional phone, where they completed the field experiments, which included (a) manipulation task, (b) manipulation check, (c) the scenario, (d) a follow-up, self-report questionnaire, and (e) the Reading the Mind in the Eyes test (RMET). Figure 5.4 (see above) illustrates the corresponding sequence.

*Manipulation task:* Due to the manipulation task’s failure to induce ego depletion in experiment 1, the letter crossing task was substituted with the cold pressor task (McParland et al., 2016; Schmeichel & Vohs, 2009; Vohs et al., 2011), which successfully induced ego depletion with a sample of police officers in Staller et al.’s (2018b) trial. Participants were required to immerse their forearm in zero to four degrees centigrade cold water. In the control condition, they were free to pull it out as soon as they felt

discomfort. In the experiment condition, they were instructed to keep their forearms immersed as long as they possibly could. To ensure their physical safety, they were instructed to pull their forearms out once they hit a five-minute ceiling, which they were not told about beforehand (Birnie et al. 2012; McParland et al. 2016).

*Manipulation check:* Immediately after the manipulation task, participants completed the same manipulation check questionnaire as in Experiment 1 (Study 2). To ensure a more reliable determination of a successful manipulation, the Brief Mood Introspection Scale (BMIS; Mayer & Gaschke, 1988) was added as an additional manipulation check questionnaire. The self-report captures 16 adjectives that are located on four continua: pleasant-unpleasant, calm-arousal, positive-tired, and negative-relaxed. It measures them on 4-point Likert scales, which range from “definitely do not feel” (“1”) to “definitely feel” (“4”). In their meta-analytic review and evaluation of the BMIS, Cavallaro et al. (2019) reported acceptable to good internal consistency with Cronbach’s  $\alpha$  ranging between 0.76 and 0.83 (depending on each sub-scale). The authors also provided evidence of discriminant as well as concurrent validity with corresponding low to moderate correlations ( $r = -.32$  for discriminant validity with the University of California Los Angeles Loneliness Scale, as well as;  $r = .51$  for concurrent validity with Antonovsky’s Sense of Coherence Scale; Greitemeyer et al., 2014).

*Scenario:* Study 2 was conducted in the offices of the partnering institution’s CNU and the offices its corresponding partners, which constituted the three additional sub-samples. Participants were seated at a desk with a conventional phone, where they completed the manipulation tasks, manipulation check, the scenario, and the follow-up questionnaires. The scenario conversations were recorded with the following apparatus:

- Sub-sample 1: Roland Edirol R-07 Black
- Sub-sample 2: in-house engineered, feedback-filtered microphone and Olympus WS series digital recording device
- Sub-sample 3: Roland Edirol R-07 Black
- Sub-sample 4: Sonifex RB-DA6 Amplifier, Sennheiser Transmitter SI29-5,

## EyeSDN USB-S0-Monitor, Fujitsu Eprimo Mobile notebook

The recorded audio-files were then downloaded from the corresponding devices' storage space onto the primary investigator's password protected MacBook Pro and backed up on the primary investigator's password protected Seagate Expansion Portable Drive, where they remained for further analysis.

To allow for a reliable comparison between conditions, a total of eight different scenarios were written (two for each of the four sub-samples) in the same methodological way (Kalus, 2014) and on a comparable subject matter as in Experiment 1 (Study 2). Likewise, the ECCS was used to objectively measure participant responses to the correspondingly scripted empathy opportunities. In addition, participants talked to the same subject actor in both scenarios/conditions to control for any confounding by a different subject. A total of two subject actors, both female and trained negotiators, were employed.

*Self-report.* After the scenario, both participants and subjects filled out a self-report questionnaire about their own perceptions on the communicated empathy by the negotiator. On a five-point Likert-scale with "1" marking "not at all" and 5 "absolutely", the questionnaires covered five items, which were designed to capture each party's subjective experience during their conversation, as illustrated on table 5.5. These five additional variables afforded an exploratory comparison between subjective subject perception and objective coder measurement. The questionnaire has not been psychometrically validated. In addition, subject actors had received training to code content according to the ECCS. They rated the participants' responses to the same scripted empathetic opportunities as the coders did.

**Table 5.5***Study 3 self-report questionnaires.*

Item	Participant	Subject
1	I was able to communicate with the subject in a sincere manner.	Crisis negotiator communicated sincerely.
2	I was able to convey my concern for the subject's well-being.	Crisis negotiator conveyed their concern for my well-being.
3	I realized the religious-ideologic motivation of the subject reflected real-life hardships they had experienced.	Crisis negotiator realized my religious-ideologic motivation of the subject reflected real-life hardships I had experienced.
4	I was trustworthy.	Crisis negotiator was trustworthy.
5	The subject felt my empathy.	I felt the crisis communicator's empathy.

*RMET*: Subsequent to the scenario and corresponding self-reports, participants completed the second performance task of the modified sequential-task paradigm (see figure 5.5), the *RMET*. This is a commonly used test to assess mental state recognition (i.e., theory of mind ability) in adults. It requires test-takers to match the mental state of a person as captured by a photograph of their eye region with one of four choices. The standard test consists of 36 photographs of female and male eye regions (Baron-Cohen et al., 2001; Warrier et al., 2017). Reliability and validity of the *RMET* continue to be discussed, assessed, and replicated. In a systematic review, Olderbak et al. (2015) reported poor internal consistency and acceptable test-retest reliability, attributing the poor internal consistency to a lack of homogeneity among its items. Similarly, they advised of mixed evidence on the *RMET*'s construct validity. More recently, Kittel et al. (2022) published a meta-analytic investigation of the *RMET*'s psychometric properties (involving 61 studies and 8,611 participants). Their results indicate acceptable internal consistency, with an average Cronbach's  $\alpha = .73$ , ranging from .45 to .96, and low to moderate positive correlations in convergent validity with measures of emotion perception, reliability-corrected pooled correlation  $\rho = .48$ , and theory of mind, reliability-corrected pooled correlation  $\rho = .39$ ).

#### **5.4.1.4 Procedure**

The University of Liverpool's Institute of Psychology, Health & Society Research Ethics Committee approved this study on March 9, 2012, under reference 1065. Participants provided informed consent and demographic information prior to the study.

On the experiment days, each participant reported individually to the experimenters. After they were instructed in the cold-pressor task and they confirmed they understood what they were expected to do, they completed the manipulation task. They then filled out the manipulation check questionnaire. Immediately thereafter, they were provided with a briefing sheet that laid out the scenario they were going to negotiate within. Every participant was given three minutes to familiarize themselves with this scenario brief, before they picked up the phone and dialed the number of the subject. Immediately after the scenario, participants completed the RMET. The subjects completed their ECCS scoring sheet to rate the participants' responses to the scripted empathetic opportunities. Finally, both participants and subjects filled out a self-report questionnaire about their own perceptions on the communicated empathy by the negotiator, which completed the iteration. Participants then returned the following day to repeat the procedure in the condition that they had not completed yet.

Data was not successfully captured for all participants. For participant 8, no experiment condition data was captured. For Participant 20, no control condition data was captured. For participants 34 through 39 the partnering institution did not provide control condition complete data, following technical difficulties (sub-sample 4: Sonifex RB-DA6 Amplifier, Sennheiser Transmitter SI29-5, EyeSDN USB-S0-Monitor, Fujitsu Eprimo Mobile notebook). The scenarios lasted between 11 and 19 minutes, with a mean length of 15 minutes.

#### 5.4.1.5 Data Analysis

Manipulation check questionnaires for both experiments were analyzed with a series of paired-samples t-tests. To compensate for potential violations of the t-test assumptions, means of each condition were, in addition, compared based on the results of a series of Wilcoxon signed-rank tests (Field, 2018; Wilcoxon, 1945). Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) indicated that the data were not normally distributed for all variables.

Participants' and subject actors' subjective perceptions of how the participants performed in empathizing with the subject actors were captured across 5 variables each (participant self-report and perpetrator self-report). Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) indicated that the data were not normally distributed for all variables. Variables with normally distributed data were analyzed using paired-samples t-tests. Variables with not normally distributed data were analyzed non-parametrically using Wilcoxon-signed rank tests.

The ECCS-coded dataset captured 5 variables, each as coded by the subject actors and by the principal investigator. Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) indicated that the data were not normally distributed for all variables. Variables with normally distributed data were analyzed using paired-samples t-tests. Variables with not normally distributed data were analyzed non-parametrically using Wilcoxon-signed rank tests.

According to a Shapiro–Wilk's test (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of histograms and box plots (Doane & Seward, 2011), RMET data were normally distributed. Statistical analyses used a series of paired-samples t-tests. Significance levels were consistently set to  $p < 0.05$ . The data were analyzed using SPSS



version 24.0.

## 5.4.2 Results

### 5.4.2.1 Manipulation

Participants reported having to use more energy to keep their arm in the cold water in the experimental condition (when instructed to leave the hand immersed as long as possible, under full exhaustion of their will power;  $M = 16.03$ ,  $SD = 6.53$ ), as opposed to the control condition (when they were free to pull their arm out at any time;  $M = 8.66$ ,  $SD = 6.7$ ). Experimental manipulation elicited a statistically significant mean increase of 7.35 on a 25 point VAR scale, 95% CI [3.02, 9.69] in the perceived use of energy by the participants, after they completed the cold pressor task,  $t(39) = 6.34$ ,  $p = .001$ ,  $d = 1$ .

Participants also found it more difficult to leave their arm immersed in the cold water in the experimental condition ( $M = 14.58$ ,  $SD = 7.19$ ), as opposed to the control condition ( $M = 8.14$ ,  $SD = 7.18$ ). Experimental manipulation elicited a statistically significant mean increase of 6.18 on a 25 point VAR scale, 95% CI [3.69, 8.66] in the perceived use of energy by the participants, after they completed the cold pressor task,  $t(39) = 5.02$ ,  $p = .001$ ,  $d = 0.79$ .

Furthermore, participants were reportedly more emotionally depleted/worn out in the experimental condition ( $M = 5.6$ ,  $SD = 4.93$ ), as opposed to the control condition ( $M = 2.98$ ,  $SD = 3.16$ ). Experimental manipulation elicited a statistically significant mean increase of 2.63 on a 25 point VAR scale, 95% CI [1.11, 4.14] in the perceived use of energy by the participants, after they completed the cold pressor task,  $t(39) = 3.51$ ,  $p = 0.001$ ,  $d = 0.56$ .

Finally, participants felt significantly more tired/weary in general in the experimental condition ( $M = 4.73$ ,  $SD = 4.69$ ), as opposed to the control condition ( $M = 2.88$ ,  $SD = 3.38$ ). Experimental manipulation elicited a statistically significant mean increase of 1.35 on a 25 point VAR scale, 95% CI [0.62, 3.08] in the perceived use of energy by the

participants, after they completed the cold pressor task,  $t(39) = 3.05$ ,  $p = 0.004$ ,  $d = 0.48$ .

#### 5.4.2.2 Self-reports

Of all 5 self-reported items, participants only reported that they communicated less concern for the perpetrators' well-being in the experimental condition ( $M = 4.1$ ,  $SD = 1.36$ ), as compared to the control condition ( $M = 5$ ,  $SD = 1.38$ ). The experimental manipulation elicited a statistically significant mean decrease of 0.9 on a 7 point VAR scale, 95% CI [-1.49, -0.31] in the perceived communication of concern by the participants, after they completed the cold pressor task,  $t(39) = -3.08$ ,  $p < 0.004$ ,  $d = 0.49$ .

Correspondingly, the subject actors assessed their corresponding perception of the negotiator's concern for their well-being to be lower in the experimental condition ( $M = 3.07$ ,  $SD = 1.71$ ) than in the control condition ( $M = 3.59$ ,  $SD = 1.7$ ). The experimental manipulation elicited a statistically significant mean decrease of 0.52 on a 7 point VAR scale, 95% CI [-1.03, -0.01] in the subject actors' perception of the participants' concern for their well-being, after participants completed their negotiation scenario,  $t(28) = -2.06$ ,  $p = 0.049$ ,  $d = 0.39$ .

All other subjective reports, including how both sides perceived the participants' empathetic effort, did not differ across conditions (data is presented in table 5.3).

In addition, the subject actors' ECCS assessment did not find a statistically significant difference in the levels of empathy communicated by the participants (data is presented in table 5.6).

#### 5.4.2.3 ECCS

Participants' response on all 5 empathic opportunities that were rated for the sample were not statistically different across conditions.

#### **5.4.2.4 RMET**

There was no statistically significant difference across conditions in how accurately participants recognized emotions in the RMET's test battery's facial/eye expressions. A summary of the experiment's results is displayed in Table 5.6.

**Table 5.3**

*Summary of Experiment 2's Results.*

Variabl	n	Paired samples t-tests										Wilcoxon signed-rank test						
		Control			Experiment			M	SD	SE	t	d	sig.	po	ne	tie	z	sig.
		SM	SD	SE	SM	SD	SE											
SUB1	40	5.325	1.49	.236	5.425	1.43	.226	.100	1.516	.240	.417	39	.679	12	12	16	.471	.63
SUB2	40	5.000	1.37	.218	4.100	1.35	.214	-.900	1.851	.293	-	39	.004**	7	21	12	-	.00
SUB3	40	5.675	1.45	.230	5.650	1.59	.252	-.025	1.625	.257	-.097	39	.923	15	15	10	-.085	.93
SUB4	40	5.150	1.07	.170	5.050	1.21	.193	-.100	.982	.155	-.644	39	.523	9	11	20	-.683	.49
SUB5	40	4.725	1.10	.175	4.425	1.25	.199	-.300	1.305	.206	-	39	.154	9	16	15	-	.14
PERP1	29	5.724	1.19	.221	5.586	1.35	.250	-.138	1.432	.266	-.519	39	.608	7	9	13	-.159	.87
PERP2	29	3.586	1.70	.316	3.069	1.71	.318	-.517	1.353	.251	-	39	.049*	8	14	7	-	.04
PERP3	29	4.655	1.61	.299	4.345	1.65	.307	-.31	1.671	.310	-	39	.326	11	14	4	-.923	.35
PERP4	29	5.517	1.05	.196	5.276	1.38	.257	-.241	1.618	.300	-.803	39	.429	9	11	9	-.672	.50
PERP5	29	4.862	1.52	.284	4.828	1.62	.302	-.035	1.614	.300	-.115	39	.909	11	8	10	-.021	.98
PECCS	29	2.448	1.70	.316	2.000	1.73	.322	-.448	2.501	.464	-.965	28	.343	16	10	3	-.948	.34
PECCS	27	2.519	1.84	.356	1.630	1.71	.330	-.889	2.359	.454	-	26	.061	6	11	10	-.184	.06
PECCS	28	3.214	1.93	.365	2.536	2.06	.390	-.679	2.722	.514	-	27	.198	8	16	4	-	.21
PECCS	28	4.536	1.50	.284	4.250	1.64	.311	-.286	1.182	.223	-	27	.212	6	10	12	-	.24
PECCS	28	3.500	1.34	.255	3.321	1.61	.305	-.179	1.744	.330	-.542	27	.592	9	11	8	-.878	.38
ECCS1	29	1.138	1.35	.252	.759	1.09	.203	-.379	1.399	.26	-	28	.155	5	9	15	-	.19
ECCS2	31	1.129	1.45	.261	1.065	1.23	.222	-.065	2.081	.374	-.173	30	.864	11	10	10	-.246	.80
ECCS3	26	1.385	1.35	.266	1.269	1.11	.219	-.115	1.883	.369	-.312	25	.757	11	9	6	-.348	.72
ECCS4	25	1.680	1.24	.250	1.440	.870	.174	-.240	1.451	.29	-.827	24	.417	7	11	7	-.848	.39
ECCS5	30	1.667	1.21	.221	1.667	1.37	.251	.001	1.948	.356	.000	29	1.000	10	11	9	.071	.94
RMET	40	24.05	3.92	.621	24.70	3.48	.550	.650	3.378	.534	1.21	39	.231	22	13	5	1.14	.25

*Note:* While distribution of data favored parametric testing (paired samples t-tests) for some and non-parametric testing for other variables (Wilcoxon signed-rank tests), all variables have been tested both ways with nearly congruent results; SUB = subjective participant perception variables; PERP = subject subjective perception variables; PECCS = subject ECCS variables; ECCS = objective ECCS variables; EI = RMET variable. \* $p < .05$ . \*\* $p < .01$ .

### 5.4.3 Discussion: Experiment 2

According to the manipulation checks, the cold pressor task successfully ego depleted the Experiment 2 participants (Birnie et al. 2012; Christiansen et al., 2012; McParland et al. 2016). This result adds to previous research involving samples in policing, where the cold pressor task has proven to be a reliable experimental manipulation for ego depletion (Staller et al., 2018a).

On 21 variables (10 self-report, 11 objective measurement), statistically significant differences showed only on two self-report variables. Participants reported they communicated their concern for the subject actors' wellbeing to a lesser extent when ego depleted. And, resonating with this observation, subject actors reported they perceived the participants to be concerned for their wellbeing to a lesser extent when ego depleted. While it is only the participants' concern for the subject actor's wellbeing that appeared to be impacted by ego depletion, it is worth noting that this finding is backed by the fact that both participant and subject actor perception are congruent. However, this variable represents compassionate concern rather than an empathetic effort rooted in a cognitive and/or affective change of perspective. Therefore, on its own, it does not provide sufficient evidence to corroborate the hypothesis that ego depletion decreases crisis negotiators' level of communicated empathy.

All other items, including self-reports by crisis negotiators and subject actors on sincerity, recognition of underlying drivers of religiously motivated behavior, negotiator trustworthiness, and empathy conveyed by the negotiators, along with all objectively assessed empathetic opportunities throughout the scenario, as well as the RMET, did not show a statistically significant change across conditions. In summary, the results indicate that ego depletion did not reduce crisis negotiators' capacity to empathize during the scenarios that simulated a high-stake hostage crisis.

Even after the cold-pressor task and a 15-minute crisis negotiation scenario, participants did not demonstrate a statistically significant change across conditions in their

performance on the RMET (performance task 2), which was added as an additional performance task. It needs to be noted that Baron-Cohen's test measures visual perception of non-verbally displayed emotional cues. In contrast, the simulated hostage negotiation (performance task 1) strictly reflected verbally and para-verbally communicated (intonation, cadence, accent, etc.) empathy on the phone. Still, across sensory channels, both approaches operationalized an overlapping empathetic response: the affective change of perspective by the crisis negotiators to identify the emotional state of the person looked at (RMET) or listened to (scenario; Baron-Cohen et al., 2001; Cuff et al., 2016; Decety & Jackson, 2004). Consequently, the null hypothesis of the RMET (performance task 2) corroborates the results of the scenario (performance task 1).

In addition, this underscores the experiment's results in a different way. Suppressing and controlling emotion, another *sine qua non* of empathetic change of perspective (Cuff et al., 2016; Cherniss, 2010; Decety & Jackson, 2004), depletes self-regulatory resource and has been used successfully as a manipulation task to induce ego depletion in the past (Christiansen et al., 2012; Dang et al., 2016; Muraven et al., 1998; Baumeister et al., 1998; Tice et al., 2007). Hence, despite the combination of the successful depletion task with performance task 1, crisis negotiators still appeared not to be affected by ego depletion to the extent that they were able to correctly identify emotions based on non-verbally communicated input, another key component of empathetic perspective-taking (Baron-Cohen et al., 2001; Gerdes et al. 2011; Lawrence et al., 2004).

## **5.5 General Discussion: Ego Depletion**

### **5.5.1 Significance and Contextualization in Literature**

As mentioned in the literature review, it has been theorized that empathetic effort, such as cognitive and affective changes of perspective, is inhibited by ego depletion (Banja, 2011; Wolk, 2015). Empirically backed by a sample of 75 women and men, Fennis (2011) found that ego depletion attenuates the capacity to effectively change perspectives. The results reported here do not align with these arguments and findings. Most distinctly, they are in clear contrast to the results of Staller et al.'s study (2018b) on the police use of

force. Depleted in the same way, the patrol police officers in their study were tested for their aggression threshold. They showed a statistically significant effect through the quicker use of force in a simulated encounter with a provocatively acting, non-compliant citizen. Those officers that were not depleted took almost twice as long until they resorted to force, when repeatedly provoked by their interactant.

Crisis negotiators, patrol police officers, and SWAT vary significantly in the tasks they are assigned. These differences in specialization certainly contribute to potential differences in their susceptibility to ego depletion. However, they all share the same basic training as police officers, with some (including participants of Study 1, see Chapter 4) being part-time crisis negotiations who are on full-time patrol duty (see Chapter 2). Therefore, other factors deserve scrutiny as well.

In this context, the need for alternative conceptualizations of a theory of self-control has been articulated because the mechanisms of the ego depletion effect might not be as straight forward and that self-control might not be as energetically dependent as initially proposed. The difference between Staller et al.'s (2018b) study and this one might also be explored through the lens of the following alternative models.

#### **5.5.1.1 The Opportunity Cost Model of Subjective Effort and Task Performance**

Kurzban et al.'s (2013) opportunity cost or shifting priorities model might offer some insight into why these results do not align with Staller et al.'s (2018b) in terms of motivational cognitions, which moderate between exploration and exploitation. In light of the OCMSETP, crisis negotiators might be trained and socialized to persevere (in terms of the model to "exploit") situations of conflict and confrontation. Patrol police officers and SWAT, who have alternative automated, behavioral responses in their repertoire, might be trained and socialized to act to immediately resolve the situation (to be able to "explore" in terms of the model). During an encounter with a non-compliant citizen, a police officer might find that, despite multiple requests to move back further away from a crime-scene,

the citizen disobeys their orders. As a result, the officer might disengage from their communicative approach and explore another option and use force to physically remove the non-compliant citizen.

### **5.5.1.2 The Process Model of Self-Control Fatigue**

Inzlicht and Schmeichel's (2013) PMSCF, which has also been discussed in detail above, views self-control as the product of the competition of two opposing forces: the motivation to express an impulse and the inhibition that overrides that impulse. As mentioned, these subjective valuations fluctuate and might change across experimental condition, and all together, manifest completely differently between general patrol and SWAT officers on the one hand, and crisis negotiators on the other hand. Based on this approach, a crisis negotiator might not experience any depletion over an extended period of direct communication with a barricaded suicidal person, due to her training and socialization as a communicative problem-solver, who values time-consuming de-escalation over a quick tactical resolution.

### **5.5.1.3 The Dual Component Model of Inhibition Regulation**

Reynolds and McCrea (2016) focused on the functional aspect of self-control and devised their DCTIR, which has been discussed in detail at the beginning of this chapter. Through lens of the DCTIR, the cessation of inhibition is not considered a "failure" per se, as it depends on the context. The above-mentioned ego depletion effect reported by Staller et al.'s (2018b) can be understood as a result of the police officers' re-appraisal of the relationship between the monitor component, which assesses the necessity to inhibit the impulse to use force, and the threshold component, which sets the situational tolerance for applying inhibitory effort. Depending on the experimental manipulation, i.e., induced ego depletion, as well as on training and role understanding of the respective sample tested, the configuration of the two components might have changed.



#### **5.5.1.4 Conclusive Remarks on Literature Context**

What distinguishes these experiments from Staller et al.'s (2018b) is the variation in the sample. The 2018 study tested patrol police officers and SWAT. This study tested crisis negotiators. Communicating about and actually using force are regular features of patrol police officers and SWAT (Bittner, 1970; Terrill, 2003). Accordingly, periodic use of force training automates providing a proportionate response to stimuli encountered on duty (Artwohl & Christensen, 1997; Kavanagh, 2006). Crisis negotiators, in contrast, have the sole purpose of influencing interactants and situations with communicative means only, without the option of using force (Grubb, 2016; McMains et al., 2020; Vecchi et al., 2005). In addition to the usually recurrent use of force training, crisis negotiators complete training that reflects the specialized requirements of their duties. This training automates communicative problem-solving in the same way as use of force training automates verbally and physically aggressive responses.

Also, personality and personal motivation can be expected to determine police officers' career track decision. Some choose to stay on the road on general patrol duty, others specialize as SWAT officers, and yet others become crisis negotiators. Through training and team cohesion, members of each branch socialize and develop an understanding of their specific role in the context of policing, cultivating corresponding social identities (Grodzki, 2011; Knez, 2016; Miscenko & Day, 2016).

#### **5.5.2 Limitations**

Limitations to this study stem from theoretical, methodological, and empirical considerations.

Limits stemming from the study's theoretical underpinnings include the current replication problems that have evolved around the ego depletion literature (and been discussed above) as well as from the currently limited understanding of the ego depletion effect. The theory, as it was initially proposed, does not explain the null hypothesis reported with this

study. Since its original reporting (Baumeister et al., 1998; Muraven et al., 1998), the ego depletion effect has evolved in complexity, due to a lack of replicability (Carter & McCullough, 2014; Carter et al., 2015; Hagger & Chatzisarantis, 2016; Lee et al., 2016). As discussed above, several theoretical accounts lend themselves to explain the null hypothesis. Identifying which ones are at work and how they interact with each other to ultimately understand the un-interfered empathetic performance of the crisis negotiators (self-)reported ego-depletion requires further research that tests each of the alternative models.

Limitations set by the study's methodology include the small sample size, the reduced ecological validity rooted in the sequential-task paradigm, and the ECCS's limitation to verbally communicated empathy only. With an average sample size of  $n = 31$  across all measured variables tested, experiment #2 is at an increased risk of reporting false negatives and missing an actually present, a priori hypothesized effect of smaller size (type II error). The elaborate and time-consuming research design and access to the sample of the rare and restricted population of national level police crisis negotiators have limited the sample size. Yet, the number of study participants is following the tradition of more than 20 years of ego depletion research, whose landmark studies have often relied on sample sizes of comparable, and even smaller statistical power with inter-subject designs of sample sizes between 50 and 100 participants (Ainsworth et al., 2014; Baumeister et al., 1998; DeWall et al., 2008; Muraven et al. 1998; Osgood & Muraven, 2015; Thompson & Campbell, 2004; Tice et al., 2007). Furthermore, effect sensitivity estimation using G\*Power (version 3.1; Faul et al., 2008) indicated that paired samples t-tests with 31 participants would be sensitive to detect only medium effects at the level of Cohen's  $d = 0.46$  ( $\alpha = 0.05$ , one tail). Conversely, the study would not be able to reliably detect effects smaller than that or at the size that recent replication and review studies have found (see table 5.1). As a result, the relatively small sample size (and the geographical limitation of the sample to Germany) limits the study's external validity to a generalizability of within the population of German crisis negotiators. Conclusions drawn for similar populations in other nations or beyond this very specific population remain suggestive in nature and call for further research with larger and geographically less

restrained samples. The research reported in Chapter 6 involved an international sample of crisis negotiators and showed no significant differences between samples, indicating that the results of Study 2 and 3 can be extrapolated.

Also, in addition to the recent contestation of the resource depletion model and ego depletion effect, Lee et al. (2016) criticized the methodology that is used in almost all ego depletion studies: the sequential-task-paradigm (also used in Study 2 and 3) has been found to fail to account for the moderating role that its duration might play in ego depletion (Boksem & Tops 2008; Hagger et al. 2010; Lee et al. 2016). As such, the methodology limits internal validity of the findings as well. An ecologically more valid manipulation might yield a duration-moderated level of ego depletion that may ultimately affect the way crisis negotiators empathize. An example could be an extensive physical workout or sleep deprivation. Still, (a) manipulation checks confirm participants' subjectively perceived depletion, and (b) Study 3's modified task sequence (involving a total of three tasks in sequence, see figure 5.5) maintain an acceptable degree of validity.

Finally, the operationalization of the study's dependent variable, communicated empathy, has limitations. The ECCS does not capture para-verbal/para-linguistic communication, such as intonation, inflection, cadence, speed, or volume) and non-verbal communication (such as body language or facial micro-expressions), which are key carriers of empathy (Ekman, 2004; Gesn & Ickes, 1999; Haase & Tepper; 1972; Zaki et al., 2009). The ECCS captures only one major component of empathetic communication effectively. While it does represent a viable tool to approximate one measurable element of all that constitutes empathy, it cannot deliver a full picture of all communicated empathy.

Empirical limitations are a result of the sample's variations in their professional experience as crisis negotiators. While every participant is a graduate of Germany's federal basic crisis negotiations course, tenure, and exposure to lead negotiation assignments varied significantly. Statistically distinguishing between sub-categories of different levels of experience are methodologically not viable (see the notes on sample size above). Correspondingly, indications for certain demographics within the population of German

crisis negotiators are beyond this study. Also, 12 participants from Study 2 participated in Study 3. While the research design of both studies followed the parameters, the scenarios utilized in the trials differed significantly in content. In addition, the studies were approximately 9 months apart from each other and the participants attended other training sessions in-between. Therefore, investigating a larger sample of a hard to access population outweighed the minimized concern of contamination effects.

And lastly, what renders this study convincing strength, the ecologic validity of the reality-based scenarios within which data was collected, reduced statistically evaluable data to a lower number than that of the total number of participants on many variables. The semi-scripted design of the scenarios, which allowed for a natural evolution of each simulated negotiation, resulted in perpetrators not always being able to hit all evaluable data points, despite the standardized training they have all undergone. To keep the exercise realistic and negotiators engaged, in some cases they deviated from the script.

## **5.6 Chapter Conclusions**

The absent ego depletion effect that this study confirmed has both theoretical and practical implications. The experiments reported here add to an increasing number of studies that suggest that the ego depletion effect is not as simple and straightforward as initially suggested. The contrast with another sample of a similar demographic (German patrol police officers) in both experimental manipulation and study results suggests that socialization (and corresponding traits and attitudes: uniform patrol/SWAT versus crisis negotiators) as well as situation might explain the variance in susceptibility to ego depletion.

The potential variation in ego depletion manifestation bears practical relevance for every social interaction that might be influenced by ego depletion. Using the example of police, decision-makers and incident commanders have to consider that ego depletion might trigger regression to socialized and sufficiently trained behavioral responses. Being aware that ego depletion might exacerbate corresponding behavioral change will improve police

decision making, for instance when assessing and comparing risks between the execution of an immediate action plan employing SWAT and continuing crisis negotiations. Regression to a point were earlier aggression, as reported by Staller et al. (2018b), can lead to increased injury risk, liability exposure, and loss of trust by the public, might be just as futile as clinging on to empathy and rapport building with hostage takers beyond the point of feasible negotiability.

### **5.5.1 Further research**

A follow-up experiment to replicate Staller et al.'s (2018) ego depletion study, which involved patrol police officers and SWAT, with German and Canadian crisis negotiations had to be cancelled, due to the COVID19 pandemic (for more details, see Chapter 3). Both partnering institutions ceased all training in March 2020, which the experiments would have been embedded in.

The empathy focus of the coding of Study 2's and Study 3's recorded reality-based scenario exercises led to the observation of several distinct patterns, with which several crisis negotiators undermined their successful attempts to build rapport with the subjects. These patterns reflect a selection of cognitive bias, which the crisis negotiators appear to have subconsciously communicated.

The pervasiveness of these patterns, coupled with their potential practical relevance for crisis negotiation, steered the trajectory of this research project to further investigating this serendipitous find. As a result, the following Chapter 6 reports the remainder of this research project's empirical research: Study 4 and 5, which followed up on this discovery.

## **Chapter 6. The Effect of Cognitive Bias on Rapport in Crisis Negotiations**

## **6. The Effect of Cognitive Bias on Rapport in Crisis Negotiations**

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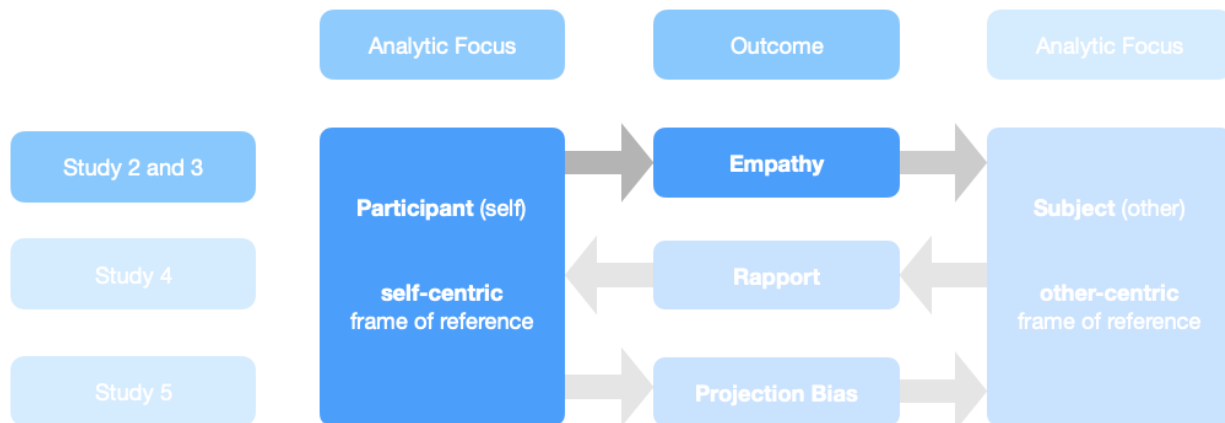
## 6.1 Chapter Introduction

The experiments reported in Chapter 5 (Study 2 and 3) investigated the impact of ego depletion on empathy as communicated by crisis negotiators during a critical incident. The processing of the corresponding data involved the coding of all audio recordings in accordance with the Empathic Communication Coding System (ECCS).

As discussed, the ECCS provided a systematic approach to determining the level of empathic response by crisis negotiators to an empathetic opportunity provided by the subject actors. As figure 6.1 illustrates, the analytical focus was on the crisis negotiators. Consequently, throughout their process, the coders' primary focus was on the determination of the correct level of communicated empathy by each crisis negotiator.

**Figure 6.1**

*Analytical foci compared: Study 2 with 3.*



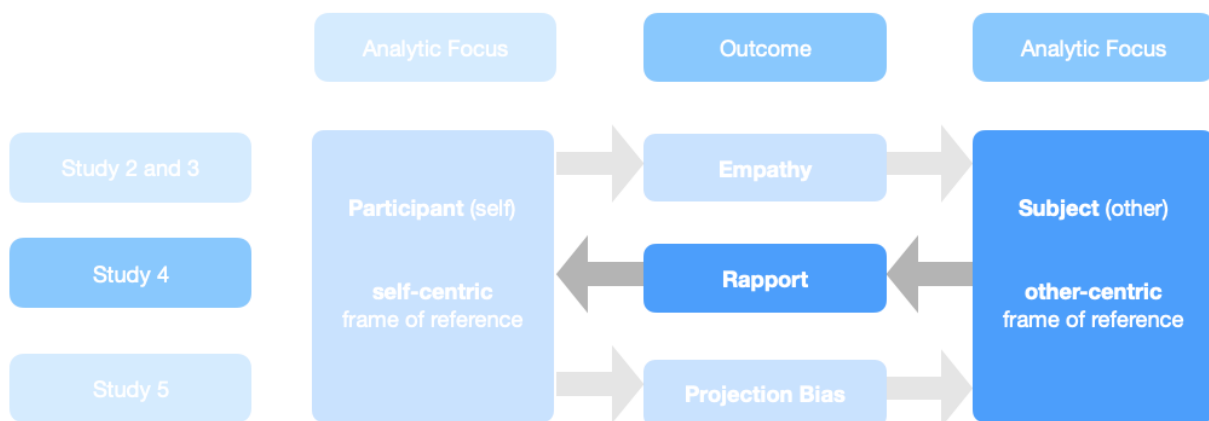
Inevitably, coders did not only observe positive instances of communicated empathy or absences thereof to properly apply the ECCS. They also observed the negative effects of certain statements and responses communicated by crisis negotiators on the subject actors. Even statements validated by the ECCS to be empathetic turned out to escalate subject actors in certain instances.

In this context, the principal investigator serendipitously observed several distinct patterns of communication. These patterns appeared to have caused an increase in the emotional

intensity of the subject actors, as manifested in their verbal and para-linguistic communication<sup>6</sup>. Accordingly, they seemed to undermine crisis negotiators' attempts to empathize and effectively build rapport with the subjects. They showed not only in crisis negotiators' responses to the empathic opportunities that were part of the subject actors' script but also in other, organically occurring empathic opportunities throughout the scenario. Figure 6.2 demonstrates the corresponding shift in analytic focus from empathy communicated by crisis negotiators to the corresponding subject actors' response, which manifests the presence of certain levels or absence of rapport.

**Figure 6.2**

*Analytical foci compared: Study 4.*



As a result, this observation prompted a revisitation of all audio footage recorded during Study 3 to confirm the initial observation and to determine frequencies of each pattern. The goal was to ascertain if this serendipitous find was a viable avenue to further this research project's goals. In the end, audio files of both Study 2 and Study 3 were comprehensively revisited to conduct a methodologically rigorous content analysis, which marks Study 4 of this research project. The results informed then Study 5, the last

<sup>6</sup> Para-linguistic or para-verbal communication covers those aspects of non-verbal communication that add meaning to and qualify verbal communication through vocal expression of several different categories. These include (but are not limited to) the following (Trager, 1961): voice set, tone, pitch, resonance, tempo, rhythm, volume, and articulation. The modulation and configuration of these aspects allows to convey meaningful information separate from the use of any other channel or method of communication (Scherer, 2003; Schulz von Thun, 2019).

research effort of this project. Study 5 follow-up with an online survey to triangulate results of Study 4 and to obtain proportions and comparative statistics not only of crisis negotiators but also of patrol police officers and crisis workers.

The results of these two studies unearth an important layer in both crisis negotiations and crisis intervention, which remains under-researched in corresponding literature and often over-looked by practitioners. The corresponding insights are instructional and directly applicable to empathy-based rapport-building both in the field and in the classroom.

## **6.2 Literature: Rapport**

The shift of analytical focus from crisis negotiator-centric empathy to subject-centric rapport as an interactive reflection of the crisis negotiators' efforts of empathy-based rapport-building led to a new outcome variable for this chapter: rapport as a result of crisis negotiators' empathy.

Rapport plays a crucial role not only in crisis negotiations (McMains et al., 2020; Rogan et al., 1997; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005, 2019) and in interactions between police officers and members of the public (PERF, 2015; Zaiser & Staller, 2015; Zaiser et al., in press). Closely associated with and enabled by empathy (Baron-Cohen, 2001; Kiesler 1979; Squier, 1990; Norfolk et al., 2007; Vecchi et al., 2005, 2019), rapport has been identified as a predictor of successful suicide prevention and psychological crisis diffusion (i.e., crisis intervention; Greenstone & Leviton, 2002; Lindemann, 1944; Caplan, 1964; Roberts, 2000).

## **6.2.1 Conceptualization of Rapport**

The breadth of academic disciplines and professional fields, in which rapport is now studied offers a variety of conceptualization. Just as empathy, rapport is used as a common-place concept, for which a shared understanding is often assumed (Argyle, 1990; Alison & Alison, 2020). At the same time, it is not consistently defined, interpreted, trained, and used (Alison & Alison, 2020; Drolet & Morris, 2000; Goudy & Potter, 1975; LaFrance, 1990): “Even if you can’t define it, you can probably recognise when you have it and, certainly, when you don’t” (Alison & Alison, 2020; p.6). In addition, as a whole that is more than just the some of its conceptual elements, what is understood to be rapport will depend on the theoretical and practical context within which it is studied (LaFrance, 1990; Tickle-Degnen & Rosenthal, 1990). As a result, its varied applications in a plethora of different contexts blur the boundaries to neighboring concepts, including trust, interpersonal relating, and the working alliance. This makes it a challenging phenomenon to grasp.

### **6.2.1.1 Neighboring Concepts**

This section will discuss related but separate concepts to mark the theoretical boundaries of rapport. The previous section started its historical discussion of rapport with *cooperation* as a conceptual precursor. This lends itself as an effective point of departure to approach a meaningful conceptualization and definition of rapport for the purposes of this research project.

#### **6.2.1.1.1 Trust**

Among evolutionary theorists, it is understood that the ability to cooperate and coordinate has allowed humans to thrive (Tomasello, 2019). Cooperation allows for joint rewards often greater than the sum of those that individuals can obtain separately (Kuipers, 2022). Cooperation requires trust (Kuipers, 2022; Loomis, 1959; Mayer et al., 1995): the risk of exploitation by potentially cooperative partners through either contributing comparably

less or taking comparably more makes cooperation a vulnerable inter-personal (or inter-group) endeavor. To accept and overcome this vulnerability, cooperating partners need confidence that such exploitation will not occur. As a result, Rousseau et al. (1998) defined trust as “a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behavior of another” (as cited in Kuipers, 2022, p.2).

Trust is often studied in conjunction with trustworthiness (Ashraf et al., 2006; Glaeser et al., 2000). The distinction between the two concepts illustrates their difference from rapport. As quoted above, trust is a psychological state based on expectations of another person. Researchers see in these expectations a presumption of reciprocity that they refer to as trustworthiness (Fehr & Gächter, 2000; Ostrom & Walker, 2003). Other researchers have challenged this focus on reciprocity and brought forward other definitions of trust, which consider trust within one-off interactions, where there is no expectation of reciprocity. Rather than expecting a return and the building of a relationship, people might trust others for merely altruistic reasons (e.g., Andreoni & Miller, 2002) or psychological benefits of feeling good when helping others (e.g., Andreoni, 1990).

Regardless of its conceptual intricacies, trust remains a belief in trustworthiness, which is a perception, or better an interpretation of a perception of a potential cooperation partner. Both are contained to the minds of the individuals of a potentially cooperative encounter. In contrast, rapport, as will be discussed in greater detail below, is a relational concept that describes a process between individuals or groups.

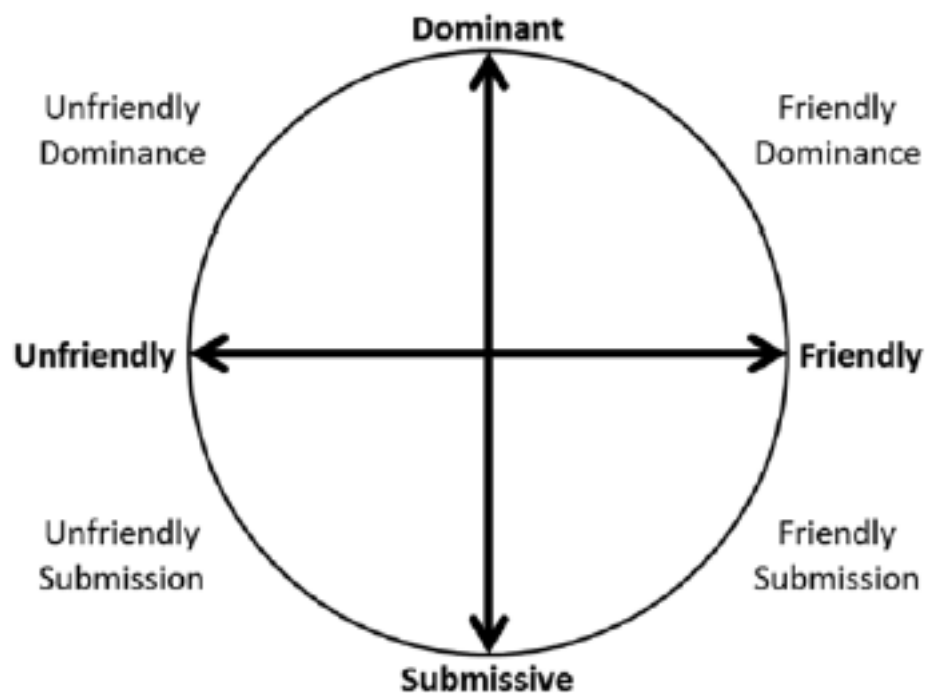
#### **6.2.1.1.2 Interpersonal Relating**

Even though trust lies within the individual and is often associated with individual traits and personality features (Freitag & Bauer, 2016; Mooradian et al., 2006), it relates to and determines cooperative action with others. Leary (1957) approached personality with its inter-relational nature in mind: humans form their personality through interaction with others, as they socialize and culturalize through relationships with others. He identified

two major motivations that drive corresponding inter-personal relating: the desire for power and love (Alison et al., 2013; Leary, 1957). He further argued that for people to be able to adapt, function, and thrive in a family, group, and society, they need to be able to navigate four basic modes of social functioning, which are motivated by two different ends. The corresponding model became known as the Leary Circumplex or interpersonal behavior circle (IBC), which he originally referred to as a two-dimensional representation of personality. It organizes inter-personal relating along two motivational axes that map the four basic modes at each end: vertically between dominance and submission and horizontally between hostility and friendliness. Figure 6.3 provides a visual representation of the model. The model assumes the vertical axis to operate under the principle of complementarity, with dominance inviting submission and vice-versa, while the horizontal axis operates under the principle of reciprocity, with friendliness inviting friendliness and hostility inviting hostility.

**Figure 6.3**

*Interpersonal Circumplex after Leary (1957), adapted by Roche et al. (2014).*



Leary (1957) pointed out the necessity for humans to master all four basic modes to prosaically and, thus, successfully navigate interactions with others. His approach to interpersonal relating therefore provides a meaningful approach to rapport, as it accounts for its interpersonal nature. However, it remains a theory of personality and does neither provide theoretical insight into interactional process of relating nor into behaviors that Leary's basic motivations drive or how to achieve the underlying desires of power and love.

### **6.2.1.1.3 Working Alliance**

As a central concept in psychotherapy and counselling, the construct of working alliance (or therapeutic alliance) has been evolving alongside the domain since its origins with Freud (19889). Flückiger et al. (2018) remarked that, over the course of time, it has become a relevant construct in a variety of other domains, including nursing, social work, health care, counselling (Horvath et al., 1991), education (e.g., Rogers, 2015), and coaching (Gessnitzer & Kauffeld, 2015).

According to Bordin (1979), a working alliance manifests cooperation between therapist and patient. He described it as the result of (a) an agreement on goals, (b) an assignment of tasks, and (c) the development of a connection. As such, he argued that it has applicability beyond psychotherapy and counselling, for instance between student and teacher, community action group and leader, or between child and parent. He further argued, based on the literature at the time and on his own research, that the "effectiveness of a therapy is a function in part, if not entirely, of the strength of the working alliance" (Bordin, 1979, p.253). He further pointed out that the strength of the working alliance depends directly on the personal characteristics of both the therapist and the patient as well as on the context, which the working alliance is formed within. As such, working alliance provides a coherent and accessible model to describe and understand interactions between therapists and patients (Castonguay et al., 2006; Rogers, 2015).

More recent research supports Bordin's (1979) insights, including the quality of the working alliance as a predictor of treatment outcome and positive change (e.g., Flückiger et al., 2018; Horvath & Symonds, 1991; Hovrath et al., 2011). However, Safran and Muran (2006) addressed limits of this research and explored additional factors to reflect a more complex conceptualization. They reviewed the literature and explored reasons for deteriorations or breakdowns of working alliance, so-called alliance ruptures. The authors found that conventional conceptualizations of working alliance typically only accounted for confrontational ruptures, where patients explicitly address concerns about their relationship with the therapist. They then argued that this over-emphasis on the role of conscious collaboration neglects that of subconscious factors, which can cause patients to withdraw from the relationship rather than confront the therapist. As a result, Safran and Muran (2006) added an implicit dimension to the explicitness of previous conceptualizations, based on which therapist and patient negotiate underlying needs, desires, and motivations. Because this negotiation is on-going throughout the session and over the course of the relationship between therapist and patient, working alliance cannot be an achievable, static variable. It is rather "a constantly shifting, emergent property of the therapeutic relationship" (Safran & Muran, 2006; p.288).

Following the continued interest in understanding working alliance, which Flückiger et al. (2018) also attributed to the concept's practicality in assessing the relationship directly and easily accessible, they reviewed 295 Independent studies that covered more than 30,000 patients (between 1978 and 2017). Their meta-analysis concluded a robust positive relation between working alliance and therapy outcome. The review also identified the following four dimensions, within which researchers had adapted Bordin's (1979) definition of working alliance: (a) psychometric definitions that focus on independent elements that make it up, (b) longitudinal unfolding, (c) inter-subjective perspectives of both therapist and patient, and (d) nested levels of analysis (e.g., session, patient, patient-therapist interaction, etc.).

Working alliance accounts for the inter-personal nature of rapport as well as for its multi-level complexity that stems from explicit, conscious determinants and implicit, sub-



conscious determinants (see below). However, it is distinguishable from rapport in several ways. First, working alliance, in any field where it is studied, assumes a shared goal between the participants (Bordin, 1979; Flückiger et al., 2018). Second, working alliance is typically understood as a continuing relationship (Flückiger et al., 2018; Safran & Muran, 2006), often including the assignment of tasks (Bordin, 1979; Flückiger et al., 2018). And third, because rapport can exist without shared goals and agreeable assignments of tasks, is often conceptualized as a predictor of working alliance (Ryan et al., 2011; Wilson et al., 2010).

### **6.2.1.2 Rapport**

As mentioned previously, there is no standardized conceptualization of rapport, since there is a variety of approaches and interpretations as well as a corresponding variety of ways to educate on and use it (Alison et al., 2013; Alison & Alison, 2020; Argyle, 1990; Drolet & Morris, 2000; Goudy & Potter, 1975; LaFrance, 1990). Each of the many fields and disciplines that study rapport is focusing on different aspects of the concept. However, a review of the corresponding bodies of literature allows to narrow down a smallest common conceptual denominator, which refers to rapport as a quality of the relationship between social actors at any given time (Bernieri et al., 1996). In line with the Oxford English Dictionary, this quality is often characterized by a certain degree of mutual understanding, empathy, and harmony, which allows it to exist only within an interactional and potentially collaborative context (Alison et al., 2013; Alison & Alison, 2020; Bernieri et al., 1996; Leach, 2005; Tickle-Degnen & Rosenthal, 1990). In addition, it is generally accepted that rapport is a concept that refers to the relationship between interactants rather than to any state within either individual (DePaulo & Bell, 1990; Tickle-Degnen & Rosenthal, 1990).

Drawing from psychotherapy and counselling literature, Tickle-Degnen and Rosenthal (1990) conceptualized rapport as a construct with three essential components. This tripartite model of rapport remains among the most influential and comprehensive ones in literature (Gabbert et al., 2021; Vallano & Compo, 2015). First, there is mutual

attentiveness, which manifests the interest interactants take in and the focus they place on each other. Second, there is positivity, which represents the interactants' feelings of mutual friendliness and caring. And third, coordination between the interactants, which allows them to synchronize and balance their interaction between each other so it can sustainably continue until the mutually felt or agreed on end of it.

Tickle-Degnen and Rosenthal (1987, 1990) further elaborate their conceptualization by pointing out that, as a feeling state, it fluctuates throughout the interaction and, therefore, can develop, be maintained, deteriorate, and, at times, break down. As such, it has both verbal and behavioral correlates that express "the affective nature of rapport - that is, how it feels" (Tickle-Degnen & Rosenthal, 1990; pp.285/286). In their meta-analytic review (Tickle-Degnen & Rosenthal, 1990), they identified several non-verbal correlates of rapport, which included mirroring, where one matches the body language and spoken language, smiling, eye contact, and other behaviors like leaning forward or nodding one's head, which since have been corroborated by several subsequent studies (e.g., Gremler & Gwinner, 2008).

In a critique, LaFrance (1990) addressed several shortfalls of Tickle-Degnen and Rosenthal's (1990) approach. First, there is more to rapport than the set of three positive inter-personal attributes. LaFrance (1990) pointed out that rapport is always embedded in the situational context and substantial discourse surrounding it. As such, she understands rapport as a strategic process of development and maintenance that is frequently created not as a relationship end in itself but with a certain purpose in mind, including the achievement of a working alliance as discussed above (Ryan et al., 2011; Wilson et al., 2010) in various occupational and academic contexts. She refers to these as influence situations.

Second, LaFrance (1990) argues, based on her own, self-report based empirical work in a post-secondary education context (LaFrance, 1985) that rapport will fluctuate over the course of time, meaning that it develops, is maintained, deteriorates, and, at times, breaks down. While Tickle-Degnen and Rosenthal (1990) do account for fluctuation in rapport,

LaFrance (1990) found that they did not discuss whether the overall amount of rapport changes over time or when and if it assumes particular importance at certain points during the interaction.

Third, based on an observational study with college students (LaFrance & Broadbent, 1976), LaFrance (1990) stressed that their study results did not support the prevalence of positivity that Tickle-Degnen and Rosenthal's (1990) research found. According to LaFrance and Broadbent (1976), the inter-active, coordinative element of rapport was less related to an evaluative dimension, such as positive or negative. It was much more related to power, potency, and control as well as activity, inclusion, and affection dimensions. Consequently, LaFrance (1990) concludes positivity not to be the dominant dynamic that Tickle-Degnen and Rosenthal (1990) describe it to be.

Especially in policing and crisis intervention contexts, in which this research project is rooted in, LaFrance's (1990) argument warrants the conclusion that Tickle-Degnen and Rosenthal's (1990) mutual attentiveness, positivity, and coordination, should be complimented with (a) the strategic function that rapport can be ascribed to, (b) the fluctuation of rapport over the course of the interaction, and (c) the relative nature of the positivity requirement, which allows for other factors, such as power and agency dynamics, to co-determine its presence and trajectory.

### **6.2.3 Empirical Validation of Rapport**

Rapport has been empirically investigated in several social and occupational settings, including the relationships between mother and child, in marital contexts, the work of psychologists, psychiatrists, counselors, social workers, ministers, managers, salespersons, medical care providers, and policing (Bernieri et al., 1988; Clark et al., 2003; DiMatteo, 1979; Mirahmadizade et al. 2003; Tickle-Degnen & Rosenthal, 1990; Vecchi et al., 2005, 2019). Just as empathy, rapport is used as a common-place concept, for which a shared understanding is often assumed. As a result, many studies operationalized and tested only certain aspects of rapport rather than an overall construct. Examples include

posture sharing, mirroring, mimicry, gaze, movement coordination (interpersonal synchrony), and other non-verbal correlates of rapport (Bernieri et al., 1988; DiMatteo & Taranta, 1979; LaFrance, 1985; LaFrance & Broadbent, 1976; Miles et al., 2009; Tickle-Degnen, 1990).

The reality-based scenarios discussed in Chapter 5 (Study 2 and 3) were designed as crisis negotiations using the telephone, taking away non-verbal, body language-specific opportunities to build rapport. Therefore, of the comparably fewer studies that have investigated rapport as an integrated concept, those in tele-health contexts bear specific relevance for this research project. Goldstein and Glueck (2016) pointed to several studies that suggest that primary care providers and their patients establish therapeutic alliances during tele-health consultations in similar ways that they do during in-person treatment (Agha et al. 2009; Bishop et al. 2002; Bouchard et al. 2004; Cook & Doyle 2002; Cuevas et al. 2006; Ertelt et al. 2010; Ghosh et al. 1997; Knaevelsrud & Maercker 2006; Modai et al. 2006; Morgan et al. 2008; Sharma & Clarke 2014). Research that found patients to rate rapport and/or working alliance significantly lower in tele-health contexts appears to be not as abundant (e.g., McKinstry et al., 2009; Morland et al. 2010).

A content analysis of 43 primary care phone consultations with eight different general practitioners showed that (a) the tele-health meetings accounted for more biomedical information to be exchanged (compared with 277 in-person consultations), (b) the length of the consultation accounted for much of the variation in rapport, and that (c) male doctors demonstrated a more patient-centric approach (Innes et al., 2006). However, McKinstry et al. (2009) found opposite results, including lower rapport and less information exchanged (regardless of length), based on their analysis of 106 audio-recordings of 19 general practitioners.

A more recent meta-analysis of clinician behaviors in tele-health contexts covered 45 peer-reviewed articles from a variety of health-care contexts, such as home care, both primary and specialist care, as well as mental health care and counselling (Henry et al., 2017). The reviewed studies were all designed as observations rather than experiments,

so that none of the interpersonal behaviors documented were manipulated in any way. While the authors advise that they were unable to identify current best practices, one of the six dominant themes was a positive association between rapport and collaboration with desired patient outcomes. For instance, patient satisfaction and self-management as well as home care providers increased the likelihood of patients to initiate contact with care providers in the future. Furthermore, Henry et al. (2016) pointed to Wakefield et al.'s (2008) findings, according to which non-verbal communication continues while on the phone, yet will not be perceived on the other side. They integrated these insights with Rothwell et al.'s (2012) results from three focus groups ( $n = 25$ ). These stated that, absent of any visual cues, more detailed and close-ended questioning styles need to be compensated by providing patients more space to talk. These findings offer a major insight: they establish the relevance of para-linguistic (and non-verbal) language, as it marks an important communication channel, especially on the phone. This corresponds with previous research on the nature of communication as it relates to the relative share that verbal and non-verbal communication occupy in the conveyance of a message (Argyle et al., 1970; Mehrabian & Albert, 1967; Mehrabian & Wiener, 1967; Scherer, 2003).

As a result, in absence of any visual input, building effective rapport becomes more challenging. Aside from rapport between health-care provider and patient repeatedly being found to be a predictor of positive patient outcomes, this is an important takeaway from this research on the role of rapport specifically in tele-health care. Crisis negotiators regularly face this challenge, as they preferably speak to subjects on the phone (Grubb, 2020; Grubb et al., 2019a; McMains et al., 2020), just as those participating in Study 2 and 3 did.

### **6.2.2.1 Rapport in Crisis Intervention**

With the goal to restore the ability of a person going through crisis to cope with the circumstances that have precipitated it, crisis intervention attempts to re-establish a baseline that the person in crisis was functioning at before the crisis (Greenstone & Leviton, 2002; Lindemann, 1944; Caplan, 1964; Roberts, 2000).

Despite the different short- and long-term orientations of crisis intervention (stabilization, re-establishing a baseline of functioning, lessening suffering) and psychotherapy and counselling (sustainable behavioral change), the role of rapport to facilitate a working alliance and reliable relationship to achieve its goals is generally accepted in crisis intervention (Greenstone & Leviton, 1992; Puleo & McGlothlin, 2010; Roberts, 2002; Roberts & Ottens, 2005). This is reflected in a number of crisis intervention models that have been devised over the years, all of which rely on the establishment of rapport early in the intervention (e.g., Echerling et al., 2005; Greenstone & Leviton, 2002; Kanel, 2011; Kleespies & Richmond, 2009). Roberts' (1995, 1998, 2005) Seven-Stage Crisis Intervention Model (R-SSCIM) figures prominently in both research and practitioner literature. After an initial step of conducting a bio-psychosocial and imminent danger assessment, it prescribes making psychological contact and rapidly establishing rapport as its first interactive action for crisis intervenors to take.

Even-though the R-SSCIM has had a relatively dominant impact in the academic literature (comparing citations with other models cited above), the literature review for this research project has not identified any empirical test of the model itself published in a peer-reviewed journal. However, Roberts and Grau (1970) did survey 24 suicide prevention agencies in the US and presented the immediate establishment of rapport to be a general training and procedure item in 16 agencies.

Most recently, Fartacek et al. (2023) published their findings of an investigation into the the relationship between therapeutic alliance and suicidal ideation in a sample of 351 inpatients in a psychiatric department that specialized in crisis intervention and suicide

prevention. The researchers found a statistically significant, moderate association between therapeutic alliance and positive change in suicidal ideation. They concluded the results to support the crucial role of therapeutic alliance, as measured by Wilmers et al.'s (2008) working alliance inventory (WAI), in suicide prevention and intervention. The WAI includes several items that are conceptually overlapping with rapport, including mutual attentiveness, positivity, and coordinated collaboration.

Munro-Kramer et al. (2022) analyzed 224 transcripts of chats from a university-based online sexual assault hotline to identify core skills that can be implemented in outcome measures and training. They documented a range of rapport-building skills that are standard recommendations in crisis intervention literature, such as following the victim's lead in the conversation, a warm demeanor, and active listening, alongside a non-judgmental approach and validation of the victim's experiences. In their conclusion, Munro-Kramer et al. (2022) pointed out that chat responders would benefit from training rapport-building skills that are specific to the challenges of a digital chat environment.

Webb (2014) argued that crisis interveners working on helplines (i.e., telephone counsellors) would benefit from a conceptualization of rapport that is adapted to the context of their regular phone-only interactions, since working alliance and rapport have conventionally been approached on the premise of face-to-face interactions. According to Phillip et al. (2020), research suggests that telephone counsellors' ways of building rapport overlap in some and differ in other areas from those counselling face-to-face, including attending, minimal encouragers, paraphrases, and questioning styles (Bobevski et al., 1997; Ivey et al., 2014). To put these suggestions to test, Phillip et al. (2020) conducted the first empirical inquiry to focus specifically on the strategies that telephone counsellors use to build rapport with clients over the phone. Furthermore, their analytic focus is set on the initial minutes of the engagement, a similar design to that of Study 2 and 3. They conducted semi-structured interviews with nine telephone counsellors. In discussing the small sample size, they advised that, based on their data analysis, they had reached data saturation when no additional themes or ideas were captured, (cp. Guest et al., 2006). Their thematic analysis identified the use of empathy, an emphasis

on para-linguistic cues, and intentional harmonization as the three main themes. With significant conceptual overlap, these results provide an initial empirical validation for rapport in telephone crisis intervention contexts.

### **6.2.2.2 Rapport in Policing**

Law enforcement and policing scholars have primarily accumulated corresponding research in interviewing and interrogation contexts, which range from terrorism (e.g., Alison et al., 2013; Brimbal et al., 2019) and conventional criminal suspects (e.g., Abbe & Brandon, 2013; Collins et al., 2019) to witnesses and victims of both general and vulnerable populations (e.g., Vallano & Schreiber Compo, 2015; Saywitz et al., 2015), such as children or victims of domestic violence. This body of literature reflects the validity of rapport as a predictor of positive outcomes (often referred to as interview or intelligence yield/disclosure (Abbe & Brandon, 2013; Alison et al., 2021; Brimbal et al., 2019; Gabbert et al., 2021; Saywitz et al., 2015; Vallano et al., 2015; Vallano & Schreiber Compo, 2015). Operationalizations of rapport have not only included partial aspects, elements, or specific, measurable correlates (e.g., room setting, Dawson et al., 2017; self-disclosure Swanner et al., 2017; or affirmation, Brimbal et al., 2019). They also focused on measuring rapport as an integrated and/or holistic approach (Alison et al., 2013; Collins et al., 2002; or Vanderhallen et al., 2011).

Especially in context of witness interview settings, rapport has been found to be positively associated with better interview outcomes with adults and children (e.g., Carter et al., 1996, Vallano & Schreiber Compo, 2011). A recent meta-analysis of 35 studies investigated forensic interviewing practices that are geared towards eliciting child disclosure of sensitive information (Lavoie et al.; 2021). The review resulted in a statistically significant positive association of rapport techniques with child disclosures, with a medium effect size. Gabbert et al. (2021) found that there is a consensus among researchers and practitioners that “developing rapport facilitates cooperation and disclosure (p. 329). They conducted a meta-analysis of 35 studies to examine the use of professional rapport-building in information-gathering contexts. 28 of the 35 studies tested



rapport in investigative interviewing. The results included a list of verbal, non-verbal, and para-verbal rapport behaviours that were associated with positive interview outcomes.

In this vernacular, Alison et al. (2013) conducted field observations of 58 rapport-based interviews between military and police interrogators and terrorist suspects. Their research was funded by the High-Value Suspect Interrogation Group, a US governmental, multi-agency organization that gathers intelligence through interrogation of high value asset detainees and facilitates corresponding research and education. The analyzed footage included 288 hours of 418 video interviews of suspects who have all been subsequently convicted for a variety of terrorism offences. The authors used a theoretically integrated coding scheme, which correlated motivational interviewing (Miller & Rollnick, 2009; Miller & Rollnick, 2002) and interpersonal relating principles (as discussed above, Leary, 1957) with suspect disclosure (“interview yield”). Structural equation modelling and a combination of factor analysis and multiple regression analysis then resulted the first empirically validated analysis in an operational field setting of how rapport-based interviewing predicts positive outcomes in terms of interview yield.

### **6.2.2.3 Rapport in Crisis Negotiations**

Rapport plays a crucial role in crisis negotiations (McMains et al., 2020; Rogan et al., 1997; Slatkin, 1996; Strentz, 2013; Vecchi et al., 2005, 2019). As worked out in the considerations on the nature of critical and major incidents involving crisis negotiations in Chapter 2, a significant proportion of them involves some degree of psychological crisis. This is reflected in the prevalent crisis negotiation models, all of which evolve in some way around empathy enabled rapport. In “Getting Past No”, Ury (1991) suggests rapport-building techniques that are reflected in the crisis negotiations specific models. In Rogan’s and Hammer’s S.A.F.E. model, rapport, face, and emotions have been empirically validated as major determinants of successful conflict resolution through crisis negotiations. Kellin and McMurtry’s (2007) STEPS model takes the principles of the empirically validated and well-established trans-theoretical change model and motivational interviewing (Miller & Rollnick, 2002; Prochaska & DiClemente, 1986, 2005).

As such, the model relies heavily on techniques of motivational interviewing, most prominently on rapport-building (Kellin & McMurtry, 2007; Miller & Rollnick, 2002; Prochaska & DiClemente, 1986). Similarly, Vecchi's et al.'s (2005, 2019) Behavioral Influence Stairway (BISM) model outlines the crucial importance on the way for crisis negotiators to achieve behavioral change on the side of a subject. Enabled by successful empathizing, rapport is the prerequisite for trust-based influence on the subject. In addition, most recent qualitative studies reflect crisis negotiators' reliance on rapport as a best practice, not only as a goal within a crisis negotiation (Grubb et al., 2019a, 2019b; 2020; Hunter, 2015) but also as a strategy to assess progress over the course of a crisis negotiation, as reported in Chapter 4 of this thesis.

However, none of the theoretical or empirical discussions of any of these models offers a detailed conceptualization of rapport beyond basic characterizations, like, for instance, Vecchi et al. (2005) provide: "As empathy is shown, rapport develops, which is characterized by increased trust and mutual affinity. Once rapport has been developed, the person in crisis is more likely to listen to (and accept) what the negotiator has to offer" (p.544). Similarly, the literature review conducted during this research project did not identify any conceptual or empirical research on rapport between crisis negotiator and subject or the factors that predict it.

### **6.2.3 Operationalization of rapport**

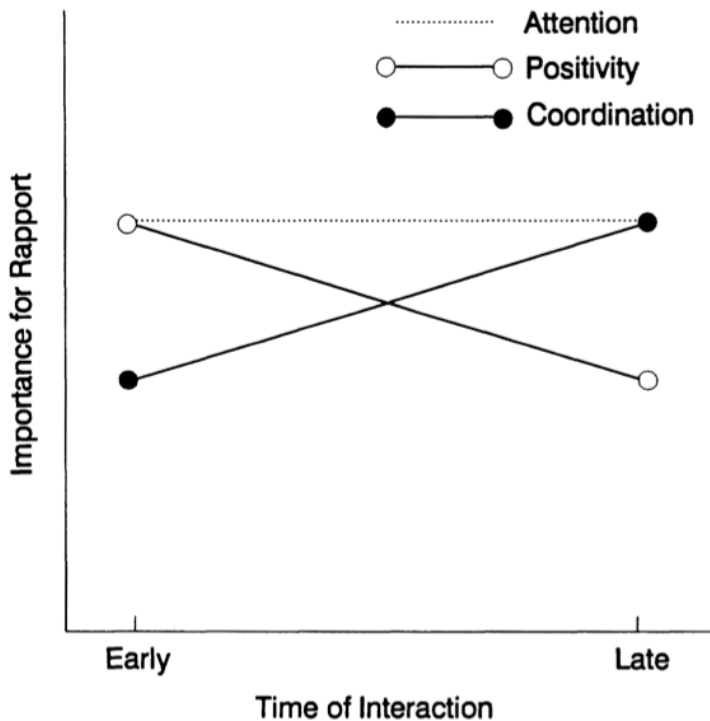
Challenges in operationalizing rapport, for instance through objectively measuring associated concepts like mutual understanding or harmony, have led to a focus on behavioral manifestations of rapport through nonverbal communication (Bernieri et al., 1996; Ekman, 2004; Tickle-Degnen & Rosenthal 1987). This is a particularly effective way of affective communication, where Tickle-Degnen and Rosenthal (1987) presented an abundance of empirical evidence to support their contention that rapport can be decoded from expressive behaviors of interacting social actors. Primarily based on a qualitative and meta-analytic review of the published literature at the time, they modelled rapport as three distinct, operationalizable qualities. They understood them to be descriptive of both

the experiential quality of rapport as well as of its behavioral correlates (Tickle-Degnen & Rosenthal, 1987, 1990). The three qualities are (a) mutual attentiveness between both interactants, (b) positivity of the interaction, and (c) coordination between both interactants. Mutual attentiveness is reflected in both interactants' other-involved focus. Assessed in terms of singular and isolatable behavioral correlates, examples typically include the spatial configuration and the postures of both interactants to ensure approachability and accessibility. The positivity of the interaction requires a level of friendliness and caring, often expressed by smiling and nodding (Tickle-Degnen & Rosenthal, 1987). Just like in counselling and crisis intervention, crisis negotiations require a minimum of communicated care by the crisis negotiator for the subject, which contributes to the creation of a safe space, within which rapport and trust between can be built (McMains et al., 2020; Vecchi et al., 2005; 2019). Finally, coordination between both interactants means a certain level of both equilibrium and predictability. Tickle-Degnen and Rosenthal (1987) refer to mirroring and interactional synchrony as the primary behavioral correlates of this rapport element.

Tickle-Degnen and Rosenthal (1987) pointed out that the situational context, the roles of the interactants, and their goals for the interaction, as well as whether rapport would develop early or later in an interaction, typically moderate the correlations and relative weightings of the three elements (mutual attentiveness, positivity, and coordination). Generally, they describe how positivity would carry more weight at the beginning of the encounter. As the interaction continues, the focus on positivity then shifts towards coordination. Figure 6.4 illustrates these hypothesized shifts over time.

**Figure 6.4**

*Relative importance of the three components of rapport between early and late stages of an interaction (Tickle-Deegen & Rosenthal, 1990).*

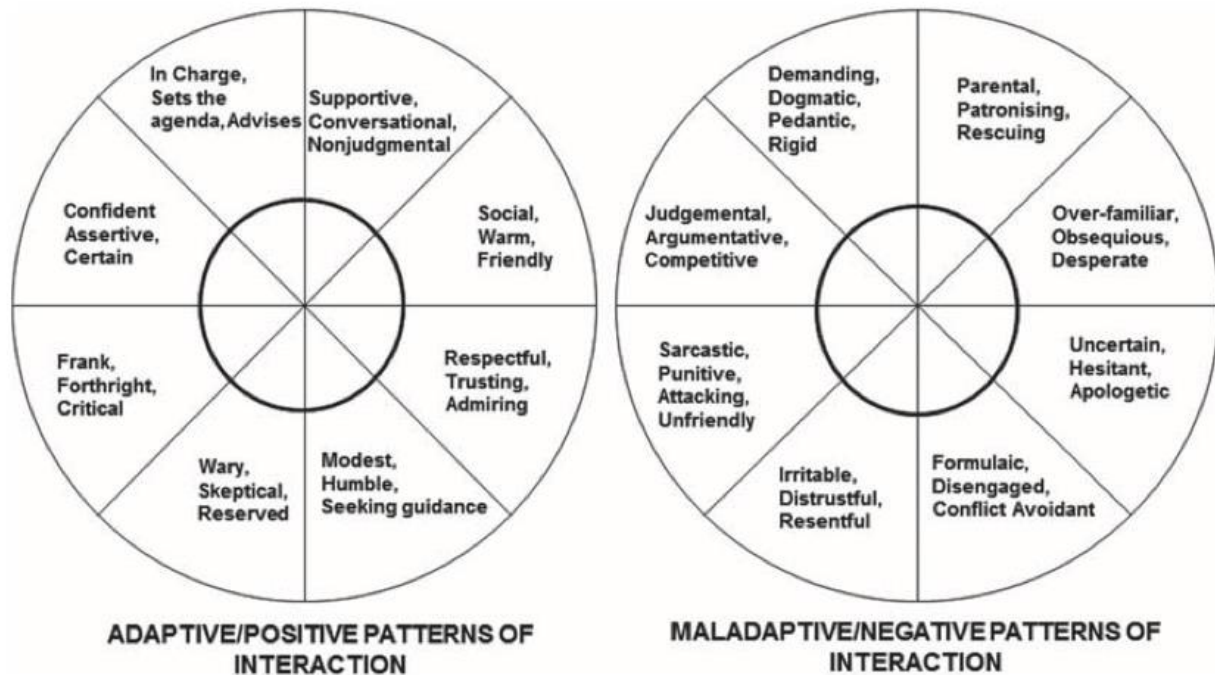


Within the context of national security terrorist interrogation, Alison et al. (2013) have developed a validated assessment tool that they reported to be able to measure rapport reliably and efficiently at the conversational level. Their Observing Rapport-Based Interpersonal Techniques (ORBIT) consists of three elements. The first element focuses on the personal qualities and approach of the interviewer and adopted strategies from motivational interviewing (MI; Miller & Rollnick, 2009). The second element determines interactional dynamics and is adopted from the interpersonal behavior circle (IBC; Leary, 1957). In conjunction, MI and IBC allow to approach rapport along 2 orthogonal dimensions (authoritative-passive and challenging-cooperative, see figure 6.3). The IBC is then broken down into an interpersonally adaptive and maladaptive variant, which completes the assessment of the personal interaction component. Figure 6.5 provides a visual representation of both the adaptive and maladaptive IBC. The third element

assesses the interview outcome in terms of evidentiary useful information in the terrorist interrogation context, and completes the overall rapport assessment.

**Figure 6.5**

*Adaptive and maladaptive interpersonal behavior circles (Alison et al., 2013).*



*Note:* The behavioral intensity increases towards the periphery, with the center point indicating behavior to be absent, the first inner circle a mild expression of behavior, the mid-circle moderate expression of behavior, and the outer persistent expression of behavior.

Alison and Alison (2020) derived a simplified model of rapport from ORBIT, which is articulated as an applicable set of four MI specific approaches, which relate to (a) honesty, (b) empathy, (c) autonomy, and (d) reflection. Honesty requires an objective and direct communication of one’s own intentions and feelings. Concerns need to be brought forward when they arise and in an upfront manner. The authors underscore the importance of avoiding deceit and trickery, which has been found acceptable in crisis negotiations but, due to potentially fatal consequences (Sarna, 1997), prescribed to be avoided when possible (McMains & Lanceley, 2003; Magers, 2007).

Empathy leads to an objective understanding of the subject's core beliefs and values. Alison and Alison (2020) conceptualize three stages of empathy. Stage 1 refers to a merely introspective process, where the self is aware with their own cognitive and emotional experience in a certain situation they are exposed to. Stage 2 refers to a change of perspective, which allows the self to simulate their own experience in the situation that the other is going through at the time of the interaction. Stage 3 is where the self changes perspective as in Stage 2 and, in addition, interprets the experiences based on what they know about the other's frame of reference. To achieve Stage 3, the other cannot experience judgment or perceive collusion from the side of the self.

Autonomy posits the unconditional respect of the other's free will and choices they make. This includes whether they choose to cooperate and converse in the first place. Referring to their unreferenced work with terrorist interrogation, Alison and Alison (2020) argue that "the power of choice" continues to be one of the most powerful influences if a subject would talk to police. The recommendation is, regardless of how high the stakes are, effective rapport-building starts from a position of choice.

The last element, reflection, refers to the verbal reflection, i.e., the repeating back or paraphrasing, of content to (a) ensure it has been understood correctly and (b) to move the conversation forward. Subject to the response of the other, reflection allows the self to help steer the direction of the conversation.

For an effective assessment of rapport in crisis negotiations for the purpose of the following inductive research effort, these four MI categories can be determined on the continuum between adaptive and maladaptive for both crisis negotiation and subject (Alison et al, 2013). In a last step, the assessment can be correlated with the level of achievement of the desired result, which, in context of crisis negotiations, substitutes interview yield with a reduction of emotional intensity.

## **6.3 Study 4**

### **6.3.1 Problem Statement and Research Questions**

The primary goal of Study 4 was to systematically analyze the serendipitously observed communication patterns that undermined crisis negotiators' empathy-based rapport-building efforts, to distinguish them from one another, and to document them, accordingly.

In addition, as discussed in the previous section, there have been only singular empirical research efforts to document situational factors that affect rapport as an interactional quality. Yet, despite the central role it is ascribed to in crisis negotiations, it has not yet been empirically validated. Correspondingly, it has neither been conceptualized on an empirical foundation in crisis negotiations nor operationalized accordingly. Just like the literature on empathy in crisis negotiation contexts (see Chapter 5), situational determinants of rapport are often only assumed by way of analogy, primarily from counselling and crisis intervention literature (Kellin & McMurtry, 2007; McMains et al., 2020; Rogan et al., 1997; Vecchi et al., 2005, 2019). In contrast, as discussed in the previous section, a growing body of literature on investigative interviewing has started to establish situational determinants of rapport in corresponding contexts (Alison et al., 2013; Alison & Alison, 2020; Collins et al., 2002).

As a result, Study 4's secondary goal was to address this gap and conceptualize, operationalize, and provide an initial, exploratory, empirical validation of rapport as a predictor of reduced emotional intensity in crisis negotiations.

Accordingly, the following three questions guided the research conducted in Study 4:

- Which distinguishable communication patterns have impact on crisis negotiator-subject rapport (primary goal)?
- Which distinguishable communication patterns have most impact on crisis negotiator-subject rapport (primary goal)?

- Is rapport associated with reduced emotional intensity on the side of the subject (secondary goal)?

### **6.3.2 Methods**

To answer these research questions, Study 4 utilized qualitative data analysis (QDA). It relied on directed and conventional content analysis. Directed content analysis guided the identification of variation in rapport between crisis negotiator and subject. Conventional content analysis allowed to inductively translate the observed patterns of communication on the side of crisis negotiators into distinguishable theoretical constructs.

#### **6.3.2.1 Research Design**

QDA is an umbrella term for a variety of methodologies, theoretical perspectives, and research traditions (Lester et al., 2020). Hsieh and Shannon (2005) referred to QDA as “a research method for subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (p. 1278). As such, it allows researchers to organize to any type of communicated content, both explicit and implicit in nature, along distinguishable ideas, themes, and categories of similar meanings (Berelson, 1952; Cho & Lee, 2014; Hsieh & Shannon, 2005). Thomas (2003) explains that findings of a QDA have both deductive elements, stemming from the research objective, and inductive elements, rooted in the iterative coding process that requires researchers to repeatedly engage and interpret raw data. The analysis is a product of the researchers’ subjective interpretations, which requires them to commit to methodological rigor and utilize techniques to ensure the overall trustworthiness of their research effort (Lincoln & Guba, 1985).

Within QDA, content analysis has established itself as an effective research method to examine qualitative data. It originated in media and communication studies but is a versatile methodology in other fields: it lends itself to any kind of data, for instance interviews and other types of observations (Elo & Kyngäs, 2008; Harwood & Garry, 2003;



Hsieh & Shannon, 2005), such as audio-recorded simulations of crisis negotiations. It is suitable to analyze both explicit, manifest as well as implicit, latent content and meaning (Cho & Lee, 2014; Graneheim & Lundman, 2004). Especially in conversational (Schulz von Thun, 1981; Watzlawik et al., 2011) and other dynamic social contexts, such as crisis negotiations, where the meaning of what is said is often communicated implicitly (Rogan & Hammer, 2002; Taylor & Donald, 2004), researchers benefit from methods that allow them to access latent content and implicit meaning through analysis of data that requires a certain degree of intuition and interpretation (Potter & Levine-Donnerstain, 1999; Schreier, 2012).

Furthermore, content analysis is flexible in the uses of inductive and deductive approaches to examine raw data (Cavanagh, 1997; Elo & Kyngäs, 2008). Cho and Lee (2014) pointed out that the key difference between inductive and deductive analysis lies in the way the initial codes, themes, and constructs are developed. Because the inductive approach assumes prior literature, theory, or knowledge on the research target to be limited or fragmented, initial codes, themes, and constructs are generated from the raw data (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005). The deductive approach derives the initial codes from existing literature, theory, and knowledge (Hsieh & Shannon, 2005; Kondracki et al., 2002), which makes it a suitable approach to test existing theory (Cho & Lee, 2014). Ultimately, research objective, theoretical context, and the phenomenon under study dictate the specific type of content analysis (Weber, 1990).

This methodological versatility (the possibility to combine deductive and inductive investigations; Cho & Lee, 2014; Hsieh & Shannon, 2005) lends content analysis a methodological advantage over other QDA methods, such as discourse analysis (Renkema, 2004) or grounded theory (Strauss & Corbin, 1998), which focus primarily on problem-oriented or critical inductive approaches (discourse analysis) and/or theory-building (grounded theory). As discussed below in greater detail, Study 4's content analysis deduced an analytic point of departure from existing theory (the variation in rapport between crisis negotiator and subject), while, at the same time, it employed an open-ended, inductive examination of the data (determining the patterns that facilitate the

variation), which, in turn, as discussed below in the discussion of this study's results, reflect already existent theory.

### 6.3.2.2 Participants and Data

The crisis negotiators whom data were collected from are the ones that participated Study 2 and 3 (Chapter 5): 52 German crisis negotiators. All participants are nationally accredited crisis negotiators with a minimum of four weeks basic training in crisis and hostage negotiation. Further details and descriptive statistics on the full sample are illustrated in Table 6.7.

**Table 6.1**

*Sample Descriptive Statistics.*

n	sex		age				experience					
	f/m	M	20-29	30-39	40-49	50+	M	0-4	5-9	10-14	15-19	20+
52	15/37	42.44	9	19	21	3	8.15	10	19	11	8	4

Study 2 produced 48 audio recordings of simulated crisis negotiations conducted by 24 participants, Study 3 produced 72 audio recordings of simulated crisis negotiations conducted by 40 participants. The scenarios lasted between 11 and 19 minutes, with a mean length of 15 minutes.

In total, 117 simulated hostage negotiations, documented in a corpus of 2,019 minutes (approximately 33.5 hours) of recorded audio-files, were examined qualitatively.

### 6.3.2.3 Materials

The content analysis was conducted with the Express Scribe Pro software version 10.17 (this is a desktop application that keeps data stored locally).

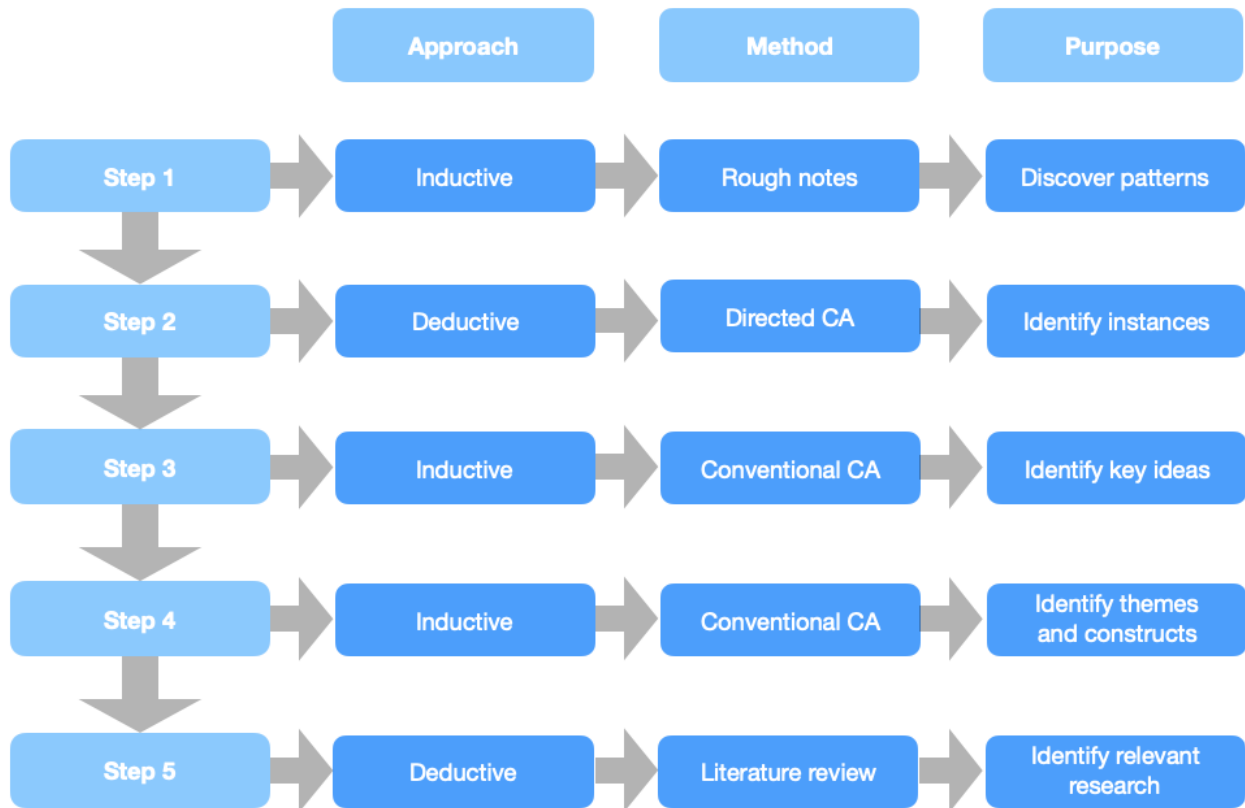
#### **6.3.2.4 Procedure**

The University of Liverpool's Institute of Psychology, Health & Society Research Ethics Committee approved this study on May 10, 2017, under reference 1065. Audio-recordings were retrieved from the principal investigator's password secured MacBook Pro for further processing. Data was then analyzed as reported below.

#### **6.3.2.5 Data Analysis**

The communication patterns under investigation were first discovered serendipitously, before they were examined systematically and rigorously throughout six iterations of content analysis, both deductively and inductively. Figure 6.6 illustrates the analytic strategy and shows, how several iterations facilitated a level of immersion to obtain a wholesome sense of the explicit and implicit meaning within the data (Tesch, 2013).

**Figure 6.6**  
*Study 4 analytic strategy.*



### 6.3.2.5.1 Step 1: Rough Notes

The coding process for Study 3’s dependent variable (see Chapter 5 for details) marked the first step of Study 4. Throughout the coding, initial observations of communication patterns with potentially adverse impact on the rapport between participants and subject actors were documented as rough notes for reference in future iterations. These rough notes were then captured in a Microsoft Excel version 16 spreadsheet.

### 6.3.2.5.2 Step 2: Directed Content Analysis

The initial observation of variation in the level of rapport between participant and subject actor as conceptualized in this chapter’s introduction dictated an initially deductive approach to locate conversational turns that were impacted by the ladder identified communication patterns in terms of rapport. As such, (theory-) directed content analysis

allowed to calibrate the research goal on the identification of communication patterns that are relevant to the participants' attempts to build rapport. This helped to advance a better understanding of the relationship between identifiable ideas, themes, and constructs in the data. It also conceptually extended Alison's and Alison's (2020) simplified rapport model by the rules of the overall content analysis (Hsieh & Shannon, 2005; Potter & Levine-Donnerstein, 1999). Accordingly, rapport was identified to be the key (outcome) variable. Based on the above-mentioned determination of variance between adaption and maladaptation across Alison's and Alison's (2020) four rapport elements (honesty, empathy, autonomy, and reflection), which were operationalized as an initial coding category (Potter & Levine-Donnerstein, 1999).

Each simulated crisis negotiation was listened to and coded for corresponding maladaptions using the simplified approach based on Alison et al. (2013) and Alison and Alison (2020) and described above. Corresponding maladaptive passages were listened to repeatedly to correctly classify the relevant rapport element, which was compromised by the disconnect. Corresponding passages were transcribed and documented as text with time stamp and participant number in an Apple Pages version 12 spreadsheet.

The use of directed, theory-guided content analysis was limited to identifying occasions, where rapport, as an outcome, was impacted by a variety of communication patterns. The patterns themselves were identified strictly by way of inductive analysis, without theory-guidance, as described in detail in the subsequent paragraphs.

### **6.3.2.5.3 Step 3: Conventional Content Analysis**

Conventional content analysis allowed to inductively translate the observed patterns of communication on the side of participants into matching ideas and theoretical elements across recordings. Generally used to describe a phenomenon, conventional content analysis is a preferred method of inquiry where existing literature or theory on a specific topic or phenomenon is limited (Hsieh & Shannon, 2005). The goal is to avoid theoretical and conceptual preconceptions, to extract ideas, themes, and new constructs inductively,

as they emerge from the raw data (Kondracki & Wellman, 2002). As such, conventional content analysis allowed to examine the communicative patterns, which were located by association with the variations in rapport by the directed content analysis, with minimal theoretical or conceptual bias. This allowed the content analysis to capture insights beyond the concepts that are widely acknowledged to be associated with rapport-building during crisis negotiations, such as active listening or empathetic communication, the two most frequently taught, trained, and most prominently discussed predictors of empathy and rapport (Alison & Alison, 2020; McMains et al., 2020; Rogan et al., 1997; Slatkin, 1996; Strentz, 2013; Vecchi et al., 2005; 2019).

All audio-recordings were revisited at the rapport variations previously identified by way of directed content analysis. This third step captured key ideas word by word and documented them by adding the corresponding transcription in the above-mentioned Apple Pages version 12 spreadsheet (Miles & Huberman, 1994; Morgan, 1993).

#### **6.3.2.5.4 Step 4: Conventional Content Analysis:**

Another iteration allowed for organization of these key ideas along synthesized themes, which clustered similar ideas under overarching theoretical constructs (Coffey & Atkinson, 1996; Patton, 1999).

#### **6.3.2.5.5 Step 5: Literature review**

A literature review then allowed for these constructs to be referenced with prior theory and empirical research. Throughout steps three through five, the use of the constant comparative method (Glaser & Strauss, 1967; Strauss & Corbin, 1998) and clustering allowed for a meaningful comparison and organization of the data.

Once the cross-referential process did not produce any new ideas and themes, a final referential review of the results of step 1 through step 4 (cp. tables 6.2) was conducted and saturation of data was concluded (Strauss & Corbin, 1998; Marshall et al., 2013).

### 6.3.3 Results

All 117 simulated crisis negotiations were coded for repeating ideas in the ways that participants' utterances were followed by rapport-maladaptive responses by the subject actors. These repeating ideas were then grouped into distinct themes, five of which, in turn, were organized under an overarching theoretical construct: *cognitive bias*. Table 6.2 provides an overview of the themes that make up the identified *cognitive biases* as well as of the corresponding categories, broken down by study where the data was collected and combined for total scores.

**Table 6.2***Study 4 Results.*

Theme	Idea	Study 2		Study 3		Total	
		A	B	A	B	A	B
Self-serving Bias	<i>Defend self or institution</i>	0	0	18	18	19	19
	<i>International Engagement</i>	2	2	15	21	17	23
	<i>National Honour</i>	1	1	5	5	6	6
	<i>Constitution</i>	0	0	5	6	5	6
	<b>Total</b>	<b>18</b>	<b>26</b>	<b>26</b>	<b>30</b>	<b>44</b>	<b>56</b>
Projection Bias	<i>Pointing out irony</i>	18	25	13	14	31	39
	<i>Constitution</i>	1	2	9	11	10	13
	<i>Scared reporters</i>	0	0	5	5	5	5
	<i>Nobody wants anyone to get hurt</i>	2	2	7	8	9	10
	<i>Labelling</i>	2	2	9	9	11	11
	<i>Family</i>	0	0	8	9	8	9
	<i>Comparison</i>	9	11	14	15	23	26
<b>Total</b>	<b>21</b>	<b>36</b>	<b>31</b>	<b>44</b>	<b>40</b>	<b>76</b>	
Avoidance	<i>Consequences</i>	17	19	20	34	36	52
	<i>Discomfort</i>	1	1	0	0	1	1
	<b>Total</b>	<b>20</b>	<b>32</b>	<b>17</b>	<b>19</b>	<b>37</b>	<b>51</b>
Task Fixation	<i>Hostages</i>	10	10	11	15	21	25
	<i>Attention</i>	0	0	7	7	7	7
	<i>Task Fixation</i>	0	0	9	9	9	9
	<b>Total</b>	<b>10</b>	<b>10</b>	<b>18</b>	<b>28</b>	<b>28</b>	<b>38</b>
Implicit Bias	<i>Dealt with police</i>	1	1	4	4	5	5
	<i>Background</i>	1	1	12	14	13	15
	<i>Education</i>	0	0	4	4	4	4
	<b>Total</b>	<b>3</b>	<b>3</b>	<b>17</b>	<b>19</b>	<b>20</b>	<b>22</b>

Note. A = *n* crisis negotiators who communicated cognitive bias at least once; B = *n* total mentions of cognitive bias.



The remainder of this section presents the findings of the QDA in detail. It discusses each theme in detail, based on direct quotes of those utterances made by the participants that lent themselves as most illustrative representations.

Altogether, the QDA identified five cognitive biases: self-serving bias, projection bias, avoidance, fixation, and implicit bias.

### **6.3.3.1 Self-serving Bias**

Most participants (44 of 52, 85%) shifted, in at least one of the two simulated crisis negotiations they completed, the focus of the conversation from the subject actor to themselves and argued in favor of an appreciative view of themselves or their views.

The QDA crystallized four distinct categories of self-serving bias. Participants (a) defended police as an institution and/or themselves as honourable officers, (b) argued in favor of Germany's international military engagement and development aid (which was a motivating factor of the subject's radicalization), (c) defended Germany as a nation, (d) and defended Germany's constitutional guaranties.

In at least once over the course their two simulated crisis negotiations, approximately one third of all participants (18 of 52, 35%) *defended police as an institution or themselves as honorable officers*, for instance: "I would say the police doesn't make mistakes, it's the people who work with the police, who make the mistakes" (2:2:20:P). In response to the subject actor's report of physical abuse by police years prior to the incident, participants distanced themselves from this misconduct and defended themselves against the subject actor's generalization of their bad experience, which included the grudge they held against participants due to their general affiliation with law enforcement: "well, I'm a police officer, too [...] and I'm here to help you and your people to resolve this situation together" (2:2:10:P).

Approximately one third of all participants (19 of 52, 37%) *argued in favor of Germany's humanitarian military engagement or development aid*, for instance: “the military mission is to stabilize the country” (2:1:19:P), or “some voted for Merkel, sure, but many have also voted differently, now, because we live here, we pay taxes, which finance arms and tanks exports, regardless if single voters like me want it or not” (2:2:2:P).

Approximately 12% of all participants (6 of 52) *defended Germany as a nation*, for instance: “Secular Sam, we don't feel hate. Not everybody is hateful in Germany. I've told you these are minorities. The mere fact that I am talking to you right now, right? (2:2:8:P)” The subject actor poignantly replied: “You are talking to me because it's your job! You said yourself you were tasked. Do you think you called me on your own volition (2:2:1:S)”.

And at least once, another 10% of all participants (5 of 52) *defended Germany's constitutional guarantees*. They pointed out these apply to the subject actor just as much as to any other citizen, which neglected the subject's experienced police abuse and/or discrimination: “[B]ut the constitution affords everybody lots of liberties, which is a good thing” (2:2:12:P), to which the subject replied: “Take a look around. Just take a look around! Does it look like everybody is guaranteed liberties? Are you fucking with me? (2:2:2:S)”

### **6.3.3.2 Projection Bias**

In at least one of the two reality-based scenarios they completed, more than three quarters of participants (40 of 52, 77%) communicated in some way an assumption about the subject actor or the situation associated with the subject actor. In these instances, they did not have any information that would warrant that judgment, neither from the briefing going into the scenario exercise nor from the conversation with the subject actor.

The QDA crystallized seven distinct categories of projection bias. Participants (a) pointed out irony in the actions of the subjects, (b) argued by way of comparison, (c) referred to the constitutional protection of the subject from discrimination, (d) labelled subjects with

characteristics, (e) pointed out how nobody would want anybody to get hurt, (f) drew unwarranted conclusions about the subject's family, and (g) drew unwarranted conclusions on a potential camera team requested by the subject in one of their demands.

The most frequent projection bias observed was how more than half of the participants (31 of 52, 60%) pointed out the *irony in the actions of the subject actors*. The predominant ironic item participants confronted subject actors with was with regards to their plan and the mission, for instance: "Don't you realize the conflicting goals, killing those whose rights you are fighting for" (2:1:12:P). Another cluster of participants referred to subject's ideological frame of reference in their attempts to stress the irony of the subject's actions: "And you think Allah wants children to die? (2:2:34:P)."

Almost half of all participants (23 of 52, 44%) used *comparisons* to make a point in their discussions with the subject actors. They drew comparisons between the hostages and the subject's families: "These infidels are fathers, they have families, just like you, you have lost your brother and I can imagine that they might go through similar feelings as you" (2:2:10:P). Several of the comparisons included friends and acquaintances that participants referred to as examples of their own exposure to specifically the subject's religious frame of reference Islam and Muslims: Another participant said: "It's hard for me to understand, I also have a Turkish friend, who studied to become a teacher, and he never had any problems" (2:2:24:P).

Almost a quarter of all participants (11 of 52, 20%) used *labels* that carried potentially self-referential judgment to describe characteristics, decisions, or actions of the subjects. Labels often reflected the post-secondary education of the subject and referred to common associations with that level of schooling, for instance respect: "Secular Sam, that is exactly the impression I got from you, as you said, what you confirmed. You went to college. How do you get to the conclusion somebody might be hostile towards you? (2:2:1:P)". In other instances, participants just attributed emotions or experiences to the subject actor: "How are you doing? You're probably scared, too" (2:2:9:P). The subject actor replied: "I have total conviction" (2:2:1:S). The participant then kept labelling: "You

can have conviction and be scared, I am also convinced in what I do but am not feeling too comfortable” (2:2:9:P), without acknowledging the content of the subject actor’s reply.

Also, almost a quarter of all participants (11 of 52, 20%) used the protection they saw the German *constitutional state* to afford the subject in response to their reports of discrimination and experienced abuse by the police: “But isn’t it a good thing, if you are guaranteed a certain set of freedoms, or is this a bad thing (2:2:23:P)”. The subject replied: “Are fucking with me?” (2:2:3:S). Another participant claimed that the subject actor still must have been able to pursue their dreams, to which the subject replied: “No! Listen! You don’t dream. If you get bad report cards in grade four already, when there already is no level of expectation, how are you supposed to dream” (2:2:1:S).

Approximately 17% of all participants (9 of 52) stated in some way that nobody, including the subject actors, wanted *anyone to get hurt*, for instance: “I reassured you, clearly reassured you, to prevent what both of us don’t want deep inside us, that people get hurt” (2:2:5:P). To the last statement, the subject actor replied: “I want to hurt people. That’s what I want. I already proved it outside. And you are telling me what I want” (2:2:1:S).

Approximately 15% of all participants (8 of 52) made, in at least one of the two simulated crisis negotiations they completed, statements about the *subject’s family, for instance*:

Participant 2:2:27:P:	Are you worried about your family? What are they supposed to think of you now?
Subject actor 2:2:3:S:	I’m not worried about my family.
Participant 2:2:27:P:	Do they know what you are up to at this moment?
Subject actor 2:2:3:S:	They are certainly proud of me!
Participant 2:2:27:P:	Really? Do you have kids?
Subject actor 2:2:3:S:	What do I know, I don’t give a crap!
Participant 2:2:27:P:	Do you have kids?
Subject actor 2:2:3:S:	That’s got shit all to do with you!

Almost 10% of all participants (5 of 52) drew unwarranted conclusions on a potential *camera team* requested by the subject in one of their demands, for instance: “It has to be a team that, viewing all the threats, brave enough to come even close to you” (2:2:2:P).

### 6.3.3.3 Avoidance

More than two third of all participants (37 of 52, 71%), in at least one of the two reality-based scenarios they completed, avoided talking about negative conversation topics.

The QDA crystallized two distinct categories of corresponding avoidance. Participants avoided (a) talking about potentially fatal consequences of non-compliance with the subject’s rules and demands, and (b) other events involving fatalities.

More than two thirds of all participants (36 of 52, 69%), avoided *talking about potentially fatal consequences of non-compliance with the subject’s rules and demands*. The following excerpt is representative of this avoidance pattern. The participants had been briefed that the subject actor had previously communicated that hostages would be killed if the German government would not air an official statement with regards to the demands:

Subject actor 2:1:1:S:            So you know what’s going to happen if we turn on the TV here in the hospital tomorrow at noon and won’t see any news?

Participant 2:1:15:P:            Well, I can imagine where you’re headed with this. I’d like to know though, what do you want to get off your chests in this regard?

Subject actor 2:1:1:S:            Don’t you think you’re wasting your time and my time?

One of the 52 participants explicitly avoided a conversation about a military strike that left the subject’s cousins dead as collateral damage: “I think I vaguely recall which air strike you’re talking about. That shouldn’t be part of our discussion right now. You know that Germany has had a hard time reconciling that” (2:2:10:P).

#### 6.3.3.4 Fixation

In at least one of the two reality-based scenarios they completed, more than half of all participants (28 of 52, 54%) fixated on a particular conversation topic to the point it undermined effective rapport building.

The QDA crystallized three distinct categories of topics that participants fixated on: (a) proof of life/well-being of the hostages, and (b) other conversation topics. In this theme, (c) lack of attention was coded as a backup category, where implicit fixation was inferred due to a lack of focus on the details of the conversation.

Approximately 40% of all participants (21 of 52), fixated on persuading the subject to allow them to talk to and ascertain the *well-being of the hostages*, for instance: “It would help me argue better in favour of your demands with incident command” (2:2:17:P), to which the subject actor replied: “They are not taking us serious” (2:2:2:S)? Several times, participants did not ask to talk directly to hostages but tried to obtain relevant information from the subject actor, such as: “In this context, I was wondering if you could tell me something about the hostages, how they are doing, if they require any help” (2:2:27:P), to which the subject actor replied: “are you too stupid to understand? Do you really think I will tell you if you ask six times” (2:2:3:S).

Approximately 17% of all participants (9 of 52), fixated on *other topics* than hostages, for instance how to address the subject actor:

Participant 2:2:14:P:	How can I call you?
Subject actor 2:2:2:S:	Tell me rule number 2!
Participant 2:2:14:P:	Can I use the informal you? <sup>7</sup>

Further topics that participants fixated on included repeated questions about the subject’s family, which increased the subject actor’s emotional intensity immediately, or repeated

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<sup>7</sup> The German language distinguishes between a formal and informal way of using “you” to address people.

requests for an increasingly volatile subject actor to repeat the names of arrested extremists, whose release they wanted to extort.

7 of the 52 participants (13%) did not follow the subject actor and were not able to answer, when they were asked about what they were just told or what they were told earlier in the conversation. These interactions were assumed to reflect a *lack of attention* and played out along the lines of the following example:

Participant 2:2:23:P:	Yes, rule number one was sneaking around.
Subject actor 2:2:3:S:	[interrupted] That was rule number two. Rule number one were the ultimatums. Now the first hostage dies. Great job. Great job. Not even capable of memorizing four items.
Participant 2:2:23:P:	Are you sure that this wasn't the second rule?
Subject actor 2:2:3:S:	Now we have a problem. Are you trying to tell me I made a mistake?

### **6.3.3.5 Implicit Bias**

More than one third of all participants (20 of 52, 38%) communicated, in at least one of the two simulated crisis negotiations they completed, implicit bias.

The QDA crystallized three distinct categories of implicit bias. Participants attributed the following qualities to the subject, which appeared to correspond with certain social categories: (a) national and socio-cultural background, (b) previous involvement with police, and (c) educational background.

A quarter of all participants (13 of 52, 25%) articulated, at least once during their two simulated crisis negotiations, conclusions that correspond with *national and socio-cultural categories*, for instance: "I just realize your German is so good, did you grow up here?" One participant used self-disclosure (for more details on self-disclosure in crisis

negotiations, see Chapter 4) to build rapport: “I myself am 50% foreigner and have had similar experiences” (2:2:17:P), to which the subject actor replied: “But I am no bloody foreigner” (2:2:2:S).

Approximately 10% of all participants (5 of 52) articulated assumptions on *previous involvement with police*: “so you’ve dealt with police in the past and had bad experiences” (2:2:35:P), or “[h]ave you dealt with police before” (2:2:3:P), to which the subject replied: “Did you not listen? I received training [as an Islamic State warrior]” (2:2:4:S).

Approximately 8% of all participants (4 of 52) articulated conclusions they drew based on the *level of education* that they learned the subject had achieved, for instance: “I have to admit, I’m surprised, somebody who has a degree in software development” (2:2:18:P). One subject actor exposed the implicit bias communicated with this last statement with their reply: “And you think a software developed can’t pick up arms and fight” (2:2:2:S).

### **6.3.4 Discussion: Study 4**

#### **6.3.4.1 Contextualization in Literature**

The results of this QDA provide novel insight into crisis negotiations. Crisis negotiators have multiple periodic training sessions per year, in which they deliberately practice communication skills in crisis negotiations. Yet, significant proportions of all crisis negotiators demonstrated how a set of cognitive biases undermined their empathy-based rapport-building efforts, despite the use of standard operation procedure and best practices, such as active listening and empathetic communication (Grubb et al., 2020; McMains et al., 2020; Vecchi et al., 2005, 2019). These findings demonstrate how self-serving bias, projection bias, avoidance, fixation, and implicit bias have been associated with maladaptive behavioral responses by the subject actors and reduced rapport between both parties, des. Through contextualization in current literature on cognitive psychology, this section will introduce a new perspective on empathy-based rapport-building and provide a new set of potential predictors of rapport between crisis negotiator and subject.



#### 6.3.4.1.1 Self-serving Bias

The QDA found more than 80% of participants to shift the focus of the conversation from the subject actor to themselves and argued in favour of an appreciative view of themselves or their views.

Rather than communicating in ways that maintain the subject actor's positive self-image, participants explicitly maintained their own. More than one third of all participants demonstrated communication geared towards *defending their professional self-image* as police officers. Instead of keeping the conversational focus on the impact the subject's reported police abuse has had on their life and driven them into radicalization, participants shifted the focus towards themselves, as they distanced themselves from the subject's negative experience. Drawing on maintaining a positive self-image of their professional identities, participants also engaged in significant facework on behalf of police as an institution, Germany's *constitutional guarantees*, and *Germany as a nation* or society.

#### Self-image and face theory

Humans have the need to perceive themselves in a favourable manner (Alicke & Sedikides, 2009; Zeigler-Hill & Myers, 2011). Accordingly, research has shown there is a general, defensive tendency to overestimate the importance of a positive self-image (Hill et al., 1988). Goffman (1955) coined Face as sociological concept, which represents these tendencies in context of social and socio-cultural interaction. Experiences and perceptions that do not correspond with, challenge, or threaten one's positive self-image or question one's identity can lead to loss of Face (Oetzel et al., 2001; Ting-Toomey & Kurogi, 1998). This is associated with negative emotions and increased emotional intensity, which can have escalatory impact on interpersonal conflict (Rogan & Hammer, 2002, 1995; Hammer, 2007) or directly cause aggression (Baumeister, 1998; Bushman & Baumeister, 1998). As a result, maintaining a positive self-image is a complex process that also shapes interpersonal conflict (Donohue, 1992; Folger, et al., 2021), especially across across cultural boundaries (Oetzel et al., 2001; Ting-Toomey & Kurogi, 1998).

Semmer et al. (2019) pointed out how everybody occupies different social roles, which often form a significant part of their personal identity (Katz & Kahn 1978; Ryan & Deci 2012). They argue that these social roles include those that they play in professional contexts (Ashforth & Schinoff 2016; Haslam & Ellemers 2005). Accordingly, professionals, who have high self-esteem as such, defend their positive self-image against threats (Gollwitzer et al. 2013). The prospect of losing a positive self-image, self-esteem, or face in a professional setting induces stress (Cast & Burke 2002; Stets 2005) and even increases negative attitudes towards others, such as stereotyping and prejudice (Fein & Spencer, 1997; Sinclair & Kunda, 2000).

Goffman (1955) points out that basic social rules of self-respect and respect for others, usually prompt the self to “[...] conduct himself during an encounter so as to maintain both his own face and the face of the other [...]” (p.11). In this context, Rogan and Hammer (1994) pointed out the crucial role facework, the maintaining of one’s own as well as of the other’s face, plays in rapport-building, specifically in crisis negotiations.

The self-serving bias communicated by participants had detrimental impact on their rapport with the subject and is in stark contrast with evidence-based best practice in crisis negotiations. These prescribe a focus on the subject’s frame of reference (cp. BISM, Vecchi et al., 2005, 2019) and require crisis negotiators to actively maintain subject’s face (cp. S.A.F.E., Rogan & Hammer, 2002; Hammer, 2007).

#### **6.3.4.1.2 Projection Bias**

More than half of all crisis negotiators allowed themselves to explicitly point out a certain level of *irony* within the actions or viewpoints of the subject. Yet the subject actor, who has undergone training and preparations for the hostage-taking simulated for this research project, has a different frame of reference and does not see any *irony* in their actions and views. By framing their perceived futility of the subject’s plan and actions in terms of *irony* and, in some instances, even as rhetorical questions, participants failed to

acknowledge the subject's motivation, which was driven by an emotional response to adverse circumstances that had impacted their life and contributed to their radicalization, including loss, experienced animosity, social alienation, and identity conflict (Borum, 2011; Dolnik & Fitzgerald, 2007, 2011; McCauley & Moskalenko, 2008). In neglect of the subject's mental state, participants argued rationally within their frame of reference, as they pointed out how the subject pursued conflicting goals and how their plan reflected a lack of connection between how dead hostages in Germany could possibly help the people in Syria. Still, participants appeared to consistently follow training and procedure, using active listening skills and making empathetic statements (cp. Vecchi et al., 2005, 2019). Yet, especially the discussions involving *irony* appeared to use these skills and techniques as a segue into outdebating the subject, where the participants first validated and then paraphrased the subject actor, before confronting them with the irony of harming innocent people to sanction the death of innocent people by a German military strike, for instance:

Participant 2:2:10:P:            I get it. I understand, Germany bears blame. **But the people with you right now, they are all innocent**  
[emphasizes added].

Subject actor 2:2:1:S:        They're all filthy dogs, human scum. They can all die  
[...] these infidels, at least once in their dog's lives  
they'll have contributed.

Furthermore, half of all participants used *comparisons*, which they drew from their own frame of reference, in their attempts to build rapport with the subject actor. Participants often described the hostages as family members, whose death would cause similar grievance to their families as the death of the subject's brother caused for the subject. This communication pattern might possibly be rooted in attempts to humanize the hostages in the mind of the subject, with the goal to increase the subject's inhibition to hurt the hostages (Dolnik & Fitzgerald, 2011; Matusitz, 2013). However, while most participants communicated empathy for the subject's loss of their brother, none devoted any conversational space to further exploring the experiential impact this has had on the

subject. Yet, this would have completed the empathetic process by gathering more perceptual knowledge to better mind-read to reduce reliance on potentially inaccurate projection (cp. Alison & Alison, 2020). Instead, they appeared to have processed this information within their own frame of reference. This, in turn, appeared to have led them to conclude that the subject might empathize with the families of the hostages and the impact the subject's actions might have on them.

Likewise, the use of labels and general statements *nobody wants anyone to get hurt*, demonstrate apparently self-referential viewpoints. As do participants' attempts to gain emotional access to the subject actor through invoking (possible) family members, absent of any knowledge of the subject's relationship with their family. Often explicitly, participants communicated their assumption that the subject's family would disapprove of the hostage-taking or that they would need the subject to be part of their lives.

### Theory of Mind

The conception of others' viewpoints is a central concept of what literature refers to as theory of mind (ToM; Premack & Woodruff, 1978; Sellars, 1956): the ability of the self to attribute mental states and processes to others, independently from the self's mental states and processes (Apperly, 2010; Paal & Berezkei, 2007; Vogeley et al., 2001). As humans interact with each other, they constantly make observations and inferences on others' mental states, including their emotions. This allows them to understand the behavior of others and underlying motivations as well as to make predictions on others' anticipated future actions (Apperly, 2010; Paal & Berezkei, 2007; Vogeley et al., 2001). This, in turn, prompts adaptive behaviors in the self, as it kicks off a new cycle of interaction (Astington, 2003; Paal & Berezkei, 2007). The overall process of making these attributions is known as mind-reading (Baron-Cohen et al., 1985; Vogeley et al., 2001) and often also referred to as mentalizing (Frith & Frith, 2005).

Paal and Berezkei (2007) pointed out two major areas of social interaction, which proficiency in mind-reading helps advance: cooperation through mutual attunement and

“a well-developed ability to attribute mental states to others” (p.542). This helps individuals position themselves advantageously in absence of cooperation and exercise influence on others in competitive settings (Repacholi & Slaughter, 2004). Correspondingly, they reported results of a trial involving 127 undergraduate university students, which found that the level of an individual’s mind-reading capacity is positively correlated with the probability of them engaging in cooperative and supportive behaviours. Comparative research on ToM between people diagnosed with autism spectrum disorder and mentally healthy people further underscored the relevance of mind-reading as a predictor of successful social interactions. By way of contrast, studies showed how a lack of mind-reading, for instance manifested in deficiencies in recognizing facial expressions or emotional literacy, correlates with higher difficulty in social interactions (Baron-Cohen et al., 1985; Happé, 2015).

### Simulation theory

Despite ToM’s long-standing rooting in philosophical debates on *knowing other minds* (Bazinger & Kühberger, 2012; Gallese & Goldman, 1998; Gordon, 2003), the extent to which mind-reading relies on the self as a proxy to infer others’ states of mind remains open to theoretical and empirical debate (Bazinger & Kühberger, 2012; Vogeley et al., 2001). In other words, insight into how much of the self’s change of perspective relies on using their own values, beliefs, and experiences (i.e., their own frame of reference) in a specific situation to either project or infer others’ experience in that situation is still unclear. Using the self as a model of understanding and predicting others is the central tenet of what researchers of the philosophy of mind and of ToM refer to as simulation theory (ST; Gordon, 2003; Heal, 1996; Vogeley et al., 2001). Absent of being constantly surprised by the behavior others in everyday life, humans appear to be generally successful in knowing and predicting other minds and behaviours (Bazinger & Kühberger, 2012). However, predictions can still be wrong at times, often due to the erroneous (explicit or implicit) assumption that the self can infer others’ experience from their own. Inaccurate mind-reading has also been found to be the result of humans’ tendency to find others more similar to the self than they are, a line of research often referred to as false-consensus

effect (e.g., Dawes, 1977; Gilovich et al., 1983; Karniol et al., 1998). Especially in crisis negotiations, inaccurate inferences on others' minds and predictions of others' actions can have serious or fatal consequences.

### Theory theory

The philosophy of *knowing other minds* and ToM debate an alternative way of understanding others' state of mind and predicting corresponding behaviors: drawing inferences based on merely theoretical representations of others' mental processes, including biological cause-and-effect relationships and socially contracted rules of behavior (Churchland, 2013; Fodor, 1987). This is also referred to as folk psychology or theory theory (TT). Literature typically juxtaposes ST and TT to contrast the amount to which the self uses its own frame of reference to infer that of the other on a theoretical continuum between projection and theory (Avramides, 2015; Bazinger & Kühberger, 2012; Vogeley et al., 2001).

### Perceptual knowledge

However, Study 4's findings on projection bias show a third alternative to know others' minds and predict their behaviors: information and data gathered directly from the other. Such perceptual knowledge (PK) has been introduced to the debate by McDowell (2018), who argued for empirical rationality based on intersubjectivity, in broader terms people's mutual awareness of the degree to which they understand each other. Gallagher and Zahavi (2008) also proposed that mind-reading is the result of direct perception of and reaction to expressive behaviors of others (Gallagher & Zahavi; 2008). As their Interaction Theory relies on PK, it also accounts for the activation of mirror neurons (e.g., Schulte-Rüther et al., 2007) as autonomous action or response preparation. Interaction theory explicitly rejects both ST and TT (Gallagher & Zahavi, 2008).

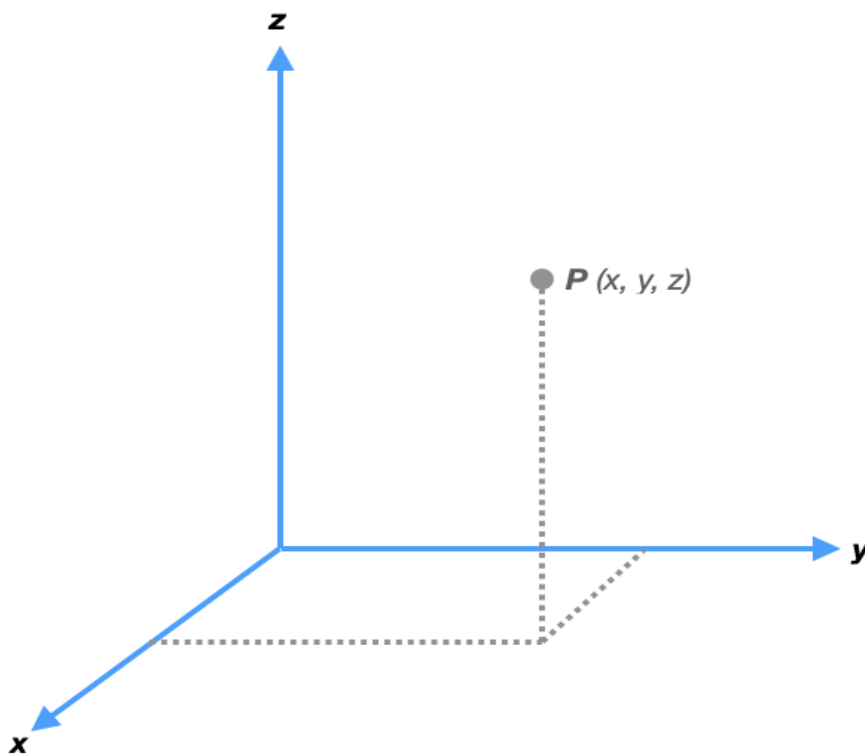
## Theoretical integration

While this literature review has not identified any framework to ToM that integrates all three theoretical approaches to *knowing other minds* (ST, TT, and PK), scholars have argued that it is reasonable to assume that no single approach accounts for all mind-reading (Bazinger & Kühberger, 2012; Stich & Nichols, 1997; Vogeley et al., 2001). Epley et al. (2004), for instance, integrated ST and TT in their anchoring and adjustment model: humans anchor their predictions of others' minds and actions in their own (simulation theory) but attempt to adjust with the help of theoretical information (theory theory). Similarly, Stich and Nichols (1997) have integrated ST and TT, arguing that self-referential projection can be updated before or after the projection, i.e., simulation. While neither of these underlying theories nor their integrations account for a way to determine the degree of projection versus theoretical representation versus practical knowledge, there is agreement that projection (ST) is an important part of the mind-reading process.

In practical terms, the extent to which mind-reading relies on the self as a proxy to infer others' states of mind can then theoretically be represented by Cartesian coordinates in a three-dimensional space: an x-axis representing self-referential projection (ST), a y-axis representing theoretical representation/folk psychology (TT), and a z-axis representing strictly perceptual knowledge gathered directly from the other during an interaction. Figure 6.7 provides a visual representation of integrated model.

**Figure 6.7**

*ToM: Integration of ST, TT, and PK.*



*Note.* x-axis = ST; y-axis = TT; z-axis = PK;  $P$  = relative contribution of each ToM subsidiary

### Practical implications of projection

Chapter 5 derived a simple process model of empathy (based on Decety & Lamm, 2009; Eggum et al., 2011; Elliott et al., 2018; Shamay-Tsoory, 2009; Smith, 2017): (a) either a deliberate, cognitive (top-down) or an automatic, affective (bottom-up) impulse initiates an empathetic response, (b) a deliberate process facilitates a change of perspective, and (c) an emotion-regulation process maintains distinction of the self from the other person to reappraise potentially vicariously experienced distress. This allows for actual helping or other pro-social behaviors, including listening and rapport-building.

However, the last step's emotion-regulation process, which maintains the distinction of the self from the other, makes the empathetic process vulnerable to projection. As Alison and Alison (2020) pointed out, for the empathetic process to be competed, the self needs



to change perspective. In addition, it needs to interpret the experiences of the other based on the others' experiences, values, and beliefs (i.e., the other's frame of reference), not by drawing from their own frame of reference. Put differently: while the self might draw from its own experiences in similar situations to start the change of perspective stage of the empathetic process, it needs to arrive at communicating that it successfully absorbed the others' frame of reference as a result of the interaction. If the self can communicate the other's frame of reference in contrast from their own, the other is more likely to feel reassured they are understood and genuinely empathized with. In terms of ToM, effective empathizing therefore requires exhausting PK before resorting to TT and ST.

It is this point in the empathetic process, where this QDA identified a bias towards participants' own cognitive and affective frame of reference for more than three quarters of them.

#### **6.3.4.1.3 Avoidance**

More than two thirds of all participants communicated in ways that reflected active avoidance of negative consequences that the subject actor threatened in connection with different scenarios, including attempts by law enforcement to enter the premise under siege or elapsed ultimata. Humans avoid stimuli that are associated with negative or unfavorable consequences, regardless if such consequences are likely to materialize or only imagined (Bandura, 1969; Leventhal, 2008; Luciano et al., 2010). While such avoidance behavior is typically studied in clinical psychology, predominantly in anxiety conditions, its functional value, which keeps people away from objectively harmful or dangerous exposures, makes an influential mechanism in social interaction in general (Bandura, 1969; Leventhal, 2008).

When these stimuli are rooted in information, humans "avoid knowing in order to reduce anxiety" (Maslow, 1963, as cited in Narayan, 2011, p.1). As a result, people typically seek out information that corresponds with their interests, needs, values, or attitudes, and, ultimately, supports their favored judgment conclusion (Ditto et al., 2003; Rogers, 1985).

On the flip side, they avoid information that they see in conflict with what they believe or prefer. Several strategies of corresponding information avoidance have been proposed, including cognitive denial and cognitive repression (Brunel & Pichon, 2004; Narayan et al., 2011). Cognitive denial conceives relevant knowledge to be not valid, untruthful, or irrelevant. Cognitive repression attempts to disregard relevant knowledge by willful neglect and distraction. Study 4 showed how such cognitive detail and repression can materialize in avoidance behaviors with negative impact on rapport-building efforts.

#### **6.3.4.1.4 Fixation**

Almost half of all participants communicated in a way that reflected fixation on the topic of the hostages' well-being. As a mental effort for selective processing of information (Johnston & Dark, 1986; Posner & Boies 1971), Johnston and Dark (1986) conceptualized attention based on the assumption that processing capacity is limited (Kahneman 1973, Mani et al., 2013; Mullainathan & Shafir, 2013). With regards to the decision of where to allocate the limited cognitive resources that allow humans to control their attention, Norman and Bobrow (1975) distinguished between two approaches: bottom-up, data-driven processing and top-down, internally driven processing. Bottom-up, data-driven processing is determined by sensory input. Top-down processing is driven internally, either through bias towards particular stimuli or deliberately through executive functioning.

Even though participants were explicitly advised, as a scenario feature, to focus on building rapport and reducing emotional intensity, part of their mission in general is to ascertain the well-being of the hostages, as well as to ensure reachability of the subject in case the line drops. Participants may have socialized to a degree with a focus on such topics. Regardless, the inability to (at least temporarily) let go of them if they aggregate the subject manifests fixation, which can have detrimental impact on empathy-based rapport building.

#### 6.3.4.1.5 Implicit Bias

The QDA identified several categories of communicated (pre-)judgment, including subject's *ethnic background*, *previous involvement with police*, and education. Humans have the tendency to process information heuristically, as opposed to a methodically analytical approach (Tversky & Kahneman, 1974). Correspondingly, people judge relevance, salience, and frequency of information based on how easily and how quickly it comes to their minds (Tversky & Kahnemann, 1974). This influence of experience on later performance happens at the subconscious level. People are typically not able to recall the totality of previous experiences that shape the current interpretation of newly perceived information (Graf & Schacter, 1985; Greenwald & Banaji, 1995; Jacoby et al., 1991).

For instances where such past experiences affect social judgment, without explicit knowledge of the self, Banaji and Greenwald (1995) established the concept of implicit social cognition. As a related concept, they introduced implicit stereotyping as a related concept that describes “*introspectively unidentified (or inaccurately identified) traces of past experience that mediate attributions of qualities to members of a social category*” (Banaji & Greenwald, 1995, p.181). Such attributions include obvious characteristics that people have used and keep using to distinguish social categories, including race, gender, class, ethnicity, age, accent, and/or physical ability. Humans do not always have conscious or intentional control over the use of these explicit attributes to base their social judgements on and motivate their actions with (Banaji & Greenwald, 1995; Greenwald & Banaji, 1995).

These insights have sparked research into implicit social cognition, unconscious attitudes, and stereotypes of social groups, which typically investigates implicit associations with (i.e., implicit bias towards) race and gender (Banaji & Hardin, 1996; Bargh et al., 1996; Chartrand & Bargh, 1999; Nosek et al., 2002). An ever-growing body of literature collects evidence of such implicit bias in context of law enforcement (Adedoyin, 2019; Bratton & Knobler, 2009; Fridell & Lim, 2016).

Accordingly, participants communicated social judgments and attitudes on the subject or their circumstances. These judgments and attitudes caused adverse reactions on the side of the subject in terms of rapport. The subject actor's unfavorable reactions testify to their perception of judgment, which the participants are expected not to communicate, based on their training and experience.

#### **6.3.4.1.6 Significance: Underlying Dynamics**

These cognitive biases have two interrelated commonalities, which appear to facilitate their interference with empathy-based rapport-building between crisis negotiator and subject: they manifest self-centricity and appear to be associated with reactance on the side of the subject. Self-serving bias is not the only cognitive bias that entails a crisis negotiator-centric frame of reference. Projection bias operates based on the self's values, beliefs, and experiences to infer those of the other. Avoidance is all about avoiding what the self is not comfortable talking about. Fixation, in contrast, dictates the conversational focus based on the self's compulsive allocation of attention. And implicit bias is rooted in the self's subconscious, not in that of the other. As mentioned above, self-centricity is in stark contrast with evidence-based best practice in crisis negotiations, which prescribe a focus on the subject's frame of reference (cp. BISM, Vecchi et al., 2005, 2019) and require crisis negotiators to actively maintain subject's face (cp. S.A.F.E., Rogan & Hammer, 2002; Hammer, 2007). An empathetic understanding of a subject's core beliefs and values and subsequent rapport can only happen if crisis negotiators change perspective in a way that allows them to interpret the experiences of the subject based on what they know about the subject's frame of reference (Alison & Alison, 2020). Without a subject-centric approach that mitigates these cognitive biases, this change of perspective cannot be achieved (cp. Rogers, 1940).

Likewise, crisis negotiators' self-serving, projection, and implicit bias can contradict the subject actor's views and action in similar ways that avoidance and fixation can take away their choice in conversation topics. As such, these cognitive biases pose a threat to the

subject's self-image (through judgment) and behavioral autonomy in (co-)determining the course of the conversation, which will cause reactance. Reactance theory holds that individuals, who believe they are in control over a certain interactional outcome, will protect this autonomy (or take steps to regain it if lost) if they perceive it to be threatened (Brehm, 1966; Brehm & Brehm, 2013). Reactance is assumed to be commensurate with the perceived importance of the freedom or autonomy under threat as well as with the perceived extent of threat to one or more freedoms. Accordingly, whenever subjects perceive their autonomy to be threatened by crisis negotiators, empathy and subsequent rapport-building can be assumed to be inhibited. Therefore, autonomy is crucial in avoiding reactance, the absence of which puts crisis negotiators in a better place to empathize and build rapport with subjects (Alison et al., 2013; Markland et al., 2005; Vecchi et al., 2005, 2019).

#### **6.3.4.2 Limitations**

Insights and significance of the results of Study 4 have several limitations, which stem from their empirical, methodological, and theoretical constraints.

##### **6.3.4.2.1 Empirical Limitations**

Empirical limitations are rooted in the non-probability sampling approach employed to recruit participants for Study 2 and 3. Participants have been sampled conveniently (Study 2) and snowball-sampled (Study 3) through the principal investigator's partnering institution's Crisis Negotiations Unit (CNU). As a result, the collected data is biased towards German crisis negotiators from only four of 17 police services in Germany who maintain CNUs).

However, the study 3 sample, which consisted of four sub-samples, was widely distributed across Germany in geographical terms, representing crisis negotiators from the north, south, east, and west of the country. In addition, with a total number of crisis negotiators deployed in Germany of less than 1,000 but more than 900 (in 2018; the exact

number is classified; undisclosed name, personal communication, February 9, 2018), the Study 4's combined sample (Study 2 and Study 3 participants) constitutes approximately 5% of its population.

Further empirical limitations are a result of the samples variations in their professional experience as crisis negotiators. While every participant is a graduate of Germany's federal basic crisis negotiations course, tenure, and exposure to lead negotiation assignments varied significantly. Statistically distinguishing between sub-categories of different levels of experience are methodologically not viable (see the notes on sample size above). Correspondingly, indications for certain demographics within the population of German crisis negotiators are beyond this study.

And lastly, what renders this study convincing strength, the ecologic validity of the reality-based scenarios within which data was collected, reduced statistically evaluable data to a lower number than that of the total number of participants on many variables. The semi-scripted design of the scenarios, which allowed for a natural evolution of each simulated negotiation, resulted in perpetrators not always being able to hit all evaluable data points, despite the standardized training they have all undergone. To keep the exercise realistic and negotiators engaged, in some cases they deviated from the script.

#### **6.3.4.2.2 Methodological Limitations**

This QDA is limited in its trustworthiness (Lincoln & Guba, 1985), including its credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (Cohen & Crabtree, 2006).

## Credibility

Limitations to its credibility primarily stem from the lack of analyst triangulation during the coding process (Shenton, 2004). Due to a lack of resources, potential analysts able to handle the workload could not be recruited. However, several efforts to compensate for the lack of analyst triangulation were undertaken. Even-though utterances were scripted along the same parameters for both Study 2 and Study 3, it was two different datasets from which Study 4 drew: Study 2 and 3. Participants came from a broad spread of crisis negotiations teams from across Germany. They all attended different, non-standardized basic and advanced trainings, which triangulated sources with the benefit of increased credibility (Denzin, 1978; Patton, 1999). In addition, the consolidation of common themes across all individually identified cognitive biases at a higher level of abstraction, independent from the specific literature reviewed, triangulated theoretical perspective (Denzin, 1978; Patton, 1999). The use of directed and conventional content analysis triangulated analytical perspective and methods (Hsieh & Shannon, 2005). Furthermore, pro-longed engagement (Shenton, 2004) was facilitated by this research project's principal's researcher's year-long immersion into the subject matter as a nationally accredited crisis negotiator in the Federal Republic of Germany (from 2007 to 2014), along with international deployments and the completion of cross-training received from British crisis negotiators, which afforded the trust that is necessary for participants to fully commit to the research. Several peer-debriefings along the way ensured corresponding methodological rigor (Lincoln & Guba, 1985; Slevin & Sines, 2000).

Another limitation to the study's credibility stems from the fact that of the 52 participants, 12 have participated both in Study 2 and in Study 3. As a result, they are overrepresented in Study 4's sample, footage includes double the amount of simulated crisis negotiations than the of the other 40 participants.

### Transferability

Limitations to the study's transferability are rooted in the fact that only 52 crisis negotiators have been interviewed, which constitutes a small sample of the overall population of nationally accredited law enforcement crisis negotiators, both in and beyond Germany. Study 6 below documented an initial attempt to obtain large-n descriptive statistics of one of the identified cognitive biases (projection) to increase its transferability and external validity.

### Dependability

The lack of analyst triangulation also increases the study's limitation in terms of its dependability. Lincoln and Guba (1985) recommend external audits to address dependability limitations. However, Morse (2015) found that findings of a qualitative researcher are rarely challenged and recommends audits only based on suspicion. In addition, the criticisms on member-checking and external auditing discussed above for Study 1 (see Chapter 4) apply in context of Study 4 as well. Silverman (2019) proposes five approaches to enhance the dependability of both process and the corresponding results: negative case analysis, constant data comparison, comprehensive data use, inclusion of all deviant cases, and the use of tables. As addressed in the discussion on the study's credibility, comprehensive data use and methodologically rigorous data analysis, comprising of six iterations of coding and consolidation, allowed for constant data comparison. The use of tables both during analysis and in the presentation of the results in the previous section introduced quantitative aspects, which further addressed concerns on the study's dependability (Patton, 1999).

### Confirmability

Finally, limitations to the study's confirmability, the extent to which its results are rooted in the participants accounts rather than the researchers bias, motivations, and interests, arise primarily from the principal researcher's level immersion into the subject matter. As



a seven year nationally accredited crisis negotiator, their time as a practitioner exceeds the time they spent as a researcher. The undeniable degree of corresponding personal bias (Tong et al., 2007) results in both beneficial and detrimental impact on the research (Arber, 2006). Aside from the easy access to a hard-to-access population (as discussed in detail in Chapter 3), the principal researcher acknowledges, as in the discussion above in Chapter 4, their bias. However, potentially negative impact has been counteracted by the triangulation efforts as discussed above (Denzin, 1978; Hsieh & Shannon, 2005; Patton, 1999) as well as by this sections' critical reflection of the principal researchers bias and beliefs. Finally, the methodologically rigorous audit trail discussed above in the procedure section provides effective checks against compromises of this study's confirmability (Lincoln & Guba, 1985).

#### **6.3.4.2.3 Theoretical Limitations**

Last, limitations also stem from the lack of theoretical guidance. ToM does not account for when, how, and to what degree the self uses self-referential projection (ST), as compared to directly obtained perceptual knowledge (PK) and theoretical representations (TT), when inferring others' minds and predicting their behaviours (Bazinger & Kühberger, 2012; Stich & Nichols, 1997; Vogeley et al., 2001).

Yet, scholars have argued that it is reasonable to assume that no single approach accounts for all mind-reading. Correspondingly, there is agreement that projection (ST) is an important part of the mind-reading process, which often starts the process of empathetic perspective-taking (Bazinger & Kühberger, 2012; Stich & Nichols, 1997; Vogeley et al., 2001). Despite this lack of theoretical quantification of ST's contribution to mind-reading in a given situation, the results of Study 4 can be utilized to effectively reduce error stemming projection (ST). In crisis negotiations, where stakes are often as high as life or death, even a partial elimination of sources of error can make a significant difference.

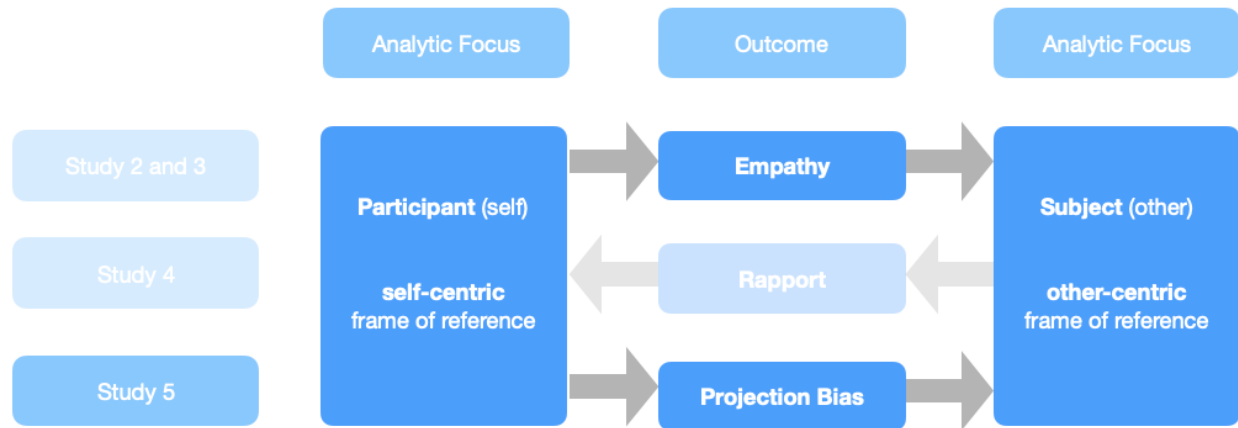
## **6.4 Study 5**

### **6.4.1 Problem Statement, Research Questions, and Hypotheses**

The purpose of Study 5 was to triangulate the findings of Study 4 with a different set of data and methods (Heath, 2015; Heale & Forbes, 2013). As discussed, Study 4 found a significant number of projective statements made by participating crisis negotiators throughout the simulated crisis negotiation. All cognitive biases identified in Study 4 have been shown to undermine participants' efforts to use empathy to effectively build rapport with a subject actor. However, projection bias presented with a specific set of characteristics, which warranted its selection for further inquiry. Because participants used their own frame of reference to infer the thoughts and feelings of the subject actor by way of self-referential analogy, their projections overlapped with what is generally understood to be part of a genuine empathetic process: perspective-taking. They appeared to have started exploring the perspective of the subject actor by running a simulation (cp. ST) of themselves in the subject's place. Yet, the participants failed to further explore how their own thinking and experiences compared to and differed those of the subject. As a result, they did not leave their own frame of reference and shift to that of the respective subject actor. This kept the conversation participant-centric, even though crisis negotiators proverbially did put themselves into the shoes of the subject actor. They just experienced the others situation through their own frame of reference. This is presumably why the subject actors escalated in their emotional intensity again. Figure 6.8 illustrates Study 5's analytical focus, in contrast with that of study 4.

**Figure 6.8**

*Analytical foci compared: Study 5.*



The primary goal of Study 5 was to add further credibility to the results of Study 4 and to introduce internal and external validity as well as reliability by sampling from a broader population in terms of (a) diversity, equity, and inclusion (DEI), (b) as well as beyond Western, educated, industrialized, rich, and democratic (WEIRD; Arnett, 2008; Cheon et al., 2020, Heinrich et al., 2010) countries, and (c) across occupational domains. The secondary goal was to make an initial attempt to open the black box of projection bias and explore potential causality mechanisms to better understand the way it operates through process-tracing and regression analyses. The study's tertiary goal was to establish a point of departure for future research on potential prevention, intervention, and mitigation efforts by identifying sub-samples from different occupational domains who are most and least susceptible to projection bias.

Accordingly, the following four questions guided the research conducted in Study 5:

1. What are the proportions of projection bias among the sample?
2. What are the proportions of projection bias among crisis negotiators, patrol officers, and crisis workers?
3. How do the samples compare with each other in their proportions of projection bias?
4. What are the underlying mechanisms of projection bias?

In conjunction, the following seven hypotheses were tested in Study 5:

1. The difference in proportions of projection bias among Study 4 participants and among Study 5 participants is statistically not significant.
2. Self-centric dichotomously measured judgments of motivations are statistically significantly associated with other-centric dichotomously measured judgments.
3. Self-centric ordinal or continuously measured judgments of conversation topics are positively correlated with other-centric ordinal or continuously measured judgments.
4. Self-centric judgments of emotional intensity predict other-centric judgments of emotional intensity.
5. The difference in proportions of projection bias among crisis workers and among crisis negotiators is statistically significant.
6. The difference in proportions of projection bias among crisis workers and among patrol police officers is statistically significant.
7. The difference in proportions of projection bias among crisis negotiators and among patrol police officers is statistically significant.

## **6.4.2 Methods**

The last study of this research project employed a large-n online-survey to determine and compare proportions of the projection bias identified in Study 4 across several populations. The online format allowed to attempt sampling from similar populations across different geographical, national, and cultural contexts (beyond WEIRD countries) as well as across similar but different occupational domains (crisis negotiators, patrol police officers, and workers).

### **6.4.2.1 Research Design**

Study 5 used an online survey to access a sample large enough to generate sufficient statistical power to obtain valid descriptives of the projection bias identified in Study 4 and to conduct corresponding hypothesis testing as laid out above in the problem-statement. The overall small population of crisis negotiators with only dozens per jurisdiction (see Chapter 2) made an experimental design with statistical power at the level a web-based survey unrealistic. At the same time, Study 5 was designed in a way to reduce bias and increase validity and reliability to be ultimately able to draw appropriate conclusions about the reported information (Ball, 2019; Ponto, 2015). It used a cross-sectional survey design.

Furthermore, Study 5 was designed as an online-survey because it was this research project's COVID 19 mitigation effort, after further field experiments to follow-up on Study 2 and 3 had to be cancelled due to lock-down and workplace health and safety regulations.

### **6.4.2.2 Participants**

To effectively increase the trustworthiness associated with projection bias as identified in Study 4 and to add validity and reliability, this research project expanded its target population to capture neighboring occupational domains that rely on the same strategies and tactics as police crisis negotiators. As discussed before (see Chapter 2), empathy-based rapport-building is a key competency not only in crisis negotiations (Grubb et al.,

2019b; McMains et al., 2020; Rogan et al., 1997; Slatkin, 1996; Strentz, 2013; Vecchi et al., 2005, 2019) but in all interactions between police officers and members of the public (The President's Task Force on 21<sup>st</sup> Century Policing, 2015; Zaiser & Staller, 2015; Zaiser et al., in press). The principle of building rapport through empathizing was introduced to and established in policing based on corresponding empirical validated in other occupational domains, such as practitioner-patient interactions in general health care, psychotherapist-client relationships, and crisis intervention (Kellin & McMurtry; 2007; McMains et al., 2020; Rogan & Hammer, 2002; Vecchi et al., 2005, 2019). Therefore, the population, from which Study 5 drew its sample, was identified to be all professionals, who regularly conduct crisis intervention (hereafter referred to as crisis intervention professionals).

To draw representative samples from crisis intervention professionals, the survey used two distinct categories of sample frames, each of which contained three singular frames. The first set categorized sampling frames by occupational field/assignment: crisis negotiators, patrol police officers, and crisis workers. Crisis negotiators were sworn police officers who had undergone basic training as crisis negotiators and were accredited as such in their jurisdiction at the time of their participation in the survey. Patrol police officers were sworn police officers, assigned to uniform patrol duty. Outside the police, a variety of professionals and volunteers with different educational and occupational backgrounds specialize in this function, for instance, psychiatrists, clinical psychologic, registered nurses, social workers, as well as volunteer suicide prevention and crisis intervention hotline responders (James & Gilliland, 2016; Roberts, 2005). Therefore, the third sample frame comprised crisis workers and included any frontline mental health professional or volunteer whose primary assignment included response to individuals going through psychological crisis. The second set categorized sampling frames by country: Canada, the United States, and Hong Kong. Figure 6.9 provides a visual representation of the sampling process.

**Figure 6.9**

*Visual representation of the sampling process.*



The resources available for this research project and the challenges in accessing sub-samples (especially in policing; for details, see Chapter 3) rendered probability sampling a non-viable option. As a result, sub-samples were drawn from these frames using purposive, convenience, and snowball sampling methods (Bloor & Wood, 2006; Etikan et al., 2016). A variety of outreach and recruitment methods were used to recruit participants:

1. cold approaches to institutions' research units,
2. cold approaches to individuals within the sampling frame through LinkedIn or the principal investigator's personal social media accounts (Twitter and LinkedIn),
3. warm approaches to research units through principal investigator's international professional network, and
4. warm approaches to the principal investigator's international professional network in the first, and through snow-ball sampling, in the second degree.

Correspondingly, participants have been sampled either as members of an organization, which has entered into a formal research agreement with the principal investigator and the University, or shared the survey informally with its members, or personally through direct approach (personally via email or LinkedIn) or indirectly (through Twitter, or word of mouth).

A total of 146 participants were part of Study 5. 14 participated as survey pilots, 132 took part in the life-survey:

- 28 crisis negotiators
- 62 patrol police officers
- 42 crisis workers

Further details and descriptive statistics on the full sample are illustrated in Table 6.3.

**Table 6.3**

*Study 5 sample descriptive statistics.*

		<b>All</b>	<b>CN</b>	<b>PPO</b>	<b>CW</b>
n:	total/data	132/104	31/22	59/46	42/36
Sex	f/m/x	52/50/2	11/11	11/34/1	30/5/1
Age	<i>M</i>	39.23	43.82	36.75	39.31
	<b>20-29</b>	24	-	12	12
	<b>30-39</b>	31	6	15	10
	<b>40-49</b>	27	11	12	4
	<b>50+</b>	22	5	7	10
Exp.	<i>M</i>	9.85	13.43	9.42	8.08
	<b>0-4</b>	39	2	13	24
	<b>5-9</b>	19	6	10	3
	<b>10-14</b>	12	5	5	2
	<b>15-19</b>	10	3	5	2
	<b>20+</b>	20	6	9	5
Orig.	<b>CA</b>	103	21	4	36
	<b>US</b>	nd	nd	nd	nd
	<b>HK</b>	1	1	nd	nd

*Note.* CN = crisis negotiators; PPO = patrol police officers; CW = crisis workers; total/data = total number of participants/participants who entered demographic data; f/m/x = female/male/prefer not to say; Exp. = experience; Orig. = country; CA = Canada; US = United States of America; HK = Hong Kong.



### 6.4.2.3 Materials and Instrument

Study 5 employed an online questionnaire that respondents were able to view and complete on any type of device (i.e., desktop, tablet, smartphone). This allowed the instrument to access the following benefits:

- ease of administration and the associated potential increase in the number of total respondents (Brosnan et al. 2017; Callegaro et al., 2015),
- consistent presentation of the survey to each participant (Bernard, 2017),
- shorter completion times (Nissen & Janneck, 2019),
- lower participant attrition (Nissen & Janneck, 2019), and
- a higher degree of response accuracy and data quality (Alessi & Martin, 2010; Kato & Miura, 2021; Wenz, 2017).

In addition, the use of skip logic<sup>8</sup> in part of the instrument, Study 5 harnessed the online format to simulate a complex crisis negotiation and intervention. The presence of an interviewer (in person or on the phone) might have interfered with participant engagement and potentially lead to additional bias (Bernard, 2017).

Challenges facing Study 5 stemmed from the translation of the cognitive and emotional complexity that characterized the original simulated crisis negotiation of Study 3 into a table-top exercise and its delivery with an online questionnaire. These challenges were interrelated but manifested as the following four, well known issues in online-survey research: (a) content validity, (b) language and wording, (c) and the length of the questionnaire, and (d) survey access.

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<sup>8</sup> Skip logic refers to a survey design that presents respondents with next questions specifically associated with the answer option they chose in the preceding questions. With other words, different answer choices lead to different subsequent questions. This allows for a more naturalistic progression through the instrument.

### Content validity:

None of the literature reviews conducted for this research project found an assessment tool for the projection bias identified in Study 4. There is a variety of instruments that capture state or situational empathy with sufficient levels of validation and reliability (e.g., the State-Empathetic-Concern-Scale, Johnson & Karcher, 2019; the State-Empathy-Scale, Shen, 2010; or the Interpersonal-Reactivity-Index, Davis, 1983). In contrast, only few studies have focused on measuring situational empathy (Xiao et al., 2016; Zhou et al., 2021), especially through self-reports, as compared to objective ways of assessment (e.g., the ECCS used in Study 3 and 4, Bylund & Makoul, 2002, 2005; or linguistic analysis as reported by Zhou et al., 2021).

Because projection bias is hypothesized to interfere with potential empathizers' successful change of perspective, psychometric assessments of ToM appeared to be potential instruments to help inform its conceptualization in Study 4. However, most assessment tools rooted in ToM have been created, validated, and tested in context of developmental psychology or clinical psychology (Bosco et al., 2016). For instance, several adaptations of the false-beliefs task (Wimmer & Perner, 1983; Baron-Cohen et al., 1985), which require the subject to recognize another person's beliefs as they differ from their own, have been employed only with young children. Similar tests have been adapted for adults with clinical disorders, such as schizophrenia (e.g., Mazza et al., 2001; Pickup & Frith, 2001). The Reading-the-Mind-in-the-Eyes test (RMET; Baron-Cohen et al., 2001) employed in Study 3 has been devised as a measure of ToM. Based on visual cues, it was initially intended for populations diagnosed with autism spectrum disorder. While the RMET measures only the recognition of one of four emotions offered with every set of eyes presented, its focus is limited to a very narrow facet of ToM.

Assessment tools that capture a broader and more integrated operationalization of ToM typically cast a wider net to capture a broader array of data and are, therefore, often administered as semi-structured interviews, utilizing open-ended questions, such as Bosco et al.'s (2016) Theory-of-mind-assessment-scale (Th.o.m.a.s.). Their interview-

schedule has a specific focus on the distinction between first- (ego-centric) and third person (other-centric) ToM. However, the blurring of this distinction is what Study 4 found to be a result of projection bias. Ultimately, both methodological and theoretical constraints of the online-nature of Study 5 did not allow for the use of Th.o.m.a.s. to further investigate projection bias.

As a result, this research project developed its own instrument to

- triangulate Study 4's conceptualization of projection bias,
- obtain proportions and comparative statistics among and between several sub-sample, and
- better understand the way it undermines empathy-based rapport-building by blurring the boundary between ego-centric and other-centric perspective-taking.

#### Language and wording:

Especially in absence of an interviewer or experimenter, participants did not have the opportunity to clarify unfamiliar concepts or perceived ambiguities in the use and meaning of the language of the questionnaire (Ball, 2019). This has been found to have direct influence on both commencement and completion of online surveys (Sarantakos 2017).

#### Length of questionnaire:

Several studies found the length of the questionnaire to be negatively correlated with survey completion (Crawford et al., 2001; Edwards, 2002; Hoerger 2010; Kato & Miura 2021; Liu & Wronski 2018). However, other research came to different conclusions, including no significant difference between shorter and longer questionnaires (Robb et al., 2017; McCambridge et al., 2018) and even positive correlations between length and survey completion (e.g., Koitsalu et al., 2018). In a randomized controlled trial, McCambridge et al. (2011) compared 34, 23, and 10-item questionnaires and found no reduced completion or participant attrition rates associated with either one. Instead, the

perceived relevance of the survey and of the research it was used for were positively associated with participant retention. Similarly, Revilla & Ochoa (2017) investigated how responses rates varied based on length and survey-related attitudes. Their results suggest 10 minutes as a median ideal length and 20 minutes as a median maximum length. However, both ideal and maximum lengths were significantly associated with participant-perceived survey confidentiality and how much they liked the survey and completing it. More recent research suggests the ideal length of an online survey to be between 10 and 15 minutes and the maximum length to be within 20 and 28 minutes (Revilla & Höhne, 2020).

Because Study 5's intent was to effectively access and capture the projection bias identified in Study 4, a complex theoretical construct, the estimated survey completion time accumulated to approximately 25 minutes. However, the instrument was designed to compensate for the considerable completion time (the higher the completion time, the lower participation and completion rate) by increasing the survey's perceived relevance among potential participants (the more relevant, the higher participation and completion rate) with a novel, interactively designed table-top scenario simulation, combined with standard survey questions. This allowed participants to use the survey as a training and education experience. Instead of a permanently displayed progress bar, the survey provided occasional feedback on progress at four times within these 25 minutes. Further features that were associated with participant retention and survey completion included the use of sliders, which have been found to increase participant engagement and reduce drop-out, while providing an overall more pleasant experience in web-surveys (Couper et al., 2001; Sikkel et al., 2014; Vicente & Reis, 2010).

#### Survey access:

The QualtricsXM survey software allows for the creation of individual links to allow the tracking of each individual respondent contact, which can be used as an effective measure to mitigate bias related to survey fraud (Levi et al., 2022; Waggoner et al., 2019). Yet, the tracking of individual contacts was ultimately considered beyond the approval of

the Health and Life Sciences Committee on Research Ethics' approval for this survey (Reference 7482). In addition, viewing the sensitive occupational domains of the target population (crisis negotiations, patrol police officers, and crisis workers), a single, non-trackable, re-usable survey access link was disseminated for each sub-sample.

#### **6.4.2.3.1 General Considerations**

The survey instrument comprised of a total of three questionnaires, each one developed for and distributed within a specific sub-sample: crisis negotiators, patrol police officers, and crisis workers. The survey instrument was composed, administered, processed, and stored, along with all results, on the QualtricsXM online survey software, licensed to the University's Institute of Psychology, Health and Society.

The initial questionnaire was developed for crisis negotiators. It used the scenario that Study 3 built on, which reflected the partnering institution's training and preparedness profile. Created as a reality-based scenario training exercise, two training officers and two experienced crisis negotiators, both active post-graduate researchers at the time, accounted for the face validity of the scenario as a template for the table-top exercise of Study 5's instrument. Due to the conversational design of the table-top exercise, the questions and answers of this first part of the instrument reflected conversational turns between crisis negotiator and subject. Wordings for the corresponding statements of both interactants were inspired by the data collected with Study 3 and analyzed in Study 4. This adds an additional layer of face validity to this table-top scenario part of the instrument, as all statements within it have been made by professional crisis negotiators.

Due to the expansion of Study 5's target population, the original crisis negotiator questionnaire was adapted to address the neighboring areas of patrol police officers and crisis workers with an occupationally adequate scenario that is relevant to their respective domains. As a result, to allow for a reliable comparison between sub-samples, a suicide intervention scenario was scripted in collaboration with the expert panel and in collaboration with the survey pilots that mirrors (a) the dramatic arc and conversational

turning points (cp. Kalus, 2014), (b) subject actor valence (cp. Solomon & Stone, 2002), and (c) overall presentation of the questionnaire. Because patrol police officers are regularly conducting suicide intervention before crisis workers and other mental health professionals get involved in suicide crisis (Cerel et al., 2019; Osteen et al., 2021), the instrument devised the same scenario and same questionnaire for patrol police officers and crisis workers. The only differences included the language used in addressing the respective sub-sample, in the introduction to the scenario (police-situation vs. suicide prevention helpline), and occupation-specific terminology.

The instrument, i.e., all three questionnaires, comprised of one administrative and four substantial segments. The substantial segments were introduced to participants as Part 1 through 4 of 4. All answer options were articulated closed-ended to (a) allow for direct analysis through the pre-coding discussed above, (b) avoid ambiguous free-text responses that do not fit the dichotomous coding scheme and would require a higher degree of interpretation in coding, and (c) prevent negative effects on participant attrition (Reja et al., 2003; Zhou et al., 2017), especially for smartphone users (de Bruijne & Wijnant; 2014). In addition, the instructions prompted participants to choose the one answer option that they considered the best fit. Even though forced answers have been associated with higher participant attrition and a lower quality of answers (Décieux et al., 2015; Sischka et al., 2022), the desire for a complete dataset, especially viewing the built-in comparability of several questions within each participant's questionnaire and across sample frames were considered to warrant the forcing of questions.

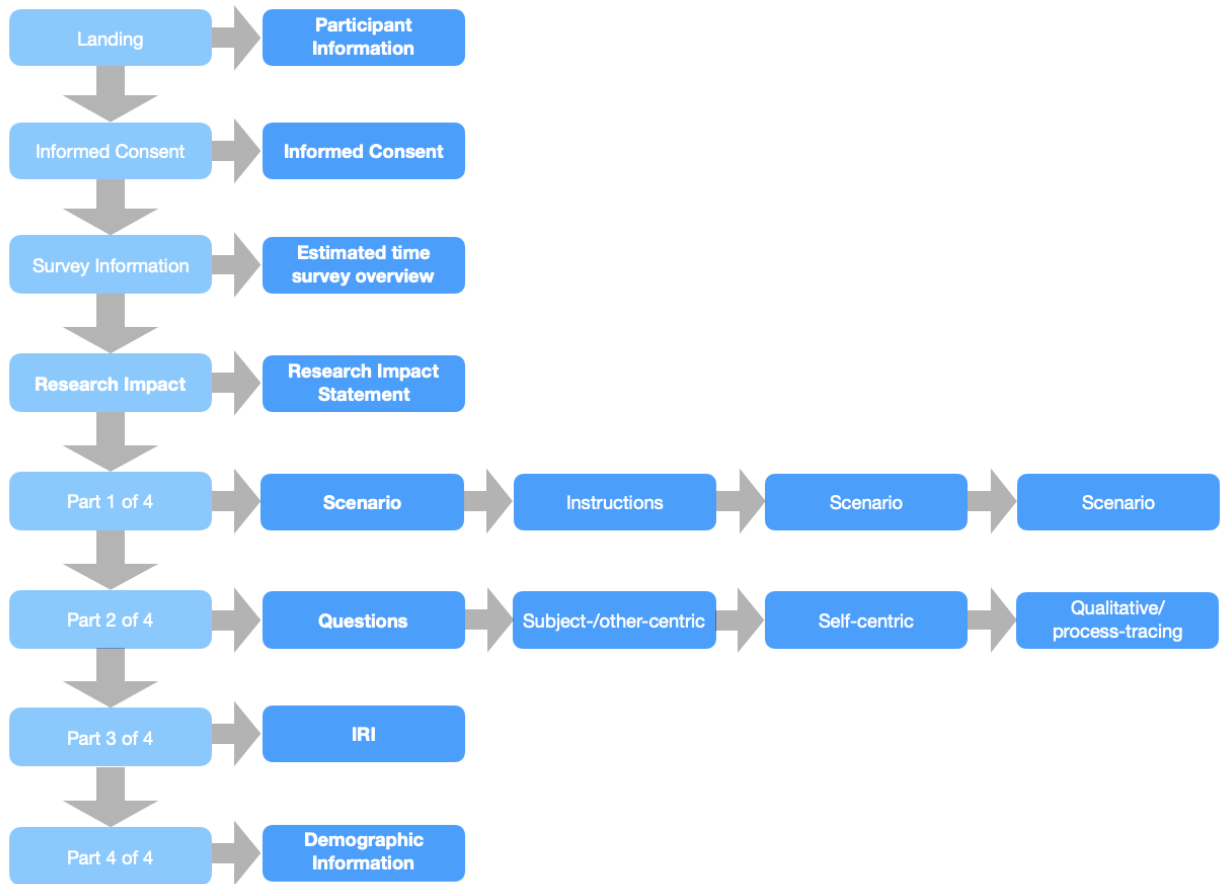
Patrol police officers: [https://livpsych.eu.qualtrics.com/jfe/form/SV\\_7Pu4lcsA5UUabae](https://livpsych.eu.qualtrics.com/jfe/form/SV_7Pu4lcsA5UUabae)

Crisis negotiators: [https://livpsych.eu.qualtrics.com/jfe/form/SV\\_0jKrZDLGixj4Jgi](https://livpsych.eu.qualtrics.com/jfe/form/SV_0jKrZDLGixj4Jgi)

Crisis workers: [https://livpsych.eu.qualtrics.com/jfe/form/SV\\_38b8QUVRK3OFde6](https://livpsych.eu.qualtrics.com/jfe/form/SV_38b8QUVRK3OFde6)

Figure 6.10 shows a flow chart that provides an overview of the instrument's makeup.

**Figure 6.10**  
*Instrument Flow Chart.*



**6.4.2.3.2 Administrative Part**

The administrative section started the survey and consisted of landing, information, and informed consent pages, which included participant information and the capture of participant-informed consent as prescribed by corresponding University policy. Information provided here also covered an overview of each of the four substantial parts of the survey, the estimated time of completion, and a survey impact statement.

#### **6.4.2.3.3 Part 1 of 4: Scenario**

The first segment collected substantial participant data through the table-top scenario as discussed above. It started with a page to provide instructions, including the hypothetical incident command's direction to solely focus on building rapport, and was followed by two pages, which provided a total of seven bullet points to introduce participants to the respective scenario. Then, three pages immersed participants into the scenario. Each one presented one or two conversational turns and four different options of how participants could continue the conversation. Both subject and crisis negotiator utterances were informed by Study 3's recorded footage and guided by Study 4's results, as they pertained to participants' communication of projection bias.

These answer options were articulated based on Elliott et al.'s (2018) conceptualization of empathy as a three-step process (see chapter 2), according to which (a) an automatic, intuitive (affective) process mirrors emotional elements of another person's emotional cues, (b) a deliberate (cognitive) process evaluates the other's state of mind to facilitate a change of perspective from the self's frame of reference to that of the other, and (c) an emotion-regulation process maintains distinction of the self from the other person (allowing to switch frames of reference back from the other to the self). The construction of the answer options focused on (b), the cognitive-empathetic part of the process, where Study 4 found significant variance in the levels of change of perspective achieved. To change perspective and understand another person's mind, the self often uses their own mind as a model or frame of reference, from which they infer the other's state of mind or frame of reference (ST; Gordon & Cruz, 2003; Heal, 1996; Vogeley et al., 2001). In simple terms, the self assumes another person's experience based on what they think they would experience in their place. However, to achieve a genuine change of perspective that is not contaminated by the self's own experiences and beliefs, the self needs to rely on information and behavioral cues from the other that allow for an understanding that is rooted in the other's frame of reference (PK; Zahavi & Gallagher, 2008; McDowell, 2019). It was this variation in how Study 3 participants changed perspective independently from their own frames of reference that was associated with the maladaptive reactions of the



subject actors diminishing rapport. As a result, answer options were coded dichotomously either as (a) a communication of projection bias as an assumption or as (b) a communication of the motivation to further explore and validate the subject's perspective. Figure 6.11 shows the first set of conversational turns within the crisis negotiator scenario. The answer option highlighted in grey is coded in accordance with (a), as an assumption, possibly informed by projection bias. The answer option highlighted in (b) is coded as a non-projected attempt to either validate the subject actor's experience or to gather more information, which allows for a higher degree of independently changed perspective.

**Figure 6.11**

Sample question from the crisis negotiator questionnaire.



*You:* For each hour you go past the deadline, for every police officer you see behind the perimeter, for every attempt to bullshit you guys, one hostage will loose their head.

*Subject:* ... and families will grieve the loss of their loved ones.

*You:*


- That sounds like you have loved ones, too. Wouldn't they be grieving if they lost you today?
- That sounds like you are grieving, too. Have you lost some one close to you?
- I can hear in your voice you mean it. We'll make sure it won't have to happen. Nobody wants anyone to be hurt.
- I can hear in your voice you mean it. I promise you we will do all that it takes to make sure this does not have to happen.

Likewise, the first set of conversational turns within the patrol police officer scenario was scripted as shown in Figure 6.12. Again, the answer option highlighted in grey is coded

in accordance with (a), as an assumption, possibly informed by projection bias. The answer option highlighted in (b) is coded as a non-projected attempt to either validate the person in crisis' (PIC) experience or gather more information, which allows for a higher degree of independently changed perspective.

**Figure 6.12**

*Sample question from the patrol police officer/crisis worker questionnaire.*



*You:* That sounds to me like you are in a really really dark place. Tell me, when was the last time you thought you saw some light at the end of the tunnel?

*PIC:* I don't know. There never was any light - ever since that morning that I got the phone call.

*You:*

- I don't even know what to say. The way you are talking about him makes me want to know more about your brother.
- I don't even know what to say. Tell me about work. It seems like you've touched lots of lives and lots of patients are depending on you.
- I don't know how any one is supposed to handle that. How could you not feel like ending it all. Tell me more about that day.
- I don't know how any one is supposed to handle that. Now imagine what your parents, your family, your kids, would be going through if they lost you, too.

The questions of the crisis worker questionnaire are identical clones of that of the patrol police officer questionnaire (see Figure 6.13). The three scenario questions in the instrument's first segment used skip logic: the option they chose to continue the simulated conversation determined the subsequent conversational turn. This increased validity in terms of (a) face validity, as it reflects the breadth of participant responses observed in Study 4, and (b) ecological validity, as it afforded participants to work through the scenario

interactively in a more naturalistic fashion, without the constraints of conventional survey questionnaires that use a single, linear, question progression. Skip logic was also expected to hedge against survey attrition by conveying an increased sense of relevance for participants, who were invited to understand their participation as a training and reflection opportunity (McCambridge et al., 2011; Revilla & Ochoa, 2017).

In total, each participant chose for each of three questions from four closed-ended answer options. This made for total number of possible scenario progressions of  $4^6$ . Across all three questions, answer choices related to a total of eight distinct topics, which were always presented in choices of four with two coded (a) projection bias and two (b) validating or explorative. The skip logic required (i.e., forced) all questions to be answered with a single answer option. Even though forced answers have been associated with higher participant attrition and a lower quality of answers (Décieux et al., 2015; Sischka et al., 2022), the survey was designed to collect a maximum of comparable data. To compensate for the increased risk of reduced completion, it relied on the perceived relevance of both the instrument's value as a training and education item as well as the research project's overall expected impact among the participants.

To avoid response order effects, each question was answerable consistently with a single choice of four options, which were vertically organized and articulated with a maximum of two grammatically simply structured sentences. Their order was consistently randomized both between participants (each participant got answer options presented at a different order) and within each individual questionnaire (answer options were randomized throughout the questionnaire, by answer text themselves as well as by underlying code (e.g., between the formats (a)(a)(b)(b), (a)(b)(a)(b), (b)(a)(b)(a), and (b)(b)(a)(a); Bogner & Langrock, 2016; Malhotra, 2008).

As mentioned above under the considerations on content validity, Part 1 of 4 reflects the new development of an instrument to capture projection bias. Initial psychometric properties are reported below in the results section.

#### 6.4.2.3.4 Part 2 of 4: Scenario Questions

##### Subject-/other-centric questions

The second substantial segment relied on the assumed-similarity-paradigm used in social projection research (Cronbach, 1995; Bazinger & Kühberger, 2012), which measures projection bias as a set of self- and other-centric correlations. Accordingly, it consisted of two sub-segments, both of which contained an almost identical series of questions about the scenario and participants' experience working through it. The only difference was that for the first sub-segment, participants were prompted to consider the subject's perspective, i.e., the subject's frame of reference, for their answers to a total of five questions:

1. "How do you think the subject is mostly feeling during this conversation, in general?"

The question was answered with a slider, default-set at 50 on a continuum between 0-emotionally disengaged and 100-emotionally engaged. It was intended for each participant to indicate how emotionally charged they perceived the subject to be, which was designed to re-iterate the survey instructions on building rapport to be a primary goal by triggering empath-based rapport-building in accordance with crisis negotiations and crisis intervention training. The concept of emotional engagement was chosen in collaboration with one of the survey pilots and borrowed from gaming and education literature, where it typically refers to affective states, such as identity-related sense of belonging and attitudes towards interactants (Ge & Ifenthaler, 2017; Pietarinen, 2014).

2. "How do you think the subject is mostly feeling during this conversation, in particular?"

Answer options included angry, contemptuous, afraid, disappointed, regretful, sad, compassionate, relieved, content, pleased, proud, and interested, which have been identified by Izard et al. (1993; as well as Izard, 2009). To limit the risk of central tendency by potential choices of multiple emotions as an answer, answer choices were limited to four out of the 12 items.

3. “Do you view the underlying reasons that motivate the subject for their actions to be:” provided three options: “legitimate”, “not legitimate but understandable“, and neither “legitimate nor understandable”. To avoid central tendency and/or ambivalent answers, only a single answer option was chooseable. This question is rooted in the literature on extremist/terrorist crisis negotiations. It addresses the underlying real-life challenges that allow for individuals to be radicalized and which crisis negotiators might be able to utilize to build rapport (Borum, 2011; Corsi, 1981; Docherty, 2001; Dolnik & Fitzgerald, 2007, 2011; Zartman, 2003). The distinction between legitimacy and understanding of the underlying reasons speaks to how much participants have changed perspective and used the subject’s frame of reference in judging their actions.

Likewise, the suicide intervention scenario asked: “Do you think you would be better off if you moved ahead and took your life, if you were in the caller's situation?” to probe for how much participants have changed perspective and used the subject’s frame of reference rather than their own. Answer options were “Yes, they would be better off”, “No, they would not be better off BUT I would respect their choice”, and “No, they would not be better off AND I would not respect their choice”.

4. “Which of the following items do you think would help most to build rapport with the subject [emphasis in original]?” Answer choices offered eight distinct topics, which were informed by the recorded footage from Study 3 and its content analysis in Study 4:

- a) the well-being of the hostages,
- b) how police are already working full steam ahead on the demands,
- c) how nobody wants anybody to get hurt,
- d) how the subject's actions may or may not help them achieve their goals,
- e) the subject's family and friends in war-torn Syria,
- f) the subject's family's concern for the subject getting hurt or killed themselves this day,
- g) the subject's experience of their own loss of someone close in war-torn Syria, and

h) the subject's family's concern about the subject hurting or killing others this day.

To limit the risk of central tendency by potential choices of multiple emotions as an answer, answer choices were limited to three out of the eight items.

The suicide intervention scenario's answer options were the following:

- a) the subject's kids,
- b) the subject's spouse,
- c) the subject's parents,
- d) the subject's co-workers and patients,
- e) the subject's siblings,
- f) the subject's experience of their loss,
- g) the subject's suicide plan, and
- h) the future.

5. "Which of the following items do you think would help least to build rapport with the subject [emphasis in original]?" Answer choices and modalities were the same as in the preceding question.

#### Participant/self-centric

For the second sub-segment, participants were prompted to consider their own perspective, i.e., their own frame of reference, for their answers to the same five and an additional eleven questions. The first set of questions mirrored questions 1 through 5 to allow for a comparison of the answers provided when prompted to answer based on the subject's perspective and on participants' own perspective. In addition, the goal was to learn the degree of differentiation between the participants' and subject's frame of reference, as it relates to

- a) the subject themselves (first sub-segment),

- b) the participant themselves (second sub-segment), and
- c) the participant when imagining to be in the subject's place (second sub-segment).

Accordingly, with identical answer options and modalities, the question articulations were modified:

6. "How are you mostly feeling during this conversation, in general?"

7. "How would you be mostly feeling during this conversation, in general, if you were in the subject's place?"

8. "How are you mostly feeling during this conversation, in particular?"

9. "How would you be mostly feeling during this conversation, in particular, if you were in the subject's place?"

10. "If you were in the subject's place, would you view the underlying reasons that would motivate you for your actions to be:"

11. "Which of the following items do you think would help the crisis negotiator most to build rapport with you, if you were in the subject's place [emphasis in original]?"

12. "Which of the following items do you think would help the crisis negotiator least to build rapport with you, if you were in the subject's place [emphasis in original]?"

### Qualitative/process-tracing questions

The remainder of the second sub-segment provided questions, the answers to which were not constructed for comparison with those in the first sub-segment. The remaining questions were designed as qualitative process tracing questions (Beach, 2017) and intended to achieve a better understanding of the empathetic process of the participants.

13. "When did you figure out which of these topics might help best to build rapport with the subject?" Answer options were entered using a slider on a continuum from "when you were briefed about the situation" over "at the beginning of the conversation" to "after the end of the conversation". The intention of this question was to gauge the level of projection based on how early participants would indicate having realized which topic might help them best to build rapport, as instructed. The earlier in the conversation, the less relevant information they could have obtained directly from the subject through conversation. The slider was default-set at its left end at "when you were briefed [...]".

14. "How much would you say is your empathetic response going to be aligned with the subject's emotional experience of having lost family or a friend in war-torn Syria?" Answer options were entered using a slider that indicated a percentage amount based on its position with 0 to its left and 100 to its right end. Participants were prompted by the instrument that, according to intelligence available at the time of the crisis negotiation and their conversation with the subject thus far, they had reason to believe that the subject had family and friends in war-torn Syria and lost a family member or a close friend during the conflict. This question aimed at the participants' subjective assessment of their empathy and corresponding achieved degree of change of perspective.

15. "To what degree can you imagine you and the subject might have values in common on what matters in life, based on how you picture them at this point?" Answer options were entered using a slider that indicated a percentage amount based on its position with 0 to its left and 100 to its right end. This question's goal was to gauge how participants assessed the discrepancy of their frame of reference with that of the subject.



16. "Did you recruit your empathetic response from changing perspective and imagining what you would feel if you had family and friends in war-torn Syria and potentially lost people close to you?" This question was answerable with either "yes" or "no" and geared towards gaining a better understanding of the empathetic process that participants' perceived themselves having gone through.

17. "Did you recruit your empathetic response from an experience in your own life or in the life of someone close to you, who might have lost a friend or family member as a casualty to someone else's actions or in-actions?" This question was answerable with either "yes" or "no", too, and also geared towards gaining a better understanding of the empathetic process that participants' perceived themselves having gone through. If participants answered "yes", they were asked the subsequent question (number 18.). If they answered no, the instrument skipped the next question and took them straight to the following one (question number 19.).

18. "When you recruited your empathetic response, did you consider that the subject might have a different experience than you imagined you would have in their place?" Again, this question was answerable with either "yes" or "no" and geared towards gaining a better understanding of the empathetic process that participants' perceived themselves having gone through.

19. "Do you think, at the point the conversation left off, you got an initial idea on what helps best to build rapport with the subject?" Answer options were entered using a slider that indicated a percentage amount based on its position with 0 to its left and 100 to its right end. This question intended to obtain a descriptive overall assessment from participants with regards to the overall amount of information they had gathered and if they felt it was enough to build meaningful rapport.

20. "How confident are you on having had a good enough start to build rapport with the subject that would allow you eventually to reduce their emotional intensity?" Answer

options were entered using a slider that indicated a percentage amount based on its position with 0 to its left and 100 to its right end. This question intended to obtain a descriptive overall assessment from participants with regards to the overall rapport they had built and if they felt it was enough to reduce the subject's emotional intensity.

21. "In situations like this, to what degree do you think you are making sense of the subject's options, decisions, emotions, and actions, based on your own frame of reference?" Answer options were entered using a slider that indicated a percentage amount based on its position with 0 to its left and 100 to its right end. This question's goal was to obtain a descriptive general assessment from participants on where they typically would pinpoint the degree of change of perspective in terms of their own and of the subject's frame of reference.

The last two questions were included to gauge participants' awareness of projection bias and potential desire for corresponding training and education.

22. "Would you wish for yourself to better know how to avoid such projection fallacies?" Answer options were organized on a four-point Likert (1932) scale with radio buttons to avoid central tendency, including "not at all", "I don't think so", "I think so", and "absolutely" (single answer only).

23. "Do you think you would have benefited from training on how to avoid such projection fallacies?" Answer options and modalities were the same as in the preceding question.

The transition to the next section included a verification check question to ascertain participant engagement at that point in the instrument:

24. "So far, I answered all questions conscientiously:" with answer options organized on a six-point Likert (1932) scale with radio buttons to avoid central tendency, including "absolutely", "almost absolutely", "pretty much", "not so much", "almost not at all", and "not at all" (single answer only).

As mentioned above under the considerations on content validity, Part 2 of 4 reflects the new development of an instrument to capture projection bias. Initial psychometric properties are reported below in the results section.

#### **6.4.2.3.5 Part 3 of 4: Interpersonal Reactivity Index**

This segment consisted of the original Interpersonal Reactivity Index (IRI; Davis, 1983), a validated and widely used (Keaton, 2017) psychometric measure of trait or dispositional empathy was included as an initial opportunity to determine construct (convergent) validity and (b) to explore correlations between trait empathy and tendency towards projection bias. The questionnaire measured all participants' dispositional empathy across the four dimensions of perspective taking, empathetic concern, personal distress, and fantasy (further details on the category are discussed above in the literature review). Each category was assessed with four questions that participants answered on a 5-point Likert scale between "1" = "does not describe me very well" and "5" = "describes me very well", for a composite value between "4" and "20". Correspondingly, participant scores on their dispositional empathy as assessed by the IRI were operationalized in five continuous variables, corresponding to the IRI's empathy dimensions (i) perspective-taking (PT), (ii) empathetic concern (EC), (iii) personal distress (PD), (iv) the fantasy scale (FS), and (v) their aggregate value representing the IRI's overall empathy score (EM).

Davis (1980) reported test-retest reliabilities to range from .61 to .81 in a 60-75-day time frame. Internal consistency with Cronbach's  $\alpha$  ranged from .68 to .79 for the four subscales.

The transition to the next and last section included the same verification check question and answer options and modalities as the previous transition, again, to ascertain participant engagement at that point in the instrument.

#### **6.4.2.3.6 Part 4 of 4: Demographic Information**

This segment captured demographic information of the participants to establish descriptive statistics of the sample. These included gender identity, age, country, and experience in crisis negotiations or crisis intervention, respectively, in years.

#### **6.4.2.4 Procedure**

The procedure followed the Checklist for Reporting Results of Internet E-Surveys (CHERRIES; Eysenbach, 2004), published by the Journal of Medical Internet Research and was further guided by Tsang et al.'s (2017) guidelines for developing questionnaires and Boateng et al.'s (2018) best practices for developing and validating scales for health, social, and behavioral research.

The initial development of the instrument was rooted in the results of Study 4 and guided by individual face-to-face consultations with an expert committee of eleven crisis negotiators and one university professor of psychology with a background in crisis negotiations (cp. Davis, 1992), who collaboratively established face (Haynes et al., 1995; Oluwatayo, 2012) and content validity (Elangovan & Sundaravel, 2021; Haynes et al., 1995) of Part 1 of 4 of the instrument, the scenario segment.

Each questionnaire was then pilot-tested by representatives from each sample frame, each of whom provided feedback on relevance, clarity (wording and language), flow (survey experience), meaningfulness of questions and answers, as well as anything the pilots would like to add or comment on:

- Crisis negotiators: five pilots,
- Patrol police officers: five pilots, and
- Crisis workers: five pilots.

Pilot feedback was processed and utilized to qualitatively establish further content validity of the instrument. Questionnaires were then distributed among all three sample frames between October 2021 and January 2023. using a variety of outreach and recruitment methods, including:

- cold approaches to police and crisis intervention institutions' research units,
- cold approaches to individuals within each sampling frame through LinkedIn, the principal investigator's personal social media accounts (Twitter and LinkedIn)
- the principal's investigator's international professional network in the first, and
- through snow-ball sampling, the principal's investigator's international professional network in the second degree.

Survey pilots did not participate in the survey after its launch.

Both formally and informally partnering organizations circulated access links to the survey and introductory/background information at their own discretion, using a variety of distribution channels, such as their organizational intra-net, emails, training sessions, and organizational television. A set of infographics was used to provide links and introductory/background information.

Participants were invited without any type of pre- or post-survey incentive, since the institutional context, within which the survey was going to be distributed, was assumed to have positive effects on survey participation and completion. Crisis intervention professionals often had the chance to complete the survey at work. And last, there were only limited resources available for this self-funded research project.

A maximum of two reminders were sent either by the principal investigator or automatically by partnering institutions.

In April 2022, after the survey had already been online for approximately 6 months, an additional questionnaire was disseminated to capture crisis negotiator responses to the

suicide intervention scenario of patrol police questionnaire/crisis worker questionnaire. All participating crisis negotiators are specially trained police officers who either were, at the time of survey completion, on patrol duty, when not deployed in their crisis negotiator capacity, or had been on general patrol duty in the past. Therefore, a comparison between trained crisis negotiators and patrol police officers without crisis negotiations training appeared to be a line of inquiry with potentially insightful results regarding future training and education. This questionnaire was a clone of the patrol police officer survey without modification.

#### **6.4.2.5 Data Analysis**

##### **6.4.2.5.1 Data Cleaning**

Each questionnaire was cloned and made available as part of the pre-registration effort on the registration's corresponding project page on Open Science Foundation<sup>9</sup>. The questionnaires were also sent along to gatekeepers of potentially partnering organizations. While these clones allowed anybody with interest to complete the survey, data collected with them was not included in the analysis of the questionnaires of the live-survey, except in one instance. Despite clear communication with a partnering institution, the gate-keeper clones were shared for the crisis negotiator and patrol police officer questionnaires. However, since the survey was rolled out mostly with in one partnering service at a time, questionnaires of all genuine participants could be identified and included in the following analysis. Finally, one sub-set of the crisis negotiators sub-sample received the patrol police officer questionnaire (suicide intervention), while the other sub-set received the original crisis negotiation questionnaire (crisis negotiation). This allowed for an extended internal consistency assessment between the crisis negotiation and crisis intervention scenario and to compare crisis negotiators and patrol police officers directly in their approach to the suicide intervention scenario.

All raw data was exported from QualtricsXM as .csv spreadsheet files and saved on the principal's investigator's passport-protected and encrypted hard drive for further

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<sup>9</sup> <https://osf.io/meyx3/>

processing. QualtricsXM provides a variety of survey meta-data, including data export/download date, response ID, user language and others that were deemed irrelevant for the research project. Study relevant meta- (e.g., completion times, informed consent, etc.) and substantial data (e.g., questions, demographic information, etc.) was extracted by copy-pasting it column-wise into a new spreadsheet file using Apple Numbers software.

Responses were then viewed line-by-line to identify any careless or mischievous responses, which have been found to be prevalent in online surveys (Robinson-Cimpian 2014; Ward et al. 2017). Responses that were abandoned prior to completing the informed consent page and the three scenario items (Part 1 of 4) were removed from the dataset. Likewise, responses that contained obviously non-genuinely entered replies in shape of consistently repetitive and uniform entries of extreme values (e.g., all 16 items of the IRI rated 1 or all rated 5) were removed from the dataset as well.

#### **6.4.2.5 Data Analysis**

The analysis followed four steps, as it processed data from the pilot study (Step 1), all participants (survey aggregate; Step 2), the three sub-samples (Step 3), and from the comparison between the sub-samples (Step 4). Table 6.4 illustrates the order of analytic iterations from Step 1 to 4 across the individual segments of the instrument (from (a) Part 1 of 4 to (c) Part 3 of 4).

**Table 6.4**

*Study 5 Analytic strategy: overview.*

Section	Step	Scenario	(b) Part 2/4		(c) Part 3/4	(d) Misc.	(e) Psych. Prop	Strategy	Results	
			(a) Part 1/4	Scenario Questions						
				(b.1) assumed-similarity						(b.2) process-tracing
6.4.3.2.1	1: Pilots	yes	yes	yes	yes	training only	Yes	6.5	6.10-6.16	
6.4.3.2.2	2: All participants	yes	yes	yes	yes	yes	Yes	6.6	6.17-6.27	
6.4.3.2.3	3: Subsamples	CN	yes	yes	yes	Yes	no	6.7	6.28-6.36	
6.4.3.2.4		PO	yes	yes	yes	Yes	no			
6.4.3.2.5		CW	yes	yes	yes	Yes	no			
6.4.3.2.6	4: Comparisons	yes	yes	yes	yes	no	no	6.8	6.55	



#### 6.4.2.5.1 Step 1: Pilots

Often referred to as a rule of thumb, literature mentions the low end of adequate sample sizes for pilot studies to lie between 12 and 50, with a preference closer to 50 (Julious, 2005; Perneger et al., 2015; Sudman, 1983). To achieve a minimum sample size that would detect flaws in the instrument and provide an exploratory overview of its reliability and validity, pilots of all three sample frames were analyzed as a composite sample of the target population of crisis intervention professionals.

Descriptive statistics, including frequencies and proportions, were computed for all items on the instrument. Initial analyses then examined a rudimentary level of reliability and validity of the instrument. Internal consistency was tested across individual survey items with Cronbach's alpha (Cronbach, 1951; Field, 2018). Exploratory construct validity was approached through testing for convergent validity between the scenario items and the perspective-taking and empathy scales of the IRI, using Spearman's correlation to test for association (Spearman, 1904; Field, 2018).

Due to small sample sizes, Fisher's exact test was conducted to compare distributions of results of the scenario to the distribution of the corresponding results in Study 4. The remainder of the analyses followed the assumed-similarly-paradigm used in social projection research (Cronbach, 1995; Bazinger & Kühberger, 2012). It involved testing for correlations between answers to questions that pilots answered first from the point of view of their own frame of reference (self-centric) and later in the questionnaires from that of the subject's frame of reference (other-centric). These correlations were assessed using the appropriate test statistics, including Fisher's exact test for associations between dichotomous variables (Agresti & Franklin, 2007; Field, 2018), Kendall's tau-b for associations between ordinal variables (Kendall, 1945; Field, 2018), and Pearson's product-moment correlation for associations between continuous variables (Pearson, 1895; Field, 2018). Table 6.5 provides an overview of all items, the corresponding construct they measured, and the respective test statistic used for analysis.

**Table 6.5***Study 5 Pilots: Analytic strategy.*

Section	Construct	Item	Statistical Test	Purpose
scenario	projection bias	1, 2, 3, 4	Cronbach's alpha	internal consistency
		4	Spearman's correlation	convergent validity with IRI items
		4	Fisher's exact test	comparing distributions with Study 4 results
questions	projection bias	3, 4, 5, 10, 11, 12	Cronbach's alpha	internal consistency
		3 (self-centric) 10 (other-centric)	Fisher's exact test	testing for correlation (dichotomous variables)
		4, 5 (self-centric) 11, 12 (other-centric)	Kendall's tau-b	testing for correlation (ordinal variables)
		14 (self-centric) 15 (other-centric)	Pearson's r	testing for correlation (continuous variables)
IRI	perspective-taking, empathy	1 (persp.-taking)	Spearman's correlation	convergent validity with scenario items
		2 (empathy)		

#### 6.4.2.5.2 Step 2: All Participants (survey aggregate)

Descriptive statistics, including frequencies and proportions, were computed for all items on the instrument. Further analyses repeated the same reliability and validity assessments as conducted for the pilot data. The instrument was designed to survey sub-samples from the overall population of crisis intervention professionals, which is why reliability and validity tests were conducted only with aggregate data from all participants (and not for the individual sub-samples of crisis negotiations, patrol police officers, and crisis workers).

As a result of the pilot survey, three additional items were added to the questions section following the scenario: question items 1 (other-centric), 6 (self-centric), and 7 (self-centric). To assess the relationship between each item, standard multiple regression analyses (Field, 2018) were used to test if self-centricity predicts other-centricity and explore potentially distinct contributions of each item. The remainder of the analytic strategy was the same as that for the pilot data. Table 6.6 provides an overview of all items, the corresponding construct they measured, and the respective test statistic used for analysis.

**Table 6.6***Study 5 All participants: Analytic strategy.*

Section	Construct	Item	Statistical Test	Purpose	
scenario	projection bias	1, 2, 3, 4	Cronbach's alpha	internal consistency	
		4	Spearman's correlation	convergent validity with IRI items	
		4	chi-square test of homogeneity	comparing distributions with Study 4 results	
questions	projection bias	1 (other-centric) 6 (self-centric) 7 (self/other)	multiple & hierarchical multiple regression	testing if self-centric items predict other-centric items	
		projection bias	3, 4, 5, 10, 11, 12	Cronbach's alpha	internal consistency
			3 (self-centric) 10 (other-centric)	Fisher's exact test	testing for correlation (dichotomous variables)
	4, 5 (self-centric) 11, 12 (other-centric)		Kendall's tau-b	testing for correlation (ordinal variables)	
	14 (self-centric) 15 (other-centric)		Pearson's r	testing for correlation (continuous variables)	
	IRI	perspective-taking, empathy	1 (persp.-taking) 2 (empathy)	Spearman's correlation	convergent validity with scenario items

**6.4.2.5.3 Step 3: Sub-samples**

The analytic strategy for data from each sub-sample (crisis negotiators, patrol police officers, and crisis workers) was by and large the same as that for all participants, with the only deviation that no further tests of reliability and validity were conducted. Table 6.7 provides an overview of all items, the corresponding construct they measured, and the respective test statistic used for analysis.

**Table 6.7***Study 5 Sub-samples: Analytic strategy.*

Section	Construct	Item	Statistical Test	Purpose
scenario	projection bias	4	chi-square test of homogeneity	comparing distributions with Study 4 results
questions	projection bias	1 (other-centric)	multiple & hierarchical multiple regression	testing if self-centric items predict other-centric items
		6 (self-centric)		
		7 (self/other)		
	projection bias	3 (self-centric)	Fisher's exact test	testing for correlation (dichotomous variables)
		10 (other-centric)		
		4, 5 (self-centric) 11, 12 (other-centric)	Kendall's tau-b	testing for correlation (ordinal variables)
		14 (self-centric) 15 (other-centric)	Pearson's r	testing for correlation (continuous variables)

#### 6.4.2.5.4 Step 4: Comparisons Between Sub-samples

To test for differences between the sub-samples, which have been hypothesized to differ in their communication of projection bias, several analyses of variance (ANOVA) have been conducted. Scenario data (Part 1 of 4) was compared using the Kruskal-Wallis H tests to determine group differences based on ordinally assessed variables (Field, 2018; Kruskal & Wallis, 1952).

The analysis of items of the question segment (Part 2 of 4) utilized one-way ANOVA to compare groups on continuous dependent variables, where there are no significant outliers, data is normally distributed, and homogeneity of variances is given (Field, 2018). Question items that were measured on dichotomous variables were analyzed with chi-square tests of homogeneity (Agresti & Franklin, 2007; Field, 2018). Table 6.8 provides an overview of all items, the corresponding construct they measured, and the respective test statistic used for analysis.

**Table 6.8***Study 5 Comparison between sub-samples: Analytic strategy.*

<b>Section</b>	<b>Construct</b>	<b>Item</b>	<b>Statistical Test</b>	<b>Purpose</b>
scenario	projection bias	4	Kruskal-Wallis H	comparing groups
questions	projection bias	1 (other-centric)	one-way ANOVA	comparing groups
		6 (self-centric)		
		7 (self/other)		
	projection bias	3 (self-centric)	chi-square test of homogeneity	comparing groups
		10 (other-centric)		
		4, 5 (self-centric)	Kruskal-Wallis H	comparing groups
		11, 12 (other-centric)		
		13 (qualitative)	one-way ANOVA	comparing groups
		14 (self-centric)	one-way ANOVA	comparing groups
15 (other-centric)	chi-square test of homogeneity	comparing groups		
16, 17, 18 (qualitative)				
19, 20, 21 (qualitative)	one-way ANOVA	comparing groups		
IRI	perspective-taking, empathy	1 (persp.-taking)	one-way ANOVA	comparing groups
		2 (empathy)		

Where statistical tests required collected data to follow a normal distribution, Shapiro–Wilk's tests (Razali & Wah, 2011; Shapiro & Wilk, 1965) and visual inspections of histograms and box plots (Doane & Seward, 2011) were conducted. Assumptions of linearity were tested with visual inspections of scatter plots (Casson & Farmer, 2014). Outliers were identified by visually inspecting box and scatter plots (Casson & Farmer, 2014). Significance levels were consistently set to  $p < 0.05$ . All data were analyzed using SPSS version 28.0.

### 6.4.2.5.5 Statistical Power Analysis

To determine (smallest) sample sizes that allow for the detection of effects of a predetermined minimum effect size at the desired level of significance (for a predetermined maximum tolerability of Type I and II errors), a priori statistical power analyses were conducted with the freely available G\*Power calculator (Erdfelder, 1996; Faul et al., 2009; Kyonka, 2018). Table 6.9 lists minimum sample sizes by small, medium, and large effect size for each anticipated statistical test.

**Table 6.9**

*A priori power calculations to determine minimum sample sizes.*

Statistical test	Interpretation		
	weak	medium	strong
Pearson's product-moment correlation (Cohen, 1988)	$r < 0.3$ 84	$r = 0.3 - 0.5$ between	$r > 0.5$ 29
Spearman's correlation (Dancey & Reidy, 2007)	$\rho < 0.3$ 84	$\rho = 0.3 - 0.6$ between	$\rho > 0.6$ 19
Kendall's tau-b (Laerd, 2017)	closer to 0	relative	closer to 1
Fisher's exact test chi-square test of homogeneity (both by proportion)	p1: 0.6 p2: 0.4 102:102 (204)	p1: 0.7 p2: 0.3 29:29 (58)	p1: 0.8 p2: 0.2 12:12 (24)
Linear (multiple & hierarchical multiple) regression (Cohen, 1988)	$f^2 = 0.02$ 311	$f^2 = 0.15$ 43	$f^2 = 0.35$ 20
ANOVA (Cohen, 1988)	$f = 0.10$ 969	$f = 0.25$ 159	$f = 0.40$ 66

*Note.* Power was set to 0.8, alpha (two-tailed) to 0.05; citations reference the coefficient values assigned to effect size (small, medium, large).

### 6.4.3 Results

#### 6.4.3.1 Step 1: Pilots

Of the 15 participants recruited for the pilot survey, 14 returned complete questionnaires, all of which have been analyzed as described above.

##### (a) Part 1 of 4: Scenario

*Descriptive Statistics:* Scenario items 1, 2, and 3 were coded dichotomously, with "0" indicating no projection bias communicated and "1" indicating communicated projection bias. To represent the overall performance during the scenario and to allow for further analyses, including internal consistency and convergent validity with other variables, a composite variable, item 4, was created (Ley, 1972; Song et al., 2013). The ordinal coding reflects the number of instances where projection bias was communicated versus the number of instances where it was not. Across the three conversational iterations, participants displayed projection bias in one of the following four codes:

- "0" = no projection bias,
- "1" = one instance with projection bias versus two instances without,
- "2" = two instances with projection bias, one instance without, and
- "3" = all instances with projection bias.

With a mode of "1", the sample's central tendency was one communication of projection bias out of three opportunities. Most participants demonstrated projection bias only once (seven participants) or not at all (three participants) during all three conversational iterations with the subject in the table-top scenario. Table 6.10 displays complete descriptive statistics for Part 1 of 4.

**Table 6.10***Descriptive statistics of the pilot survey: scenario segment.*

Item	Code	Frequency	Percent	Cumulative percent
1	0	<b>8</b>	57	57
	1	6	43	100
2	0	<b>8</b>	57	57
	1	6	43	100
3	0	<b>10</b>	71	71
	1	4	29	100
4	0	3	21	21
	1	<b>7</b>	50	71
	2	3	21	92
	3	1	8	100

Note. Bold digits reflect each item's mode.

(b) Part 2 of 4: Questions

(b.1) *Assumed-similarity-paradigm items*

*Descriptive statistics:* Items 3 (other-centric) and 10 (self-centric) probed participants to judge the actions of the subject based on the subject's (item 3) as well as on their own (item 10) frame of reference. Items 4 and 5 (both other-centric) as well as 11 and 12 (both self-centric) assessed participants' choices of conversation topics that they deemed most (items 4 and 10) and least helpful (items 5 and 12) to reduce emotional intensity of the subject. All items were coded as ordinal variables to reflect different levels of projection bias in each participants' choices:

- "0" = no projection bias,
- "1" = minority of choices reflecting projection bias,
- "2" = equal number of choices reflecting projection bias,
- "3" = majority of choices reflecting projection bias, and
- "4" = all choices reflecting projection bias.

Table 6.11 provides an overview of the corresponding results.



**Table 6.11**

*Descriptive statistics of the pilot survey: assumed-similarity-paradigm, items 3, 4, 5, 10, 11, 12.*

<b>Item</b>	<b>Code</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative</b>
3	0	<b>9</b>	64	64
	1	5	36	100
10	0	<b>7</b>	50	50
	1	<b>7</b>	50	100
4	0	1	7	7
	1	0	0	7
	2	<b>5</b>	36	43
	3	3	36	79
	4	<b>5</b>	21	100
11	0	4	29	29
	1	0	0	29
	2	2	14	43
	3	2	14	57
	4	<b>6</b>	43	100
5	0	<b>7</b>	50	50
	1	0	0	50
	2	3	21	71
	3	0	0	71
	4	4	29	100
12	0	5	36	36
	1	0	0	36
	2	2	14	50
	3	0	0	50
	4	<b>7</b>	50	100

*Note.* Bold digits reflect each item's mode.

*Inferential Statistics:* Following the assumed-similarity-paradigm to test for potential associations between self- and other-/subject-centric social judgments, Fisher's exact test was run to determine potential association between items 3 and 10 by testing for independence. There was not a statistically significant association between other-centric (item 3) and self-centric (item 10) judgment as assessed by Fisher's exact test,  $p = .21$ .

Kendall's tau-b was run to test for strength and direction between the self- and other centric responses from the participants on the question cluster on most and least helpful topics (Items 4, 5, 11, and 12). There was a weak positive association between item 4 (other-centric, most helpful) and item 11 (self-centric, most helpful), which was not statistically significant  $\tau_b = .265$ ,  $p = .268$ . Between item 5 (other-centric, least helpful) and item 12 (self-centric, least helpful), there was a weak positive association, which was also not statistically significant  $\tau_b = .200$ ,  $p = .428$ .

*(b.2) Process-tracing items*

*Descriptive statistics:* Items 13 through 21 captured qualitative data to better understand the sample's empathetic process, along with the role that corresponding perspective-taking between the participants' and the subjects' frames of reference and projection bias play in it. Descriptive statistics of the results are illustrated in table 6.12 (items answered with sliders, translating into continuous variables) and table 6.13 (items answered as yes/no questions, translating into dichotomous variables). Item 18 was designed to follow-up only with those participants that indicated yes ("1") to item 17. However, as the pilot survey revealed, the skip logic was set to follow up only with respondents that indicated no ("0"). This glitch was rectified for the live survey.

**Table 6.12***Descriptive statistics of the pilot survey: process-tracing questions (continuously answered).*

#	Question	M	SD
13	When did you figure out which of these topics (Items 4, 5, 11, 12) might help best to build rapport with the subject?  <i>Scale:</i> 0 = time of the briefing, 50 = beginning of the conversation, 100 = after the end of the conversation	42.14	29.43
14	How much would you say is your empathetic response going to be aligned with the subject's emotional experience of having lost family or a friend in war-torn Syria?  <i>Scale:</i> 0 = no alignment, 100 = fully aligned	66.64	21.75
15	To what degree can you imagine you and the subject might have values in common on what matters in life, based on how you picture them at this point?  <i>Scale:</i> 0 = no overlap, 100 = fully congruent	56.00	25.96
19	Do you think, at the point the conversation left off, you got an initial idea on what helps best to build rapport with the subject?  <i>Scale:</i> 0 = no understanding; 100 = full understanding	35.36	20.49
20	How confident are you on having had a good enough start to build rapport with the subject that would allow you eventually to reduce their emotional intensity?  <i>Scale:</i> 0 = no confidence, 100 = full confidence	38.00	23.21

**Table 6.13***Descriptive statistics of the pilot survey: process-tracing questions (dichotomously answered).*

#	Question	Code	(f)	%	Cum
16	Did you recruit your empathetic response from changing perspective and imagining what you would feel if you had family and friends in war-torn Syria and potentially lost people close to you?	0	4	29	29
		1	<b>10</b>	71	100
17	Did you recruit your empathetic response from an experience in your own life or in the life of someone close to you, who might have lost a friend or family member as a casualty to someone else's actions or in-actions?	0	<b>7</b>	50	50
		1	<b>7</b>	50	100
18	When you recruited your empathetic response, did you consider that the subject might have a different experience than you imagined you would have in their place	0	3	43	43
		1	<b>4</b>	57	100
21	In situations like this, do you think you are making sense of the subject's options, decisions, emotions, and actions, based on your own frame of reference?	0	4	29	29
		1	<b>10</b>	71	100

*Note.* Bold digits reflect each item's mode.

(c) Part 3 of 4 Interpersonal Reactivity Index

For item 1 of the IRI, datasets from two participants were excluded from the analysis, as only values of “1” have been entered throughout all items of the IRI. For Item 2, again, datasets from two participants were excluded from the analysis, as only values of “1” have been entered throughout all items.

**Table 6.14**

*Descriptive statistics of the pilot survey: IRI.*

IRI Item	n	median	min	Max
Perspective-taking scale	12	14	13	18
Aggregate empathy score	12	40	30	54

(d) Miscellaneous Items

(d.1) *Training and education items*

Items 22 and 23 probed participants’ motivation to better know how to avoid projection bias on a four-point Likert-scale:

- “0” = “not at all”,
- “1” = “I don’t think so”,
- “2” = “I think so”, and
- “3” - “absolutely”.

Table 6.15 illustrates the corresponding results.

**Table 6.15***Descriptive statistics of the pilot survey: training and education questions.*

#	Question	Code	(f)	%	Cum
22	Would you wish for yourself to better know how to avoid such projection fallacies?	0	1	14	14
		1	1	14	28
		2	1	14	42
		3	<b>4</b>	58	100
23	Do you think you would have benefited from training on how to avoid such projection fallacies?	0	1	14	14
		1	1	14	28
		2	1	14	42
		3	<b>4</b>	58	100

*Note.* Bold digits reflect each item's mode.

## (e) Psychometric Properties

### (e.1) *Reliability*

Table 6.16 provides interpretation guidance for measures of internal consistency, in relation to sample size.

**Table 6.16***Cronbach's alpha interpretation table with a priori power calculations to determine minimum sample sizes.*

Interpretation	Acceptable	Sufficient	Satisfactory	Moderate	Good	Reliable
	0.45	0.45	0.58	0.61	0.71	0.84
2 items	90	90	44	38	23	12
4 items	61	61	30	26	16	9
6 items	55	55	28	24	15	8
8 items	53	53	26	23	14	8

*Note.* Interpretations are based on Taber's (2017) review of the use of Cronbach's alpha when developing and reporting research instruments in science education; sample sizes indicated are minimum sample sizes, calculated with the online Sample Size Calculator by Wan Nor Arifin (Arifin, 2023); power was set to 0.8, alpha (two-tailed) to 0.05; citations reference the coefficient values assigned to effect size (small, medium, large).

The scenario segment of the instrument (Part 1 of 4) included three dichotomously coded variables indicating presence or absence of projection bias in the communication of the participants as manifested in their survey responses. An additional variable measured ordinal levels of presence of projection bias as a composite variable. All four items had a

moderate level of internal consistency (Taber, 2018) as determined by a Cronbach's alpha of 0.667.

The items of the question section designed to assess projection bias included 3, 4, 5, 10, 11, and 12, with item 3 and 10 measured dichotomously and items 4, 5, 11, and 12 ordinally. All 6 items had a not satisfactory level of internal consistency (Taber, 2018) as determined by a Cronbach's alpha of 0.392.

All items measuring projection bias missed the acceptable or satisfactory level of internal consistency (Taber, 2018) as determined by a Cronbach's alpha of 0.429.

#### *(e.2) Validity*

Exploratory construct validity was approached through testing for convergent validity between the scenario items and the perspective-taking and empathy scales of the IRI, using Spearman's correlation to test for association (Spearman, 1904; Field, 2018; Krabbe, 2017). Visual inspections of both scatter plots revealed no clear monotonic relationships for both correlations (scenario and perspective-taking as well as scenario and empathy). To confirm Spearman's rho, Kendall's tau-b was run additionally as an alternative (Smarandache, 2003). Spearman's correlation revealed a statistically not significant, weak negative correlation between communicated confirmation bias as measured in the scenario segment and participants' dispositional perspective-taking as measured by the IRI's corresponding sub-scale,  $r_s(12) = -.0117$ ,  $p = .732$ . Kendall's tau-b also revealed a statistically not significant, weak negative correlation,  $\tau_b = .070$ ,  $p = .796$ . Between communicated confirmation bias as measured in the scenario segment and participants' dispositional empathy as measured by the IRI's composite score, Spearman's correlation revealed a statistically not significant, weak positive association,  $r_s(12) = -.382$ ,  $p = .246$ . Kendall's tau-b revealed also revealed a statistically not significant, weak positive correlation,  $\tau_b = .300$ ,  $p = .242$ .

(f) Pilot survey impact

The analysis of the pilot data revealed mostly weak and statistically not significant correlations, which can be attributed to the small sample sizes, leaving the only statistically significant correlation between question items 3 and 10 still at a high risk of Type II error. Viewing the limiting sample size of pilots considering Tversky and Kahneman's (1971) diagnosed "Belief in the Law of Small Numbers" (p.105), according to which smaller samples demonstrate higher degrees of variability than larger samples, the substance of the instrument was ultimately not changed, based on the results of the pilot survey data analysis.

However, the processing of the data led to the discovery and correction of an erroneously coded skip logic, which took participants who answered "no" in question item 17 to question item 18, which was intended to be presented only to participants who answered "yes". Furthermore, due to the overall volume of data captured with the instrument and the associated time and resource commitments to process and analyze the data, a free-text question item was taken out of the survey. Finally, question item 21 was converted from a question answerable with "yes" or "no" to an answer slider from "0" to "100" to allow participants to answer with a high level of nuance. It was also discovered and corrected that question items 22 and 23 did not force responses, which resulted in incomplete datasets.

Finally, feedback from all pilot participants was incorporated, including in several orthographic, stylistic, and grammar corrections. Furthermore, feedback resulted in the implementation of two stand-alone pages preceding each sub-section of the question section (Part 2 of 4) to prompt participants explicitly to answer questions from the subject's and their own frame of reference (in addition to each question item's formulation). The demographic information section (Part 4 of 4) was switched from the beginning of the survey to the end and question items 1, 6, and 7 were added to capture information on perceived emotional intensity, which was used to prompt empathetic response (cp. Blair, 2005;) in addition to the explicit instruction at the beginning of the survey. Most importantly,

both after the question section (Part 2 of 4) and after the IRI section (Part 3 of 4), a single page presenting participants with an attention check question was implemented to track the level of diligence participants displayed doing their survey completion and to assess overall data quality as it relates to participant input (Abbey et al., 2017; Kung et al., 2018).

#### **6.4.3.2 Step 2: All Participants (Survey Aggregate)**

An overall respondent rate has not been calculated. The use of the snowball method and social media to disseminate the survey across three different countries did not allow to determine specifically quantified sampling frames, which renders attempts to approximate response rates not meaningful.

After data cleaning, a total of up to 132 questionnaires was collected and processed as documented below. Viewing the low participant rates and the calculated minimum sample sizes, questionnaires that have completed Part 1 of 4 (the scenario segment) have been included, even if questionnaires were not completed thereafter. Table 6.17 and 6.18 provide an overview of all results.



**Table 6.17**

*Overview Study 5 Results: descriptives and correlations.*

	All Participants				Crisis Negotiators (CN)				Patrol Police Officers (CN)				Crisis Workers (CW)			
	<i>n</i>	<i>M</i>	<i>SD</i>	Association	<i>n</i>	<i>M</i>	<i>SD</i>	Association	<i>n</i>	<i>M</i>	<i>SD</i>	Association	<i>n</i>	<i>M</i>	<i>SD</i>	Association
<b>1. Scenario</b>																
Item 1 (PB/no PB)	132	PB	n/a	n/a	31	no PB	n/a	n/a	59	PB	n/a	n/a	42	no PB	n/a	n/a
Item 2 (PB/no PB)	132	no PB	n/a	n/a	31	no PB	n/a	n/a	59	no PB	n/a	n/a	42	no PB	n/a	n/a
Item 3 (PB/no PB)	132	PB	n/a	n/a	31	PB	n/a	n/a	59	PB	n/a	n/a	42	no PB	n/a	n/a
Item 4 (ordinal: 0-3)	132	2	n/a	n/a	31	2	n/a	n/a	59	2	n/a	n/a	42	0	n/a	n/a
<b>2. Questions</b>																
<b>a) other-centric</b>																
Item 1 (continuous)	125	64.98	23.70	6, 7***	30	58.73	25.12	6, 7***	55	65.36	23.76	6**, 7***	40	69.15	22.06	6**, 7***
Item 3 (PB/no PB)	125	PB	n/a	10***	30	PB	n/a	10*	55	PB	n/a	10	40	no PB	n/a	10
Item 4 (ordinal: 0-4)	125	4	n/a	11***	30	4	n/a	11***	55	4	n/a	11**	40	3	n/a	11***
Item 5 (ordinal: 0-4)	125	4	n/a	12***	30	0	n/a	12***	55	4	n/a	12***	40	0	n/a	12**
<b>b) self-centric</b>																
Item 6 (continuous)	122	74.55	19.97	1, 7**	30	72.37	16.58	1	52	71.02	21.81	1**	40	80.78	18.74	1**
Item 7 (continuous)	122	64.14	26.55	1***, 6**	30	56.50	27.69	1***	52	64.87	28.52	1***	36	68.93	22.03	1***
Item 10 (PB/no PB)	122	PB	n/a	3***	30	PB	n/a	3*	52	PB	n/a	3	40	no PB	n/a	3
Item 11 (ordinal: 0-4)	122	4	n/a	4***	30	4	n/a	4***	52	4	n/a	4**	40	3	n/a	4***
Item 12 (ordinal: 0-4)	122	4	n/a	5***	30	0	n/a	5***	52	4	n/a	5***	40	0	n/a	5**

*Note:* *n* = participants; *M* = where applicable mean (continuous data), median (ordinal data), or mode (dichotomous data); *SD* = standard deviation; Association indicates relationship between participant and subject frame of reference items (cp. assumed-similarly-paradigm used in social projection research [Cronbach, 1995; Jones, 2004]), with significance indicating the presence of some degree of projection bias (for effect size, see corresponding section in the results presentation). \**p* <.05. \*\**p* <.01. \*\*\**p* <.001.

**Table 6.18**

*Overview Study 5 Results: descriptives and correlations (continued).*

	All Participants				Crisis Negotiators (CN)				Patrol Police Officers (CN)				Crisis Workers (CW)			
	<i>n</i>	<i>M</i>	<i>SD</i>	Association	<i>n</i>	<i>M</i>	<i>SD</i>	Association	<i>n</i>	<i>M</i>	<i>SD</i>	Association	<i>n</i>	<i>M</i>	<i>SD</i>	Association
<b>c) process-trace</b>																
Item 13 (continuous)	116	37.05	25.38		28	38.46	23.06		50	39.32	25.84		38	33.03	26.56	
Item 14 (continuous)	116	69.22	21.03	15***	28	70.75	22.62	15*	50	65.08	20.88	15*	38	73.55	19.49	15**
Item 15 (continuous)	116	68.22	17.82	14***	28	70.64	18.56	14*	50	68.34	18.21	14*	38	66.29	16.98	14**
Item 16 (yes/no)	116	yes	n/a	n/a	28	yes	n/a	n/a	50	yes	n/a	n/a	38	yes	n/a	n/a
Item 17 (yes/no)	116	yes	n/a	n/a	28	yes	n/a	n/a	50	yes	n/a	n/a	38	yes	n/a	n/a
Item 18 (yes/no)	44	Yes	n/a	n/a	9	yes	n/a	n/a	18	yes	n/a	n/a	17	yes	n/a	n/a
Item 19 (continuous)	113	59.63	20.47	n/a	28	52.14	22.63	n/a	47	61.28	20.77	n/a	38	63.11	17.31	n/a
Item 20 (continuous)	113	66.53	20.29	n/a	28	58.46	25.00	n/a	47	68.17	18.99	n/a	38	70.45	16.54	n/a
Item 21 (continuous)	113	63.88	21.02	n/a	28	60.32	22.92	n/a	47	64.28	22.80	n/a	38	66.00	17.10	n/a
<b>d) training</b>																
Item 22 (ordinal: 0-4)	113	3	n/a	n/a	28	3	n/a	n/a	47	3	n/a	n/a	38	3	n/a	n/a
Item 23 (ordinal: 0-4)	113	3	n/a	n/a	28	2	n/a	n/a	47	3	n/a	n/a	38	2	n/a	n/a
<b>Attention Check</b>																
Item 24 (ordinal: 0-6)	112	5	n/a	n/a	27	5	n/a	n/a	47	5	n/a	n/a	38	5	n/a	n/a
<b>3. IRI</b>																
Item 1 (continuous)	109	14.83	2.93	n/a	27	15.52	2.98	n/a	46	11.70	5.73	n/a	36	15.69	2.04	n/a
Item 2 (continuous)	109	40.66	8.79	n/a	27	41.52	8.31	n/a	46	32.70	15.64	n/a	36	44.06	6.27	n/a
<b>Attention Check</b>																
Item 25 (ordinal: 0-6)	109	5	n/a	n/a	27	5	n/a	n/a	46	5	n/a	n/a	36	5	n/a	n/a

*Note:* *n* = participants; *M* = where applicable mean (continuous data), median (ordinal data), or mode (dichotomous data); *SD* = standard deviation; Association indicates relationship between participant and subject frame of reference items (cp. assumed-similarly-paradigm used in social projection research [Cronbach, 1995; Jones, 2004]), with significance indicating the presence of some degree of projection bias (for effect size, see corresponding section in the results presentation). \**p* <.05. \*\**p* <.01. \*\*\**p* <.001.

(a) Part 1 of 4: Scenario

*Descriptive statistics:* Scenario items were unchanged following the pilot survey. Table 6.19 provides an overview of all scenario segment results of all participants.

**Table 6.19**

*Descriptive statistics of all participants: scenario segment.*

Item	n	Code	Frequency	Percent	Cumulative percent
1	132	0	63	48	48
		1	<b>69</b>	52	100
2	132	0	<b>81</b>	61	61
		1	51	39	100
3	132	0	55	42	42
		1	<b>77</b>	58	100
4	132	0	17	13	13
		1	<b>52</b>	39	52
		2	39	30	82
		3	24	18	100

*Note.* Bold digits reflect each item's mode.

Of the 132 participants, 115 communicated, in at least one instance, projection bias (87%).

*Inferential statistics:* Of the 52 participants of Study 4, 40 had communicated projection bias in at least one instance (77%). A chi-square test for homogeneity was run to compare the two proportions, which resulted in a statistically not significant difference in proportions of .1 between Study 4 and Study 5 participants,  $p = .09$ .

(b) Part 2 of 4: Questions

(b.1) *Assumed-similarity-paradigm items*

*Descriptive statistics:* Items 1, 6, and 7 were added as a result of pilot feedback and assessed participants' judgment of the level of emotional intensity of the subject (item 1)

and themselves (items 6, and 7) on a continuous slider. Table 6.20 illustrates the corresponding results.

**Table 6.20**

*Descriptive statistics of all participants: assumed-similarity-paradigm, items 1, 6, 7.*

#	Question	n	M	SD
1	How do you think the subject is mostly feeling during this conversation, in general? (other-centric)	122	64.98	23.70
6	How are you mostly feeling during this conversation, in general? (self-centric)	122	74.55	19.97
7	How would you be mostly feeling during this conversation, in general, if you were in the subject's place? (self-centric)	122	64.14	26.55

*Note.* Scale: 0 = emotionally disengaged, 100 = emotionally engaged.

Items 3, 4, 5 (all other-centric) and 10, 11, 12 (all self-centric) were unchanged following the pilot survey. Table 6.21 provides an overview the corresponding results.

**Table 6.21**

*Descriptive statistics of all participants: assumed-similarity-paradigm, items 3, 4, 5, 10, 11, 12.*

Item	n	Code	Frequency	Percent	Cumulative
3	125	0	60	48	48
		1	<b>65</b>	52	100
10	118	0	45	38	38
		1	<b>73</b>	62	100
4	125	0	4	3	3
		1	20	16	19
		2	6	5	24
		3	36	29	53
		4	<b>59</b>	47	100
11	122	0	8	6	6
		1	12	10	16
		2	7	6	22
		3	28	23	45
		4	<b>67</b>	55	100
5		0	33	27	27
		1	13	10	37
		2	17	14	51
		3	13	10	61
		4	<b>49</b>	39	100
12		0	35	29	29
		1	14	11	40
		2	8	7	47
		3	19	15	62
		4	<b>46</b>	38	100

*Note.* Bold digits reflect each item's mode.

*Inferential statistics:* In line with the assumed-similarity-paradigm, to better understand the relative contribution of item 6 and item 7 (participants' emotional intensity) to item 1 (subject's emotional intensity), a standard multiple regression was modelled. A Durbin-Watson statistic of 2.040 determined independence of residuals. Visual inspection of scatterplots (item 1 by item 6 and item 1 by item 7) indicated linear relationships. Visual inspection of studentized residuals versus unstandardized predicted values determined homoscedasticity. Tolerance values greater than 0.1 indicated that there was no evidence of multicollinearity. There was also no studentized deleted residuals greater than  $\pm 3$  standard deviations as well as no leverage values greater than 0.2. Values for Cook's distance were above 1. Visual inspection Q-Q plots determined normally distributed data

for all variables.  $R^2$  for the overall model was 49.9% with an adjusted  $R^2$  of 49.0%, indicating the model explains approximately half of the variability of the dependent variable, according to Cohen (1988) a large effect size. Self-centric item 7 of the participants emotional intensity predicted the judged other-centric item 1 of the subject's emotional intensity at a statistically significant level,  $F(2, 119) = 59.192, p < .001$ . Regression coefficients and standard errors can be found in Table 6.22.

**Table 6.22**

*All participants: multiple regression results for Item 1 (other-centric level of emotional intensity).*

Item 1	B	95% CI for B		SE B	$\beta$	$R^2$	$\Delta R^2$
		LL	UL				
Model						.49	.49***
Constant	30.20***	17.33	43.07	6.50			
Item 6	-.087	-.24	.07	.08	-.07		
Item 7	.65***	.53	.76	.06	.72***		

*Note.* Model = “Enter” method in SPSS Statistics;  $B$  = unstandardized regression coefficient; CI = confidence interval;  $LL$  = lower limit;  $UL$  = upper limit;  $SE B$  = standard error of the coefficient;  $\beta$  = standardized coefficient;  $R^2$  = coefficient of determination;  $\Delta R^2$  = adjusted  $R^2$ ; item 1 = subject level of emotional engagement (other-centric); item 6 = participant level of emotional engagement (self-centric); item 7 = participant level of emotional engagement if in subject's place (self-centric).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Fisher's exact test was run to determine the relationship between items 3 and 10 by testing for independence. There was a statistically significant association between other-centric (item 3) and self-centric (item 10) judgment as assessed by Fisher's exact test,  $p < .001$ .

Kendall's tau-b was run to test for strength and direction between items 4 and 5 (other-centric) and items 11 and 12 (self-centric). There was a strong positive association<sup>10</sup> between item 4 (other-centric, most helpful) and item 11 (self-centric, most helpful), which was statistically significant  $\tau_b = .546, p < .001$ . Between item 5 (other-centric, least helpful) and item 12 (self-centric, least helpful), there was a strong positive association, which was statistically significant  $\tau_b = .581, p < .001$ .

<sup>10</sup> According to Laerd (2017) and Magiya, (2019), Kendall's tau coefficient is usually smaller than Pearson's  $r$  or Spearman's rho. Therefore, interpretations of Kendall's tau-b followed those of Pearson's and Spearman's correlation coefficients as indicated in Table 6.7.

(b.2) *Process-tracing items*

*Descriptive statistics:* Items 13 through 21 remained substantially unchanged following the pilot survey. Descriptive statistics of the results are illustrated in table 6.23 (items answered with sliders, translating into continuous variables) and table 6.24 (items answered as yes/no questions, translating into dichotomous variables). Item 18 was designed to follow-up only with those participants that indicated yes (“1”) to item 17.

**Table 6.23**

*Descriptive statistics of all participants: process-tracing questions (continuously answered).*

#	Question	n	M	SD
13	When did you figure out which of these topics (Items 4, 5, 11, 12) might help best to build rapport with the subject?  <i>Scale:</i> 0 = time of the briefing; 50 = beginning of the conversation 100 = after the end of the conversation.	116	37.05	25.38
14	How much would you say is your empathetic response going to be aligned with the subject's emotional experience of having lost family or a friend in war-torn Syria?  <i>Scale:</i> 0 = no alignment; 100 = fully aligned	116	69.22	21.01
15	To what degree can you imagine you and the subject might have values in common on what matters in life, based on how you picture them at this point?  <i>Scale:</i> 0 = no overlap; 100 = fully congruent	116	68.22	17.82
19	Do you think, at the point the conversation left off, you got an initial idea on what helps best to build rapport with the subject?  <i>Scale:</i> 0 = no understanding; 100 = full understanding	113	59.63	20.47
20	How confident are you on having had a good enough start to build rapport with the subject that would allow you eventually to reduce their emotional intensity?  <i>Scale:</i> 0 = no confidence; 100 = full confidence	113	66.53	20.29
21	In situations like this, to what degree do you think you are making sense of the subject's options, decisions, emotions, and actions, based on your own frame of reference?	113	63.88	21.02

**Table 6.24***Descriptive statistics of all participants: process-tracing questions (dichotomously answered).*

#	Question	n	Code	(f)	%	Cum
16	Did you recruit your empathetic response from changing perspective and imagining what you would feel if you had family and friends in war-torn Syria and potentially lost people close to you?	116	0	23	20	20
			1	<b>93</b>	80	100
17	Did you recruit your empathetic response from an experience in your own life or in the life of someone close to you, who might have lost a friend or family member as a casualty to someone else's actions or in-actions?	116	0	49	42	42
			1	<b>67</b>	58	100
18	When you recruited your empathetic response, did you consider that the subject might have a different experience than you imagined you would have in their place	44	0	8	18	18
			1	<b>36</b>	82	100

*Note.* Bold digits reflect each item's mode.

*Inferential statistics:* Following the assumed-similarity-paradigm, to test for a potential direct association between participants' perceived overlap of their own frame of reference with that of the subject (item 15) and the perceived alignment of their empathetic response (item 14), a Pearson's product-moment correlation was run ( $n = 116$ ), which found a statistically significant, moderate positive correlation:  $r(114) = .433, p < .001$ .



(c) Part 3 of 4: Interpersonal Reactivity Index

Datasets from two participants were excluded from the analysis, as only values of “1” have been entered throughout all items of the IRI. Table 6.25 illustrates the results.

**Table 6.25**

*Descriptive statistics of all participants: IRI.*

IRI Item	n	median	min	Max
Perspective-taking scale	109	15	12	20
Aggregate empathy score	109	41	22	54

(d) Miscellaneous Items

(d.1) *Training and education items*

Items 22 and 23 remained unchanged. Table 6.26 illustrates the corresponding results.

**Table 6.26**

*Descriptive statistics of all participants: training and education items.*

#	Question	n	Code	(f)	%	Cum
22	Would you wish for yourself to better know how to avoid such projection fallacies?	113	0	3	3	3
			1	12	11	14
			2	41	36	50
			3	<b>57</b>	50	100
23	Do you think you would have benefited from training on how to avoid such projection fallacies?	113	0	4	4	4
			1	10	9	13
			2	49	43	56
			3	<b>50</b>	44	100

*Note.* Bold digits reflect each item's mode.

(d.2) *Attention check*

As a result from the pilot survey, item 24 was added, asking participants if, to this point, they felt they had answered all questions with undivided attention. A six-point Likert scale captured responses:

1. "0" = "not at all",
2. "1" = "almost not at all",
3. "2" = "not so much",
4. "3" = "pretty much",
5. "4" = "almost absolutely", and
6. "5" = "absolutely".

Table 6.27 illustrates the corresponding results.

**Table 6.27**

*Descriptive statistics of all participants: attention check items.*

#	Question	n	Code	(f)	%	Cum
Part 2 of 4	So far, I answered all questions conscientiously:	112	1	0	0	0
			2	1	1	1
			3	3	10	11
			4	28	25	36
			5	<b>72</b>	64	100
Part 3 of 4	So far, I answered all questions conscientiously:	108	1	0	0	0
			2	0	0	0
			3	6	6	6
			4	24	22	28
			5	<b>78</b>	72	100

*Note.* Bold digits reflect each item's mode.

(e) Psychometric Properties

(e.1) *Reliability*

The scenario segment of the instrument included three dichotomously coded variables that indicated presence or absence of projection bias in participants' survey responses. An additional variable measured ordinal levels of presence of projection bias as a composite variable. All four items had a good level of internal consistency (Taber, 2018) as determined by a Cronbach's alpha of 0.720.

The items of the question segment designed to assess projection bias included 3, 4, 5, 10, 11, and 12, with item 3 and 10 measured dichotomously and items 4, 5, 11, and 12 ordinally. All 6 items had a good level of internal consistency (Taber, 2018) as determined by a Cronbach's alpha of 0.756.

In isolation, items 4, 5, 11, and 12, which measure projection bias through participant choice of topics they deemed most and least helpful in building rapport with the subject, had good to reliable level of internal consistency as determined by a Cronbach's alpha of 0.810 (Taber, 2018).

Items 1, 6, and 7, which measured projection based on correlations between item 6 and 1 as well as item 7 and 1 (in contrast with the other items, which assessed presence or absence through direct coding of single items, had a moderate level of internal consistency as determined by a Cronbach's alpha of 0.626.

(e.1) *Validity*

Exploratory construct validity was approached through testing for convergent validity between the scenario items and the perspective-taking and empathy scales of the IRI, using Spearman's correlation to test for association (Spearman, 1904; Field, 2018; Krabbe, 2017). Visual inspections of both scatter plots revealed monotonic relationships for both correlations (scenario items and IRI perspective-taking sub-scale as well as

scenario and IRI empathy-composite-scale). Spearman's correlation revealed a statistically not significant, weak positive correlation between communicated confirmation bias as measured in the scenario segment and participants' dispositional perspective-taking as measured by the IRI's corresponding sub-scale,  $r_s(107) = .162, p = .092$ . Between confirmation bias as measured in the scenario segment and participants' dispositional empathy as measured by the IRI's composite score, Spearman's correlation revealed a statistically significant, weak positive association,  $r_s(108) = .262, p = .006$ .

### 6.4.3.3 Step 3.1: Sub-sample Crisis Negotiators

After data cleaning, a total of up to 31 questionnaires was collected and processed as documented below.

#### (a) Part 1 of 4: Scenario

*Descriptive statistics:* Table 6.28 provides an overview of all scenario segment results of the crisis negotiator sub-sample.

**Table 6.28**

*Descriptive statistics of crisis negotiators only: scenario segment.*

Item	n	Code	Frequency	Percent	Cumulative percent
1	31	0	<b>20</b>	66	66
		1	11	34	100
2	31	0	<b>19</b>	61	61
		1	12	39	100
3	31	0	8	26	26
		1	<b>23</b>	74	100
4	31	0	7	22	22
		1	8	26	48
		2	<b>12</b>	39	87
		3	4	13	100

*Note.* Bold digits reflect each item's mode.

Of the 31 participants, 24 communicated, in at least one instance, projection bias (78%).

*Inferential* statistics: Of the 52 participants of Study 4, 40 had communicated projection bias in at least one instance (77%). A chi-square test for homogeneity was run to compare the two proportions, which resulted in a statistically not significant difference in proportions of .01 between Study 4 and Study 5 participants,  $p = .958$ .

(b) Part 2 of 4: Questions

(b.1) *Assumed-similarity-paradigm items*

Table 6.29 illustrates the results for items 1 (other-centric), 6, and 7 (both self-centric), which assessed participants' judgment of the level of emotional intensity of the subject (item 1) and themselves (items 6, and 7).

**Table 6.29**

*Descriptive statistics of crisis negotiators only: assumed-similarity-paradigm, items 1, 6, 7.*

#	Question	n	M	SD
1	How do you think the subject is mostly feeling during this conversation, in general? (other-centric)	30	58.73	25.12
6	How are you mostly feeling during this conversation, in general? (self-centric)	30	72.37	16.58
7	How would you be mostly feeling during this conversation, in general, if you were in the subject's place? (self-centric)	30	56.50	27.69

*Note.* Scale: 0 = emotionally disengaged, 100 = emotionally engaged.

Table 6.30 provides an overview of the descriptive statistics of items 3, 4, 5 (other-centric assumed-similarity-paradigm questions) and 10, 11, 12 (all self-centric assumed-similarity-paradigm questions).

**Table 6.30**

*Descriptive statistics of crisis negotiators only: assumed-similarity-paradigm, items 3, 4, 5, 10, 11, 12.*

Item	n	Code	Frequency	Percent	Cumulative
3	30	0	13	43	43
		1	<b>17</b>	57	100
10	30	0	13	43	43
		1	<b>17</b>	57	100
4	30	0	3	10	10
		1	5	17	27
		2	2	7	34
		3	8	26	60
		4	<b>12</b>	40	100
11	122	0	5	17	17
		1	5	17	34
		2	4	12	46
		3	3	11	57
		4	<b>13</b>	43	100
5	30	0	<b>13</b>	43	43
		1	4	13	56
		2	2	7	63
		3	3	10	73
		4	8	27	100
12		0	<b>11</b>	37	37
		1	2	7	44
		2	4	14	58
		3	5	16	74
		4	8	26	100

*Note.* Bold digits reflect each item's mode.

*Inferential statistics:* In line with the assumed-similarity-paradigm, to better understand the relative contribution of item 6 and item 7 (participants' emotional intensity) to item 1 (subject's emotional intensity), a standard multiple regression was modelled. A Durbin-Watson statistic of 1.975 determined independence of residuals. Visual inspection of scatterplots (item 1 by item 6 and item 1 by item 7) indicated linear relationships. Visual inspection of studentized residuals versus unstandardized predicted values determined homoscedasticity. Tolerance values greater than 0.1 indicated that there was no evidence of multicollinearity. There was also no studentized deleted residuals greater than  $\pm 3$  standard deviations as well as no leverage values greater than 0.2. Values for Cook's distance were above 1. Visual inspection Q-Q plots determined normally distributed data

for all variables.  $R^2$  for the overall model was 60.6% with an adjusted  $R^2$  of 57.7%, indicating the model explains approximately half of the variability of the dependent variable, according to Cohen (1988) a large effect size. Self-centric item 7 of the participants emotional intensity predicted the judged other-centric item 1 of the subject's emotional intensity at a statistically significant level,  $F(2, 27) = 20.773, p < .001$ . Regression coefficients and standard errors can be found in Table 6.31.

**Table 6.31**

*Crisis negotiators only: multiple regression results for Item 1 (other-centric level of emotional intensity).*

Item 1	B	95% CI for B		SE B	$\beta$	$R^2$	$\Delta R^2$
		LL	UL				
Model						.61	.58***
Constant	37.79***	2.89	72.69	17.01			
Item 6	-.224	-.62	.17	.19	-.148		
Item 7	.658***	.42	.89	.11	.725***		

*Note.* Model = “Enter” method in SPSS Statistics;  $B$  = unstandardized regression coefficient; CI = confidence interval;  $LL$  = lower limit;  $UL$  = upper limit;  $SE B$  = standard error of the coefficient;  $\beta$  = standardized coefficient;  $R^2$  = coefficient of determination;  $\Delta R^2$  = adjusted  $R^2$ ; item 1 = subject level of emotional engagement (other-centric); item 6 = participant level of emotional engagement (self-centric); item 7 = participant level of emotional engagement if in subject's place (self-centric).  
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Fisher's exact test was run to determine the relationship between items 3 and 10 by testing for independence. There was a statistically significant association between other-centric (item 3) and self-centric (item 10) judgment as assessed by Fisher's exact test,  $p = .023$ .

Kendall's tau-b was run to test for strength and direction between the self- and other centric responses from the participants. There was a positive association of medium strength between item 4 (other-centric, most helpful) and item 11 (self-centric, most helpful), which was statistically significant  $\tau_b = .403, p = .000$ . Between item 5 (other-centric, least helpful) and item 12 (self-centric, least helpful), there was a strong positive association, which was also statistically significant  $\tau_b = .697, p < .001$ .

(b.2) *Process-tracing items*

*Descriptive statistics:* Results of the process-tracing items are illustrated in table 6.32 (items answered with sliders, translating into continuous variables) and table 6.33 (items answered as yes/no questions, translating into dichotomous variables). Item 18 was designed to follow-up only with those participants that indicated yes (“1”) to item 17.

**Table 6.32**

*Descriptive statistics of crisis negotiators only: process-tracing questions (continuously answered).*

#	Question	n	M	SD
13	When did you figure out which of these topics (Items 4, 5, 11, 12) might help best to build rapport with the subject?  <i>Scale:</i> 0 = time of the briefing; 50 = beginning of the conversation 100 = after the end of the conversation.	28	38.46	23.06
14	How much would you say is your empathetic response going to be aligned with the subject's emotional experience of having lost family or a friend in war-torn Syria?  <i>Scale:</i> 0 = no alignment; 100 = fully aligned	28	70.75	22.62
15	To what degree can you imagine you and the subject might have values in common on what matters in life, based on how you picture them at this point?  <i>Scale:</i> 0 = no overlap; 100 = fully congruent	28	70.64	18.56
19	Do you think, at the point the conversation left off, you got an initial idea on what helps best to build rapport with the subject?  <i>Scale:</i> 0 = no understanding; 100 = full understanding	28	52.12	22.63
20	How confident are you on having had a good enough start to build rapport with the subject that would allow you eventually to reduce their emotional intensity?  <i>Scale:</i> 0 = no confidence; 100 = full confidence	28	58.46	25.00
21	In situations like this, to what degree do you think you are making sense of the subject's options, decisions, emotions, and actions, based on your own frame of reference?	28	60.32	22.93



**Table 6.33***Descriptive statistics of crisis negotiators only: process-tracing questions (dichotomously answered).*

#	Question	n	Code	(f)	%	Cum
16	Did you recruit your empathetic response from changing perspective and imagining what you would feel if you had family and friends in war-torn Syria and potentially lost people close to you?	28	0	4	14	14
			1	<b>24</b>	86	100
17	Did you recruit your empathetic response from an experience in your own life or in the life of someone close to you, who might have lost a friend or family member as a casualty to someone else's actions or in-actions?	28	0	12	43	43
			1	<b>16</b>	57	100
18	When you recruited your empathetic response, did you consider that the subject might have a different experience than you imagined you would have in their place	9	0	0	0	0
			1	<b>9</b>	100	100

Note. Bold digits reflect each item's mode.

*Inferential statistics:* Following the assumed-similarity-paradigm, to test for a potential direct association between participants' perceived overlap of their own frame of reference with that of the subject (item 15) and the perceived alignment of their empathetic response (item 14), a Pearson's product-moment correlation was run ( $n = 28$ ), which found a statistically significant, moderate positive correlation:  $r(26) = .390, p < .040$ .

(c) Part 3 of 4: Interpersonal Reactivity Index

27 participants entered IRI responses. The dataset of one participant was excluded from the analysis, as only values of "1" have been entered throughout all items of the IRI. Table 6.34 illustrates the results.

**Table 6.34***Descriptive statistics of crisis negotiators only: IRI.*

IRI Item	n	median	min	Max
Perspective-taking scale	27	16	12	19
Aggregate empathy score	27	42	34	54

(d) Miscellaneous Items

(d.1) *Training and education items*

Table 6.35 illustrates item 22 and 23 results.

**Table 6.35***Descriptive statistics of crisis negotiators only: training and education items.*

#	Question		Code	(f)	%	Cum
22	Would you wish for yourself to better know how to avoid such projection fallacies?	28	0	2	8	8
			1	1	4	12
			2	9	31	43
			3	<b>16</b>	57	100
23	Do you think you would have benefited from training on how to avoid such projection fallacies?	113	0	2	8	8
			1	1	4	12
			2	14	50	62
			3	<b>11</b>	38	100

Note. Bold digits reflect each item's mode.

### (d.2) Attention check

Table 6.36 illustrates the attention check results.

**Table 6.36***Descriptive statistics of crisis negotiators only: attention check items.*

#	Question		Code	(f)	%	Cum
Part 2 of 4	So far, I answered all questions conscientiously:	27	1	0	0	0
			2	0	0	0
			3	3	11	11
			4	7	25	36
			5	<b>17</b>	64	100
Part 3 of 4	So far, I answered all questions conscientiously:	27	1	0	0	0
			2	0	0	0
			3	0	0	0
			4	6	22	22
			5	<b>21</b>	78	100

Note. Bold digits reflect each item's mode.

#### 6.4.3.4 Step 3.2: Sub-sample Patrol Police Officers

After data cleaning, a total of up to 59 questionnaires was collected and processed as documented below.

(a) Part 1 of 4: Scenario

*Descriptive statistics:* Table 6.37 provides an overview of all scenario segment results of the patrol police officer sub-sample.

**Table 6.37**

*Descriptive statistics of patrol police officers only: scenario segment.*

Item	n	Code	Frequency	Percent	Cumulative percent
1	59	0	<b>16</b>	27	27
		1	43	73	100
2	59	0	<b>34</b>	58	58
		1	25	42	100
3	59	0	21	34	34
		1	<b>38</b>	66	100
4	59	0	1	1	1
		1	18	31	32
		2	<b>32</b>	54	86
		3	8	14	13

*Note.* Bold digits reflect each item's mode.

Of the 59 participants, 58 communicated, in at least one instance, projection bias (98%).

*Inferential statistics:* Of the 52 participants of Study 4, 40 had communicated projection bias in at least one instance (77%). A chi-square test for homogeneity was run to compare the two proportions, which resulted in a statistically significant difference in **proportions of .21 between Study 4 and Study 5 participants,  $p = .001$ .**

(b) Part 2 of 4: Questions

(b.1) *Assumed-similarity-paradigm items*

Table 6.38 illustrates the results for items 1 (other-centric), 6, and 7 (both self-centric), which assessed participants' judgment of the level of emotional intensity of the subject (item 1) and themselves (items 6, and 7).

**Table 6.38**

*Descriptive statistics of patrol police officers only: assumed-similarity-paradigm, items 1, 6, 7.*

#	Question	n	M	SD
1	How do you think the subject is mostly feeling during this conversation, in general? (other-centric)	55	65.36	23.76
6	How are you mostly feeling during this conversation, in general? (self-centric)	52	71.02	21.81
7	How would you be mostly feeling during this conversation, in general, if you were in the subject's place? (self-centric)	52	64.87	28.52

*Note.* Scale: 0 = emotionally disengaged, 100 = emotionally engaged.

Table 6.39 provides an overview of the descriptive statistics of items 3, 4, 5 (other-centric assumed-similarity-paradigm questions) and 10, 11, 12 (all self-centric assumed-similarity-paradigm questions) for the patrol police officer sub-sample.

**Table 6.39**

*Descriptive statistics of patrol police officers only: assumed-similarity-paradigm, items 3, 4, 5, 10, 11, 12.*

Item	n	Code	Frequency	Percent	Cumulative
3	55	0	16	29	29
		1	<b>39</b>	71	100
10	52	0	11	21	21
		1	<b>41</b>	79	100
4	55	0	0	0	0
		1	5	9	9
		2	0	0	9
		3	13	24	33
		4	<b>37</b>	67	100
11	52	0	2	4	4
		1	2	4	8
		2	0	0	8
		3	7	13	21
		4	<b>41</b>	79	100
5	30	0	6	11	11
		1	6	11	22
		2	7	13	35
		3	3	5	40
		4	<b>33</b>	60	100
12	52	0	9	17	37
		1	6	12	44
		2	4	8	58
		3	7	13	74
		4	<b>26</b>	50	100

*Note.* Bold digits reflect each item's mode.

*Inferential statistics:* In line with the assumed-similarity-paradigm, to better understand the relative contribution of item 6 and item 7 (participants' emotional intensity) to item 1 (subject's emotional intensity), a standard multiple regression was modelled. A Durbin-Watson statistic of 2.216 determined independence of residuals. Visual inspection of scatterplots (item 1 by item 6 and item 1 by item 7) indicated linear relationships. Visual inspection of studentized residuals versus unstandardized predicted values determined homoscedasticity. Tolerance values greater than 0.1 indicated that there was no evidence of multicollinearity. There was also no studentized deleted residuals greater than  $\pm 3$  standard deviations as well as no leverage values greater than 0.2. Values for Cook's distance were above 1. Visual inspection Q-Q plots determined normally distributed data

for all variables.  $R^2$  for the overall model was 49.3% with an adjusted  $R^2$  of 47.3%, indicating the model explains almost half of the variability of the dependent variable, according to Cohen (1988) a large effect size. Both self-centric items 6 and 7 of the participants emotional intensity predicted the judged other-centric item 1 of the subject's emotional intensity at a statistically significant level,  $F(2, 51) = 23.846, p < .001$ . Regression coefficients and standard errors can be found in Table 6.40.

**Table 6.40**

*Patrol Police Officers only: multiple regression results for Item 1 (other-centric level of emotional intensity).*

Item 1	B	95% CI for B		SE B	$\beta$	$R^2$	$\Delta R^2$
		LL	UL				
Model						.49	.47***
Constant	48.06***	30.70	65.413	8.64			
Item 6	-.36**	-.61	.10	.13	-.32**		
Item 7	.66***	.47	.85	.10	.78***		

*Note.* Model = "Enter" method in SPSS Statistics;  $B$  = unstandardized regression coefficient; CI = confidence interval;  $LL$  = lower limit;  $UL$  = upper limit;  $SE B$  = standard error of the coefficient;  $\beta$  = standardized coefficient;  $R^2$  = coefficient of determination;  $\Delta R^2$  = adjusted  $R^2$ ; item 1 = subject level of emotional engagement (other-centric); item 6 = participant level of emotional engagement (self-centric); item 7 = participant level of emotional engagement if in subject's place (self-centric).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Fisher's exact test was run to determine the relationship between items 3 and 10 by testing for independence. There was no statistically significant association between other-centric (item 3) and self-centric (item 10) judgment as assessed by Fisher's exact test,  $p = .719$ .

Kendall's tau-b was run to test for strength and direction between the self- and other centric responses from the participants. There was a positive association of medium strength between item 4 (other-centric, most helpful) and item 11 (self-centric, most helpful), which was statistically significant  $\tau_b = .406, p = .002$ . Between item 5 (other-centric, least helpful) and item 12 (self-centric, least helpful), there was a strong positive association, which was also statistically significant  $\tau_b = .601, p < .001$ .

(b.2) *Process-tracing items*

*Descriptive statistics:* Results of the process-tracing items are illustrated in table 6.41 (items answered with sliders, translating into continuous variables) and table 6.42 (items answered as yes/no questions, translating into dichotomous variables). Item 18 was designed to follow-up only with those participants that indicated yes (“1”) to item 17.

**Table 6.41**

*Descriptive statistics of patrol police officers only: process-tracing questions (continuously answered).*

#	Question	n	M	SD
13	When did you figure out which of these topics (Items 4, 5, 11, 12) might help best to build rapport with the subject?  <i>Scale:</i> 0 = time of the briefing; 50 = beginning of the conversation 100 = after the end of the conversation.	50	39.32	25.84
14	How much would you say is your empathetic response going to be aligned with the subject's emotional experience of having lost family or a friend in war-torn Syria?  <i>Scale:</i> 0 = no alignment; 100 = fully aligned	50	65.08	20.88
15	To what degree can you imagine you and the subject might have values in common on what matters in life, based on how you picture them at this point?  <i>Scale:</i> 0 = no overlap; 100 = fully congruent	50	68.34	18.21
19	Do you think, at the point the conversation left off, you got an initial idea on what helps best to build rapport with the subject?  <i>Scale:</i> 0 = no understanding; 100 = full understanding	47	61.28	20.77
20	How confident are you on having had a good enough start to build rapport with the subject that would allow you eventually to reduce their emotional intensity?  <i>Scale:</i> 0 = no confidence; 100 = full confidence	47	68.17	18.99
21	In situations like this, to what degree do you think you are making sense of the subject's options, decisions, emotions, and actions, based on your own frame of reference?	47	64.28	22.80

**Table 6.42***Descriptive statistics of patrol police officers only: process-tracing questions (dichotomously answered).*

#	Question	n	Code	(f)	%	Cum
16	Did you recruit your empathetic response from changing perspective and imagining what you would feel if you had family and friends in war-torn Syria and potentially lost people close to you?	50	0	13	26	26
			1	<b>37</b>	74	100
17	Did you recruit your empathetic response from an experience in your own life or in the life of someone close to you, who might have lost a friend or family member as a casualty to someone else's actions or in-actions?	50	0	20	40	40
			1	<b>30</b>	60	100
18	When you recruited your empathetic response, did you consider that the subject might have a different experience than you imagined you would have in their place	18	0	3	17	17
			1	<b>15</b>	83	100

Note. Bold digits reflect each item's mode.

*Inferential statistics:* Following the assumed-similarity-paradigm, to test for a potential direct association between participants' perceived overlap of their own frame of reference with that of the subject (item 15) and the perceived alignment of their empathetic response (item 14), a Pearson's product-moment correlation was run ( $n = 50$ ), which found a statistically significant, moderate positive correlation:  $r(48) = .499, p < .001$ .

(c) Part 3 of 4: Interpersonal Reactivity Index

46 participants entered IRI responses. Datasets from one participant was excluded from the analysis, as only values of "1" have been entered throughout all items of the IRI. Table 6.43 illustrates the results.

**Table 6.43***Descriptive statistics of patrol police officers only: IRI.*

IRI Item	n	median	min	Max
Perspective-taking scale	46	13	6	20
Aggregate empathy score	46	36	27	53

(d) Miscellaneous Items

(d.1) *Training and education items*

Table 6.44 illustrates item 22 and 23 results.



**Table 6.44***Descriptive statistics of patrol police officers only: training and education items.*

#	Question		Code	(f)	%	Cum
22	Would you wish for yourself to better know how to avoid such projection fallacies?	47	0	1	2	2
			1	8	17	19
			2	18	38	57
			3	<b>20</b>	43	100
23	Do you think you would have benefited from training on how to avoid such projection fallacies?	47	0	2	4	4
			1	6	13	17
			2	17	36	53
			3	<b>22</b>	47	100

Note. Bold digits reflect each item's mode.

(d.2) *Attention check*

Table 6.45 illustrates the attention check results.

**Table 6.45***Descriptive statistics of patrol police officers only: attention check items.*

#	Question		Code	(f)	%	Cum
Part 2 of 4	So far, I answered all questions conscientiously:	47	1	0	0	0
			2	0	0	0
			3	4	8	8
			4	14	30	38
			5	<b>29</b>	62	100
Part 3 of 4	So far, I answered all questions conscientiously:	46	1	0	0	0
			2	0	0	0
			3	3	7	7
			4	13	28	35
			5	<b>30</b>	65	100

Note. Bold digits reflect each item's mode.

### 6.4.3.5 Step 3.3: Sub-sample Crisis Workers

After data cleaning, a total of up to 42 questionnaires was collected and processed as documented below.

(a) Part 1 of 4: Scenario

*Descriptive statistics:* Table 6.46 provides an overview of all scenario segment results of all participants.

**Table 6.46**

*Descriptive statistics of crisis workers only: scenario segment.*

Item	n	Code	Frequency	Percent	Cumulative percent
1	42	0	<b>27</b>	64	64
		1	15	36	100
2	42	0	<b>28</b>	67	67
		1	14	33	100
3	42	0	<b>26</b>	62	62
		1	<b>16</b>	38	100
4	42	0	<b>16</b>	38	38
		1	13	31	69
		2	8	19	88
		3	5	12	100

*Note.* Bold digits reflect each item's mode.

Of the 42 participants, 26 communicated, in at least one instance, projection bias (62%).

*Inferential statistics:* Of the 52 participants of Study 4, 40 had communicated projection bias in at least one instance (77%). A chi-square test for homogeneity was run to compare the two proportions. All expected cell counts were greater than five. **The difference in proportions of .15 between Study 4 and Study 5 participants was statistically significant,  $p < .001$ .**

(b) Part 2 of 4: Questions

(b.1) *Assumed-similarity-paradigm items*

Table 6.47 illustrates the results for items 1 (other-centric), 6, and 7 (both self-centric), which assessed participants' judgment of the level of emotional intensity of the subject (item 1) and themselves (items 6, and 7).

**Table 6.47**

*Descriptive statistics of crisis workers only: assumed-similarity-paradigm, items 1, 6, 7.*

#	Question	n	M	SD
1	How do you think the subject is mostly feeling during this conversation, in general? (other-centric)	40	69.15	22.06
6	How are you mostly feeling during this conversation, in general? (self-centric)	40	80.78	18.74
7	How would you be mostly feeling during this conversation, in general, if you were in the subject's place? (self-centric)	40	68.93	22.03

*Note.* Scale: 0 = emotionally disengaged, 100 = emotionally engaged.

Table 6.48 provides an overview of the descriptive statistics of items 3, 4, 5 (other-centric assumed-similarity-paradigm questions) and 10, 11, 12 (all self-centric assumed-similarity-paradigm questions).

**Table 6.48**

*Descriptive statistics of crisis workers only: assumed-similarity-paradigm, items 3, 4, 5, 10, 11, 12.*

Item	n	Code	Frequency	Percent	Cumulative
3	40	0	31	77	77
		1	<b>9</b>	23	100
10	36	0	15	43	43
		1	<b>21</b>	57	100
4	40	0	1	2	2
		1	10	25	27
		2	4	10	37
		3	<b>15</b>	38	75
		4	10	25	100
11	40	0	1	3	3
		1	5	7	10
		2	3	13	23
		3	<b>18</b>	45	68
		4	13	32	100
5	40	0	<b>14</b>	35	38
		1	3	8	43
		2	8	20	63
		3	7	17	80
		4	8	20	100
12	40	0	<b>15</b>	37	37
		1	6	15	52
		2	0	0	52
		3	7	18	70
		4	12	30	100

*Note.* Bold digits reflect each item's mode.

*Inferential statistics:* In line with the assumed-similarity-paradigm, to better understand the relative contribution of item 6 and item 7 (participants' emotional intensity) to item 1 (subject's emotional intensity), a standard multiple regression was modelled. A Durbin-Watson statistic of 2.386 determined independence of residuals. Visual inspection of scatterplots (item 1 by item 6 and item 1 by item 7) indicated linear relationships. Visual inspection of studentized residuals versus unstandardized predicted values determined homoscedasticity. Tolerance values greater than 0.1 indicated that there was no evidence of multicollinearity. There was also no studentized deleted residuals greater than  $\pm 3$  standard deviations as well as no leverage values greater than 0.2. Values for Cook's distance were above 1. Visual inspection Q-Q plots determined normally distributed data

for all variables.  $R^2$  for the overall model was 64.5 % with an adjusted  $R^2$  of 62.6%, indicating the model explains close to two thirds of the variability of the dependent variable, according to Cohen (1988) a large effect size. Both self-centric items 6 and 7 of the participants emotional intensity predicted the judged other-centric item 1 of the subject's emotional intensity at a statistically significant level,  $F(2, 37) = 33.572, p < .001$ . Regression coefficients and standard errors can be found in Table 6.49.

**Table 6.49**

*Crisis workers only: multiple regression results for item 1 (other-centric level of emotional intensity).*

Item 1	B	95% CI for B		SE B	$\beta$	$R^2$	$\Delta R^2$
		LL	UL				
Model						.645	.626***
Constant	-11.42	-34.01	11.17	11.15			
Item 6	.41**	.18	.65	.17	-.35**		
Item 7	.68***	.48	.88	.10	.68***		

*Note.* Model = “Enter” method in SPSS Statistics;  $B$  = unstandardized regression coefficient; CI = confidence interval;  $LL$  = lower limit;  $UL$  = upper limit;  $SE B$  = standard error of the coefficient;  $\beta$  = standardized coefficient;  $R^2$  = coefficient of determination;  $\Delta R^2$  = adjusted  $R^2$ ; item 1 = subject level of emotional engagement (other-centric); item 6 = participant level of emotional engagement (self-centric); item 7 = participant level of emotional engagement if in subject's place (self-centric).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Fisher's exact test was run to determine potential correlation between items 3 and 10 by testing for independence. There was a statistically not significant association between other-centric (item 3) and self-centric (item 10) judgment as assessed by Fisher's exact test,  $p = .236$ .

Kendall's tau-b was run to test for strength and direction between the self- and other centric responses from the participants. There was a medium to strong positive association between item 4 (other-centric, most helpful) and item 11 (self-centric, most helpful), which was statistically significant  $\tau_b = .526, p < .001$ . Between item 5 (other-centric, least helpful) and item 12 (self-centric, least helpful), there was a positive association of medium strength, which was statistically significant  $\tau_b = .437, p = .001$ .

(b.2) *Process-tracing items*

*Descriptive statistics:* Results of the process-tracing items are illustrated in table 6.50 (items answered with sliders, translating into continuous variables) and table 6.51 (items answered as yes/no questions, translating into dichotomous variables). Item 18 was designed to follow-up only with those participants that indicated yes (“1”) to item 17.

**Table 6.50**

*Descriptive statistics of crisis workers only: process-tracing questions (continuously answered).*

#	Question	n	M	SD
13	When did you figure out which of these topics (Items 4, 5, 11, 12) might help best to build rapport with the subject?  <i>Scale:</i> 0 = time of the briefing; 50 = beginning of the conversation 100 = after the end of the conversation.	38	33.03	26.56
14	How much would you say is your empathetic response going to be aligned with the subject's emotional experience of having lost family or a friend in war-torn Syria?  <i>Scale:</i> 0 = no alignment; 100 = fully aligned	38	73.55	19.49
15	To what degree can you imagine you and the subject might have values in common on what matters in life, based on how you picture them at this point?  <i>Scale:</i> 0 = no overlap; 100 = fully congruent	38	66.29	22.93
19	Do you think, at the point the conversation left off, you got an initial idea on what helps best to build rapport with the subject?  <i>Scale:</i> 0 = no understanding; 100 = full understanding	38	63.11	17.31
20	How confident are you on having had a good enough start to build rapport with the subject that would allow you eventually to reduce their emotional intensity?  <i>Scale:</i> 0 = no confidence; 100 = full confidence	38	70.45	16.54
21	In situations like this, to what degree do you think you are making sense of the subject's options, decisions, emotions, and actions, based on your own frame of reference?	38	66.00	17.10

**Table 6.51***Descriptive statistics of crisis workers only: process-tracing questions (dichotomously answered).*

#	Question	n	Code	(f)	%	Cum
16	Did you recruit your empathetic response from changing perspective and imagining what you would feel if you had family and friends in war-torn Syria and potentially lost people close to you?	38	0	6	16	16
			1	<b>32</b>	84	100
17	Did you recruit your empathetic response from an experience in your own life or in the life of someone close to you, who might have lost a friend or family member as a casualty to someone else's actions or in-actions?	38	0	17	45	45
			1	<b>21</b>	55	100
18	When you recruited your empathetic response, did you consider that the subject might have a different experience than you imagined you would have in their place	17	0	5	29	29
			1	<b>12</b>	71	100

Note. Bold digits reflect each item's mode.

*Inferential statistics:* Following the assumed-similarity-paradigm, to test for a potential direct association between participants' perceived overlap of their own frame of reference with that of the subject (item 15) and the perceived alignment of their empathetic response (item 14), a Pearson's product-moment correlation was run ( $n = 38$ ), which found a statistically significant, moderate positive correlation:  $r(36) = .424, p < .008$ .

(c) Part 3 of 4: Interpersonal Reactivity Index

36 participants entered IRI responses. Table 6.52 illustrates the results.

**Table 6.52***Descriptive statistics of crisis workers only: IRI.*

IRI Item	n	median	min	Max
Perspective-taking scale	36	16	10	20
Aggregate empathy score	36	45	33	57

(d) Miscellaneous Items

(d.1) *Training and education items*

Table 6.53 illustrates item 22 and 23 results.

**Table 6.53***Descriptive statistics of crisis workers only: training and education items.*

#	Question		Code	(f)	%	Cum
22	Would you wish for yourself to better know how to avoid such projection fallacies?	38	0	0	0	0
			1	3	8	8
			2	14	37	45
			3	<b>21</b>	55	100
23	Do you think you would have benefited from training on how to avoid such projection fallacies?	38	0	0	0	0
			1	3	8	8
			2	<b>18</b>	47	55
			3	17	45	100

*Note.* Bold digits reflect each item's mode.

Table 6.54 illustrates the attention check results.

**Table 6.54***Descriptive statistics of crisis workers only: attention check items.*

#	Question		Code	(f)	%	Cum
Part 2 of 4	So far, I answered all questions conscientiously:	38	1	0	0	0
			2	1	3	3
			3	4	11	14
			4	7	18	32
			5	<b>26</b>	68	100
Part 3 of 4	So far, I answered all questions conscientiously:	36	1	0	0	0
			2	0	0	0
			3	3	8	8
			4	6	17	25
			5	<b>27</b>	75	100

*Note.* Bold digits reflect each item's mode.



#### **6.4.3.6 Step 4: Comparisons Between Specific Samples**

Table 6.55 provides an overview of Study 5's results as they pertain to the group comparisons reported below.

**Table 6.55**

*Study 5 results: group comparisons.*

		CN	PPO	CW	Study 4
<b>(a) Part 1 of 4: Scenario</b>					
<b>Item 4</b>					
	CN				
	PPO	$p > .05$			
	CW	$p > .05$	<b><math>p = .001</math></b>		
	Study 4	$p > .05$	<b><math>p = .001</math></b>	<b><math>p &lt; .001</math></b>	
	All	—	—	—	$p = .09$
<b>(b) Part 2 of 4: Questions</b>					
<b>(b.1) Assumed-similarity</b>					
<b>Other-centric</b>					
Item 1	<i>(all <math>p &gt; .05</math>)</i>				
Item 3	CN				
	PPO	$p > .05$			
	CW	<b><math>p = .003</math></b>	<b><math>p &lt; .001</math></b>		
Item 4	CN				
	PPO	<b><math>p = .015</math></b>			
	CW	$p > .05$	<b><math>p = .000</math></b>		
Item 5	CN				
	PPO	<b><math>p = .002</math></b>			
	CW	$p > .05$	<b><math>p = .001</math></b>		
<b>Self-centric</b>					
Item 6, 7	<i>(all <math>p &gt; .05</math>)</i>				
Item 10	CN				
	PPO	<b><math>p = .033</math></b>			
	CW	$p > .05$	<b><math>p &lt; .001</math></b>		
Item 11	CN				
	PPO	<b><math>p = .001</math></b>			
	CW	$p > .05$	<b><math>p = .001</math></b>		
Item 12	<i>(all <math>p &gt; .05</math>)</i>				
<b>(b.2) Process-trace</b>					
Item 13 -21	<i>(all <math>p &gt; .05</math>)</i>				
<b>(c) Part 3 of 4: IRI</b>					
Item 1	CN				
	PPO	<b><math>p = .027</math></b>			
	CW	$p > .05$	<b><math>p = .006</math></b>		
Item 2	CN				
	PPO	$p > .05$			
	CW	$p > .05$	<b><math>p = .002</math></b>		

*Note.* CN = crisis negotiators; PPO = patrol police officers; CW = crisis workers; statistically significant ( $p < .05$ ) differences are displayed in bold.

(a) Part 1 of 4: Scenario

A Kruskal-Wallis test was conducted to determine if there were differences in the amount of projection bias communicated in the scenario section of the survey between the specific samples: crisis negotiators ( $n = 31$ ), patrol police officers ( $n = 59$ ), and crisis workers ( $n = 42$ ). Distributions of projection bias scores were similar for all specific samples, as determined by visual inspection of a boxplot. Median projection bias scores were statistically significantly different between the different specific samples,  $\chi^2(2) = 15.458$ ,  $p < .001$ . To identify which specific samples have statistically significant differences in their median projection bias scores, pairwise comparisons were performed according to Dunn's (1964), including a Bonferroni correction for multiple comparisons and the presentation of adjusted  $p$ -values. This post-hoc analysis revealed **statistically significant differences in median projection bias scores between the patrol police officers ( $Mdn = 2$ ) and crisis workers ( $Mdn = 1$ ) ( $p = .000$ )**, but not between crisis negotiators ( $Mdn = 2$ ) and any other combination of specific samples.

(b) Part 2 of 4: Questions

(b.1) *Assumed-similarity-paradigm items*

One-way ANOVA tests were conducted to determine if the other- (subject; item 1) and self-centric (participant; items 6 and 7) judgment of emotional intensity was different between specific samples. For item 1 (crisis negotiators  $n = 30$ , patrol police officers  $n = 55$ , and crisis workers  $n = 40$ ), there were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .421$ ). Data is presented as mean  $\pm$  standard deviation. Other-centric emotional intensity as judged by participants increased from crisis negotiators ( $58.7 \pm 25.1$ ) to patrol police officers ( $65.4 \pm 23.8$ ), to crisis workers ( $69.2 \pm 22.1$ ), but the differences between these specific samples were not statistically significant,  $F(2, 122) = 1.687$ ,  $p = .189$ .

For item 6 (crisis negotiators  $n = 30$ , patrol police officers  $n = 52$ , and crisis workers  $n = 40$ ), there were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .403$ ). Data is presented as mean  $\pm$  standard deviation. Other-centric emotional intensity as judged by participants increased from crisis negotiators ( $56.5 \pm 27.7$ ) to patrol police officers ( $64.9 \pm 28.5$ ) to crisis workers ( $68.9 \pm 22.0$ ), but the differences between these specific samples were not statistically significant,  $F(2, 119) = 1.940, p = .148$ .

For item 7 (crisis negotiators  $n = 30$ , patrol police officers  $n = 52$ , and crisis workers  $n = 40$ ), there were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .205$ ). Data is presented as mean  $\pm$  standard deviation. Other-centric emotional intensity as judged by participants increased from patrol police officers ( $71.0 \pm 21.8$ ) to crisis negotiators ( $72.4 \pm 16.6$ ) to crisis workers ( $80.8 \pm 18.7$ ), but the differences between these specific samples were not statistically significant,  $F(2, 119) = 3.034, p = .52$ .

Items 3 (other-centric) and 10 (self-centric) probed participants to judge the actions of the subject based on the subject's (item 3) as well as on their own (item 10) frame of reference. For item 3, chi-square tests of homogeneity (other-centric; crisis negotiators  $n = 30$ , patrol police officers  $n = 55$ , and crisis workers  $n = 40$ ) determined a **statistically significant difference in proportions,  $p < .001$** . Post hoc analysis involved pairwise comparisons using the z-test of two proportions with a Bonferroni correction. The proportion of projection biased survey responses was **statistically significantly higher among crisis negotiators than among crisis workers,  $p = .003$** . The proportion of projection biased survey responses was also **statistically significantly higher among patrol police officers than crisis workers,  $p < .001$** . The proportions of projection biased survey responses among crisis negotiators and patrol police officers were not statistically significantly different.

For item 10, a chi-square tests of homogeneity (crisis negotiators  $n = 30$ , patrol police officers  $n = 52$ , and crisis workers  $n = 40$ ) determined a **statistically significant difference in proportions,  $p = .002$** . Post hoc analysis involved pairwise comparisons using the z-test of two proportions with a Bonferroni correction. The proportion of projection biased survey responses was statistically **significantly higher among patrol police officers than among crisis negotiators,  $p = .033$** . The proportion of projection biased survey responses was also statistically **significantly higher among patrol police officers than among crisis workers,  $p < .001$** . The proportions of projection biased survey responses among crisis negotiators and crisis workers were not statistically significantly different.

Items 4 and 5 (both other-centric) as well as 11 and 12 (both self-centric) assessed participants' choices of conversation topics that they deemed most and least helpful to reduce emotional intensity of the subject. Kruskal-Wallis and, where applicable, corresponding post-hoc tests were conducted to determine if there were differences between the specific samples in the projection biased choices participants made in answering these questions. For item 4, distributions of projection bias scores were similar for all specific samples, as determined by visual inspection of a boxplot. Median projection bias scores were statistically significantly different between the different specific samples,  $\chi^2(2) = 18.594$ ,  $p < .001$ . To identify which specific samples have statistically significant differences in their median projection bias scores, pairwise comparisons were performed according to Dunn's (1964), including a Bonferroni correction for multiple comparisons and the presentation of adjusted p-values. This post-hoc analysis revealed **statistically significant differences in median projection bias scores between the patrol police officers ( $n = 59$ ;  $Mdn = 4$ ) and crisis workers ( $n = 40$ ;  $Mdn = 3$ ) ( $p = .000$ )** as well as **between patrol police officers and crisis negotiators ( $n = 30$ ;  $Mdn = 3$ ) ( $p = .015$ )**, but not between crisis negotiators and crisis workers.

For item 5, distributions of projection bias scores were similar for all specific samples, as determined by visual inspection of a boxplot. Median projection bias scores were statistically significantly different between the different specific samples,  $\chi^2(2) = 17.551$ ,

$p < .001$ . To identify which specific samples have statistically significant differences in their median projection bias scores, pairwise comparisons were performed according to Dunn's (1964), including a Bonferroni correction for multiple comparisons and the presentation of adjusted  $p$ -values. This post-hoc analysis revealed **statistically significant differences in median projection bias scores between the patrol police officers ( $n = 59$ ;  $Mdn = 4$ ) and crisis workers ( $n = 40$ ;  $Mdn = 2$ ) ( $p = .001$ ) as well as between patrol police officers and crisis negotiators ( $n = 30$ ;  $Mdn = 1$ ) ( $p = .002$ ), but not between crisis negotiators and crisis workers.**

For item 11, distributions of projection bias scores were similar for all specific samples, as determined by visual inspection of a boxplot. Median projection bias scores were statistically significantly different between the different specific samples,  $\chi^2(2) = 19.923$ ,  $p < .001$ . To identify which specific samples have statistically significant differences in their median projection bias scores, pairwise comparisons were performed according to Dunn's (1964), including a Bonferroni correction for multiple comparisons and the presentation of adjusted  $p$ -values. This post-hoc analysis revealed **statistically significant differences in median projection bias scores between the patrol police officers ( $n = 52$ ;  $Mdn = 4$ ) and crisis workers ( $n = 40$ ;  $Mdn = 3$ ) ( $p = .001$ ) as well as between patrol police officers and crisis negotiators ( $n = 30$ ;  $Mdn = 3$ ) ( $p = .001$ ), but not between crisis negotiators and crisis workers.**

For item 12, distributions of projection bias scores were similar for all specific samples, as determined by visual inspection of a boxplot. Median projection bias scores were statistically significantly different between the different specific samples,  $\chi^2(2) = 6.990$ ,  $p = .030$ . To identify which specific samples have statistically significant differences in their median projection bias scores, pairwise comparisons were performed according to Dunn's (1964), including a Bonferroni correction for multiple comparisons and the presentation of adjusted  $p$ -values. This post-hoc analysis did not reveal any statistically significant differences in median projection bias scores between crisis negotiators ( $n = 30$ ;  $Mdn = 2$ ) and crisis workers ( $n = 40$ ;  $Mdn = 1$ ) ( $p = 1.000$ ), between crisis negotiators

and the patrol police officers ( $n = 52$ ;  $Mdn = 3.50$ ) ( $p = .096$ ), and between crisis negotiators and crisis workers ( $p = .096$ ).

*(b.2) Process-tracing items*

For Item 13, one-way ANOVA tests were conducted to determine if specific samples differed in when they realized which of the topics presented in items 4, 5, 11, and 12 were helpful or not. Completed surveys dropped for crisis negotiators from 30 to 28, for patrol police officers dropped from 52 to 50, and for crisis workers from 40 to 38. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .597$ ). Data is presented as mean  $\pm$  standard deviation. The time of realization among participants which conversational topics were helpful and which not increased from crisis workers ( $33.0 \pm 26.6$ ) to crisis negotiators ( $38.5 \pm 23.1$ ), to patrol police officers ( $39.3 \pm 25.8$ ), but the differences between these specific samples were not statistically significant,  $F(2, 113) = .717, p = .490$ .

For item 14, one-way ANOVA tests were conducted to determine if specific samples (crisis negotiators:  $n = 28$ ; patrol police officers:  $n = 50$ ; crisis workers:  $n = 38$ ) differed in how much participants felt their empathetic response was aligned with the subject's emotional experience. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .927$ ). Data is presented as mean  $\pm$  standard deviation. The level of perceived alignment of empathetic response increased from patrol police officers ( $65.1 \pm 20.1$ ) to crisis negotiators ( $70.1 \pm 22.6$ ), to crisis workers ( $73.6 \pm 19.5$ ), but the differences between these specific samples were not statistically significant,  $F(2, 113) = 1.877, p = .158$ .

For item 15, one-way ANOVA tests were conducted to determine if specific samples (crisis negotiators:  $n = 28$ ; patrol police officers:  $n = 50$ ; crisis workers:  $n = 38$ ) differed in their estimates of the degree that they felt the subject's frame of reference might overlap

with their own frame of reference. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .867$ ). Data is presented as mean  $\pm$  standard deviation. The samples estimates of the degree of overlap in self- and other-centric frames of reference increased from crisis workers ( $66.3 \pm 17.0$ ) to patrol police officers ( $68.3 \pm 18.2$ ) to crisis negotiators ( $70.6 \pm 18.6$ ), but the differences between these specific samples were not statistically significant,  $F(2, 113) = .478, p = .621$ .

For item 16, chi-square tests of homogeneity (crisis negotiators  $n = 28$ ; patrol police officers  $n = 50$ ; crisis workers  $n = 38$ ) determined no statistically significant difference in proportions among specific samples,  $p = .345$ . For follow-up item 17 (same participant  $n$ ), chi-square tests of homogeneity determined no statistically significant difference in proportions among specific samples,  $p = .902$ . For conditional follow-up item 18, chi-square tests of homogeneity (crisis negotiators  $n = 9$ ; patrol police officers  $n = 15$ ; crisis workers  $n = 12$ ) determined no statistically significant difference in proportions among specific samples,  $p = .429$ .

For Item 19, one-way ANOVA tests were conducted to determine if specific samples differed in their assessment if, at the time the conversation left off, they felt they had achieved a good enough understanding of what would help best to reduce the subject's emotional intensity. Completed surveys dropped for patrol police officers from 50 to 47 and remained constant for crisis negotiators ( $n = 30$ ) and crisis workers ( $n = 38$ ). There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .206$ ). Data is presented as mean  $\pm$  standard deviation. Estimates if participants had a good enough understanding of what helped at the end of the conversation increased from crisis negotiators ( $52.1 \pm 22.6$ ) to patrol police officers ( $61.3 \pm 20.8$ ), to crisis workers ( $63.1 \pm 17.3$ ), but the differences between these specific samples were not statistically significant,  $F(2, 110) = 2.649, p = .075$ .



For Item 20, one-way ANOVA tests were conducted to determine if specific samples (crisis negotiators:  $n = 28$ ; patrol police officers:  $n = 47$ ; crisis workers:  $n = 38$ ) differed in their assessment if they felt they achieved a good enough initial level of rapport to eventually reduce the subject's emotional intensity. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. The assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ( $p = .045$ ). Data is presented as mean  $\pm$  standard deviation. Estimates if participants had a good enough understanding of what helped at the end of the conversation increased from crisis negotiators ( $58.5 \pm 25.00$ ) to patrol police officers ( $68.17 \pm 19.0$ ), to crisis workers ( $70.5 \pm 16.5$ ). Due to the violation of the assumption of homogeneity of variances, a Welch's ANOVA was computed, which demonstrated the differences between the specific samples to be not statistically significant  $F(2, 61.917) = 2.422, p < .0.97$ .

For Item 21, one-way ANOVA tests were conducted to determine if specific samples (crisis negotiators:  $n = 28$ ; patrol police officers:  $n = 47$ ; crisis workers:  $n = 38$ ) differed in their assessment to what degree they thought they were making sense of the subjects' actions and emotions based on the subjects' own frame of reference. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .256$ ). Data is presented as mean  $\pm$  standard deviation. Estimates if participants had a good enough understanding of what helped at the end of the conversation increased from crisis negotiators ( $60.3 \pm 22.9$ ) to patrol police officers ( $64.3 \pm 22.8$ ), to crisis workers ( $66.0 \pm 17.1$ ), but the differences between these specific samples were not statistically significant,  $F(2, 110) = .559, p = .551$ .

(c) Interpersonal Reactivity Index

For item 1 of the IRI, ANOVA tests were conducted to determine if specific samples differ in their disposition to change perspective as part of their empathetic response. Completed surveys dropped for crisis negotiators from 28 to 27, for patrol police officers from 47 to

46, and for crisis workers from 38 to 36. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .110$ ). Data is presented as mean  $\pm$  standard deviation. IRI perspective-taking sub-scale scores were **statistically significantly different between specific samples,  $F(2, 106) = 6.021, p = .003$** . Tukey post hoc analysis revealed a **statistically significant difference between patrol police officers ( $13.7 \pm 3.2$ ) and crisis negotiators ( $15.5 \pm 3.0$ ) with an increase of 1.8 (95% CI, .2 to 3.4),  $p = .027$** . Tukey post hoc analysis also revealed a **statistically significant difference between patrol police officers ( $13.7 \pm 3.2$ ) and crisis workers ( $15.7 \pm 2.0$ ) with an increase of 2.0 (95% CI, .5 to 3.4),  $p = .006$** . The increase between crisis negotiators ( $15.5 \pm 3.0$ ) and crisis workers ( $15.7 \pm 2.0$ ) by .18 (95% CI, -1.5 to 2.9) was not statistically significant.

For item 2 of the IRI, ANOVA tests were conducted to determine if specific samples (crisis negotiators:  $n = 27$ ; patrol police officers:  $n = 46$ ; crisis workers:  $n = 36$ ) differ in their overall dispositional empathy as assessed by the scale. There were no outliers, and data was normally distributed as assessed by visual inspections of boxplots. There was no homogeneity of variances, as assessed by Levene's test of homogeneity of variances ( $p = .293$ ). Data is presented as mean  $\pm$  standard deviation. IRI empathy scores were **statistically significantly different between specific samples,  $F(2, 106) = 6.266, p = .003$** . Tukey post hoc analysis revealed a **statistically significant difference between between patrol police officers ( $37.6 \pm 9.7$ ) and crisis workers ( $44.1 \pm 6.3$ ) with an increase of 6.5 (95% CI, .0 to 2.1),  $p = .002$** . The increase between patrol police officers ( $37.6 \pm 9.7$ ) and crisis negotiators ( $41.5 \pm 8.3$ ) by 3.9 (95% CI, -.9 to 8.8) was not statistically significant,  $p = .131$ . Likewise, the increase between crisis negotiators ( $41.5 \pm 8.3$ ) and crisis workers ( $44.1 \pm 6.3$ ) by 2.1 (95% CI, -2.5 to 7.6) was not statistically significant,  $p = .463$ .

(d) Miscellaneous Items

Training items were not analyzed, as they were included for miscellaneous reasons unrelated to the research questions under examination in this chapter.

Attention check items were not analyzed across groups, as an inspection of the corresponding descriptive statistics revealed identical means and near-identical distributions.

#### **6.4.4 Discussion**

The literature review of this research project did not identify any survey instrument that captures constructs related to projection bias as a particular function of theory-of-mind-based perspective-taking. As a result, this research project developed its own instrument to triangulate Study 4's conceptualization of projection bias, obtain proportions and comparative statistics across several sample frames, and to better understand the way it undermines empathy-based rapport-building by blurring the boundary between ego-(self-)centric and other-centric perspective-taking.

##### **6.4.4.1 Significance**

###### **6.4.4.1.1 Reliability and Validity of the Instrument**

Reliability and validity of the instrument are discussed based on the aggregate survey results from all participants (i.e., crisis intervention professionals), viewing the small sizes of the individual sub-samples.

###### Reliability

The survey indicated a good level of internal consistency (Cronbach's alpha of .720; Taber, 2018) among all four items that measured projection bias in the scenario section. The level of internal consistency of items measuring projection bias in the questions section was also good (Cronbach's alpha of .756; Taber, 2018). All instrument items measuring projection bias combined missed the acceptable or sufficient level of internal consistency (Cronbach's alpha of 0.429 versus 0.45; Taber, 2018). Items measuring

emotional intensity in the question section showed a moderate level of internal consistency (Cronbach's alpha of .626; Taber, 2018).

### Validity

An initial assessment of construct validity was approached through testing for discriminant and convergent validity between the scenario items and the perspective-taking and empathy scales of the IRI. Results showed no statistically significant correlation between projection bias as measured in the scenario section and participants' dispositional perspective-taking corresponding sub-scale. However, there was a statistically significant, weak positive correlation between projection bias as measured in the scenario section and participants' dispositional empathy as measured by the IRI's aggregate score (Spearman's rho of  $r_s(108) = .262, p = .006$ ; Taber, 2018).

The lack of a statistically significant correlation with a weak correlation coefficient between projection bias as measured by the items in the scenario section and the IRI perspective-taking sub-scale indicates an initial level of discriminant validity of the scenario section items. While the IRI's perspective-taking sub-scale appears to be a construct concurrent with projection bias, both Study 4 and Study 5 results demonstrate that projection bias undermines effective perspective-taking, discriminating the two constructs. For instance, the majority of Study 4 participants (77%) communicated projection bias in at least one instance, despite being directed to empathize and build rapport with subject actors. Likewise, most of all Study 5 participants (80%) indicated they did imagine themselves in the place of the subject, when they recruited their empathic response, yet even more ended up communicating projection bias in at least on instance (87%). Therefore, this research project deems perspective-taking as measured by the IRI's corresponding sub-scale, to be a discriminant and not a concurrent variable: it captures self-perceived perspective-taking only at the conscious level, eluding awareness of cognitive biases, including projection bias, which operate in the sub-conscious (cp. Gilovich et al., 2002).

In contrast, the presence of a statistically significant, albeit weak correlation between scenario items and the IRI's aggregate empathy score indicates an initial level of concurrent validity. The IRI's overall empathy score is an aggregation of four sub-scales: perspective-taking, fantasy, empathic concern, and personal distress. Corrected for perspective-taking and personal distress, which measures only self-oriented feelings of respondents, the composite empathic concern-fantasy scale captures only "other-oriented" feelings of sympathy and concern in actual and fictional situations (Davies, 1983), which allowed it for use as a concurrent variable.

The instrument appears to be comprised of a set of sufficiently homogenous items to effectively measure projection bias, due to the good internal consistency for the scenario section and acceptable internal consistency for the questions section. Furthermore, expert-established face and content validity, combined with statistically established, initial levels discriminant and convergent validity with the IRI, the instrument appears to adequately operationalize projection bias as its underlying construct. With moderate levels of internal consistency, expert-established face and content validity, as well as initial indications of construct validity through discriminant and concurrent validity, the instrument and the results it produced remain at the exploratory level.

#### **6.4.4.1.2 Projection Bias as a Function of Perspective-Taking**

In the scenario section, most of all participants communicated projection bias in the majority of conversational turns. Almost all participants (87%) demonstrated, in at least one instance, projection bias (87%). Responses to the question cluster on how participants thought the subject felt on a continuum between emotionally dis-engaged and emotionally engaged showed statistically significant correlations between the other-centric and self-centric frames of reference that were prompted prior to question presentation. Correlation tests found a weak yet statistically significant positive correlation between how participants mostly felt (self-centric, item 6) and how they would be feeling if they were in the subject's situation (self-centric, item 7). Furthermore, a strong and statistically significant positive correlation between how participants would be feeling if

they were in the subject's situation (self-centric; item 7) and how they thought the subject was feeling during the conversation (other-centric, item 1). However, no statistically significant relationship was found between item 6 (self-centric) and item 1 (other-centric). Accordingly, the multiple linear regression modelled to predict item 1 (other-centric) only identified item 7 to be a statistically significant predictor of the dependent variable's variability. The correlations between self-centric items 6 and 7 and between self-centric item 7 and other-centric 1 trace the process of how participants inferred the subject's level of emotional engagement based on how they would feel if they were in the subject's situation. This, in turn, was, to some degree, informed by how they felt emotionally engaged. With and without the initial step from how participants responded they felt and how they indicated they would feel if they were in the subject's situation, the correlation between the changes of perspective prompted self-centric ("How would you be mostly feeling during this conversation, in general, if you were in the subject's situation?") and other-centric ("How do you think the subject is mostly feeling during this conversation, in general?") provides evidence in support of projection bias.

Responses to the question cluster on how participants judged the actions of the subject showed a statistically significant association between the subject's (item 3) as well as the participants' (item 10) frame of reference. This provides evidence of the connection between self- and other-centric judgment, another potential pathway of projection bias.

Likewise, the question cluster on most and least helpful topics to reduce the emotional intensity of the subject demonstrated relevant, statistically significant associations between self- (items 11 and 12) and other-centric (items 4 and 5) questions. Both associations were strong and positive and provide evidence in support of the notion that participants deemed those topics to be most and least helpful to work with the subject that they themselves assessed to be appropriate if they were in the subject's situation. Hence, their judgments were biased towards their projection of what would be most and least helpful.

For a more qualitative insight into the mechanics of projection bias, item 13 requested participants to indicate when they had realized which of the topics would be most or respectively least helpful in reducing the subject's emotional intensity. Participants indicated they came to this conclusion already before the actual interaction. Yet only through the interaction with the subject, participants could have gathered more and, more importantly, relevant first-hand information to assess the utility of the different conversation topics. The reliance on the limited information available further indicates participants might have filled the gaps in the information available from the initial briefing by drawing from their own frame of reference: for instance, while children and other family members were mentioned, the nature of the relationship and the potential role they might have played in the suicidal ideation of the subject was not specified. Therefore, participants did not know if any of those topics could have been a reason for their motivation to kill themselves or others.

Participants' perceived alignment between their empathic response and the subject's emotional experience (item 14) were positively correlated at a statistically significant, moderate level with the degree of perceived overlap between participant and subject frame of reference (item 15). This relationship implies that the closer the participants felt to the subject in terms of how they look at and experience the world, the more accurately they felt they empathized with the subject. Conversely, if participants felt they had less in common with the subject, the less their empathetic response would be aligned with the subject's emotional experience. This association can be interpreted to further corroborate tendencies of projection bias among the participants: naturally, the more individuals have in common with others, the more accurate their assumptions about the others' experiences are. However, research has shown that the mere perception of closeness with others (e.g., through shared worldviews, values, and beliefs) motivates and, therefore, can ultimately bias empathetic response (Breithaupt, 2018; Peak et al., 2016).

While 80% of all participants indicated that they did recruit their empathic response from changing perspective and imagining what they would feel if they were in the subject's place (item 16), 58% advised they used an experience in their own life or in the life of

someone close to them to empathize (item 17). Of those who did, 82% percent advised that, when they did, they did consider that the subject might have a different experience than the participants imagined they would have in the subject's situation (item 18). The drop of from item 16's 82% to item 15's 58% might be explainable by a lack of experience that participants could have drawn from for their empathetic response (especially for the crisis negotiators' hostage-taking scenario but also for the suicide intervention scenario). Yet, these results generally indicate a certain level of awareness of the participants about the risk of projecting their own experience. However, the contrast to the data collected with the items before, which consistently indicate the presence of projection bias, might be due to the following two circumstances. On the one hand, participants were explicitly prompted to consider the possibility of different experiences of the same situation. On the other hand, their nature allows cognitive biases, including projection bias, to operate and shape behavior at the subconscious level, despite conscious awareness of the phenomenon, an observation that Pronin and Kugler (2007) called "the introspection illusion" (p.565; see also Hahn & Gawronski, 2029; Holroyd, 2015). Notwithstanding this overwhelming and explicit acknowledgement of participants' consideration of differing perspectives, participants indicated that, for the most part, they made sense of the subject's experience based on their own experience (item 21). This insight provides explicit evidence of how it biases empathy-based rapport-building on the side of the participants.

In summary. study 5 has demonstrated that projection bias is prevalent among all crisis intervention professionals who participated. Survey responses consistently demonstrated projection bias both in the scenario and in the questions section of the instrument. Furthermore, several correlation analyses suggested projection bias to be a function of perspective-taking: with a singular exception, all self-centric question items were either positively correlated with their corresponding other-centric items at statistically significant levels or statistically significantly associated with each other.



#### 6.4.4.1.3 The variance of projection bias across specific samples

Study 5 provided additional insight following the comparison of the sub-samples with one another. Corresponding implications are especially relevant for police practitioners in both sub-samples, crisis negotiators and patrol police officers.

##### (a) Part 1 of 4: Scenario

The proportion of all participants' observed projection bias (87%) in the scenario section did not differ at a statistically significant level from that of observed among the participants of Study 4 (77%;  $p = .09$ ). This comparison validates the findings of Study 4 and demonstrates the prevalence of projection bias in a larger sample involving crisis intervention professionals from different countries and continents (primarily North America and Europe), speaking different languages (English and German). It further indicates its prevalence in the population of crisis intervention professionals in- and outside of policing as an institution.

In contrast, the crisis workers themselves differed in their proportion of observed projection bias significantly from the crisis negotiators of Study 4: only 62% of the crisis worker sub-sample communicated projection bias in at least one instance, compared to 77% of the Study 4 participants ( $p < .001$ ). However, while crisis workers also showed a significantly lower proportion of observed projection bias compared with the patrol police officer sub-sample (98%;  $p = .001$ ), there was no statistically lower (or higher) proportion in comparison with the (Study 5) crisis negotiator sub-sample (78%). Still, these comparisons reflect, based on descriptive and partly inferential statistics, crisis workers to be less biased towards projection in their empathy-based rapport building. This mandates follow-up investigations into the factors causing these differences, which can be expected to provide meaningful insight into training and education of crisis negotiators and patrol police officers.

(b) Part 2 of 4: Questions

Differences in group comparisons between the different sub-samples were also significant in how they judged the actions of the subject. When prompted to consider the subject's perspective (other-centric), crisis workers judged with significantly less projection bias than both crisis negotiators ( $p = .003$ ) and patrol police officers ( $p < .001$ ). When prompted to consider their own perspective (self-centric), there was no statistically significant difference between crisis workers and crisis negotiators. However, both crisis workers ( $p < .001$ ) and crisis negotiators ( $p = .033$ ) judged with significantly less projection bias than patrol police officers. In like manner, crisis workers and crisis negotiators consistently judged most (items 4 and 11) and least (items 5 and 12) helpful conversation topics for reducing the subject's emotional intensity with significantly less projection bias than patrol police officers, both when prompted to consider subject as well as their own perspective.

(c) Part 3 of 4: IRI

Lastly, the comparison of the different groups' IRI outcomes shows a similar pattern. Crisis workers ( $p = .006$ ) and crisis negotiators ( $p = .027$ ) scored higher on the IRI perspective-taking scale than patrol police officers, and crisis workers scored higher on the aggregate empathy score than patrol police officers ( $p = .002$ ).

Study 5 validated the prevalence of the projection bias observed in the Study 4 and suggests generalizability beyond German crisis negotiators but among a broader population of crisis intervention professionals in North America and Hong Kong. The results provide evidence that projection bias in crisis intervention is not limited to a certain geography, culture, or occupation.

Group comparisons between the individual sub-samples consistently showed that crisis workers communicated least and patrol police officers most projection biased, with crisis negotiators also demonstrating significantly lower amounts of projection bias. While the

relative differences between the sub-samples are in line with expectations, the results, in absolute terms, demonstrate that crisis workers and crisis negotiators, groups who receive most specialized training in crisis intervention and corresponding communication and de-escalation skill, still communicate with projection bias at avoidable levels.

#### **6.4.4.2 Limitations**

The insights that can be gained from Study 5 have several limitations, which stem from their empirical, methodological, and theoretical constraints.

##### **6.4.4.2.1 Empirical Limitations**

Empirical limitations are rooted in the non-probability sampling approach employed to recruit participants as well as in the overall low participation rate. Purposive, convenience, and snowball sampling methods have biased the sample towards participants in the geographical and organizational vicinity of the principal's investigator. As a result, most survey responses are from participants are crisis intervention professionals in Canada, with only one completed questionnaire from Hong Kong (despite repeated call for participations and targeted circulation using email through the partnering agency). Furthermore, while sample frames were not positively quantified, the ratio between collected responses and potential participants can be assumed to be large. This suggests a significant degree of non-response and self-selection bias to additionally limit the generalizability of the survey results (Bethlehem, 2010; Heckman, 1990). However, measures were taken to reduce sampling bias prior to sampling. Sample frames were explicitly defined to match the occupationally highly specialized population which they were drawn from (Panzeri et al., 2008). Furthermore, the instrument was designed to maximize participation and survey completion rates.

#### 6.4.4.2.2 Methodological Limitations

Limitations to the results of this online-survey that stem from its methodology include (a) the design of the instrument, (b) its only elementarily established validity, (c) data quality, and (d) the comparison with the results of study 4.

##### (a) Research design

The use of an immersive table-top scenario required a significant amount of pre-coded statement options. Likewise, the question clusters involving the participants' judgment of the subject's actions (items 3, 10) and the most and least helpful conversation topics to build rapport and reduce the subject's emotional intensity (items 4, 5, 10, 11) required to be (pre-)coded objectively. However, the coding was conducted exclusively by the principal investigator, which entails the introduction of a certain degree of subjective bias.

Yet, as elaborated above and in the attached coding manual, two measures were employed to check for this bias. First, all statement choices were drawn from the recorded audio footage of Studies 2 and 3 and analyses in Study 4, where they were classified as adaptive and maladaptive responses in terms of rapport-building, based on the subject's reaction to these statements. And second, coding rigorously followed a strictly defined theoretical framework. This framework allowed to credibly associate assumptions with participants' frame of reference, which then can be checked against information available to the participant at the time that they made the statement. As a result, statement options were able to reliably and validly be coded as assumptions, if they were definitive in absence of corresponding information provided to participants at the time they made the statement.

##### (b) Validity

Limitations especially to the overall validity of the instrument stem from several circumstances. First, the IRI itself, despite its wide use and rigorous validation (Davis,

1980, 1983; Keaton, 2017), might be limited in its external/predictive validity for state-empathetic outcomes. Designed to assess trait or dispositional empathy, the IRI might not predict state or situationally empathetic responses, as elicited by this study's instrument. While dispositional empathy has been found to predict situational empathy (Davis et al., 1999; Eisenberg et al., 2003; Zhou et al., 2003), a broad body of literature on the link between empathy and pro-social behavior has added complexity to this originally linearly hypothesized relationship (Cheng et al., 2017; Davis, 2015; Eisenberg et al., 1994). For instance, motivation and social identity (Oyserman, 2009; Oyserman, 2007; Oyserman & Destin, 2010) can facilitate situationally empathetic behaviours despite a comparably low disposition of dispositional empathy.

Second, the comparably higher level of ecological validity of the research design (i.e., working through a table-top scenario) and its attempt to capture a theoretically complex and abstract concept like projection bias left this research project with no initially identifiable criterion variable. Associated limitations to the instrument's validity are in a lack of establishment of criterion validity, until a viable criterion variable is identified and corresponding data will be collected.

The items measuring perceived emotional intensity throughout the instrument were not assessed for validity. Reasons included the instrument's analytic focus on projection bias (items were added only to capture information on perceived emotional intensity, which may prompt empathetic response (cp. Blair, 2005). In addition, the length of the instrument ranged at the ceiling of what literature has generally deemed to be viable and came already at the expense of lower levels of overall participation and survey completion (Crawford et al., 2001; Edwards, 2002; Hoerger 2010; Koitsalu et al., 2018; Kato & Miura 2021; Liu & Wronski 2018). Consequently, additional data that would allow to further determine the validity of the emotional intensity items was not collected.

Therefore, Study 5's instrument cannot be considered validated at this point. While it did meaningfully triangulate the qualitative results of Study 4 with quantitative methods, results remain exploratory in nature with limited external validity. Future research on

projection bias in crisis intervention using this instrument will require further validation through factor analytical methods with sufficient sample sizes (cp. Boateng et al., 2018; Mundform et al., 2009; Tsang et al., 2017).

(c) Comparison with the results of study 4

The validity of comparisons between the results of Study 4 and Study 5 is limited. In Study 4, instances of communicated projection bias were counted over the course of a 10 to 15-minute conversation between participants and subject actors. In Study 5, they were counted over the course of a table-top scenario equivalent to an approximated one to three-minute conversation, where participants were offered two projection-biased and two non-biased statements to choose from to continue the conversation. While Study 4 allowed for a more natural evolution of the conversation, within which a large proportion ended up communicating with projection bias at some point, Study 5 introduced an equal number of pre-conceived, closed-ended options. As a result, two opposing arguments can be made viewing the interpretation of the comparison. On the one hand, Study 4 participants ended up making statements that were projection biased unprompted, reflecting their independent best attempt to empathize and build rapport. This implies a higher level of internal validity of the Study 4 proportion. Yet, the choice between two biased and two un-biased options can be assumed to accommodate participants' predispositions and/or situational tendencies. Furthermore, the presence of non-biased options to choose from, which Study 5 participants did not have, might have resulted in participants communicating without projection bias that would have otherwise, without presentation of un-biased options, communicated with projection bias. Accordingly, Study 5's proportion might reflect a relatively lower amount of projection bias than Study 4's proportion and deflate prevalence of projection bias in the sample.

On the other hand, in Study 4, the ratio of available time and/or overall conversational turns to projection biased statements can be expected to have been smaller than in Study 5, especially with participants with lower numbers or single instances, in which they communicated with projection bias. In contrast, in Study 5, that ratio was clearly set large

between 0:3 potential instances to make a projection biased statement. As a result, it can be argued that Study 5's proportion might reflect a relatively higher amount of projection bias than Study 4's proportion and inflate prevalence of projection bias in the sample.

Still, the comparison between the proportion of the two studies provides an initial indication that the projection bias identified in Study 4's sample of German crisis negotiators might be similarly prevalent among crisis negotiators, patrol police officers, and crisis workers in Canada, the United States, and Hong Kong.

#### **6.4.4.2.3 Theoretical Limitations**

The projection bias observed in Study 5 has a simulation-theoretical sound footing in Perner and Brandl's (2009) three stages of simulation: (a) identification, where the self pretends to be in the other's situation, (b) replication, where the self's own mental processes work in the same way as the other's, and (c) interpretation, where the mental states that were involved in the replication stage are extracted and are projected onto the other. Yet, as Bazinger and Kühlberger (2012) pointed out, testing empirically for projection bias involves an unrealistic null hypothesis, according to which humans predict the behavior of others at random. Arguing that humans know other minds better than taking random guesses, an alternative source of information for knowing other minds other than the self, therefore, must lie in an internally represented knowledge structure of human behavior, as theorized by TT. Consequently, merely correlating judgments with predictions does ultimately not identify the presence of an actually self-biased projection but could also represent an instance of a faulty theoretical representation of the other in the given social situation of the encounter. Furthermore, Epley et al.'s (2004) integration of simulation and TT in their anchoring and adjustment model: humans anchor their predictions of others' minds and actions in their own (ST) but attempt to adjust with the help of theoretical information (TT). Yet, neither any of the underlying theories nor their integration offers specific guidance in the interpretation of the correlations that are used to prove the presence of projection bias.

To check these theoretical constraints, this survey used questions that capture affective items (e.g., emotional intensity) and process tracing questions focusing on participants' emotional experiences (Goldman, 1989; van Boven et al., 2000), as well as explicitly queried verbal reports in the process-tracing section (Bazinger & Kühlberger, 2012; Krienen et al., 2010). All these measures have been found to facilitate an effective interpretation of correlations between judgment and prediction, and, therefore, to identify actual projection to have happened, rather than the use of an abstract theoretical representation of socially agreed upon behavioral rules (Bazinger & Kühlberger, 2012).

## **6.5 General Chapter Discussion**

Chapter 6 documented two extensive research efforts into determinants of empathy-based rapport building, a key component in crisis negotiations and predictor of successful negotiation outcomes (Grubb et al., 2019a, 2019b; Rogan et al., 1997; Slatkin, 1996; Strentz, 2013; Vecchi et al., 2005, 2019). Following inadvertent observations in the coding process for Study 3, Study 4 deployed an elaborate QDA regime and identified 5 cognitive biases, which large numbers of participating crisis negotiators communicated. These cognitive biases were associated with behaviorally maladaptive responses by the subject actors, which ultimately undermined the crisis negotiators' efforts to effectively use empathy and build rapport. The contextualization in literature showed two characteristics they all share, and which appear to drive their detrimental impact on rapport: a self-centricity of the crisis negotiations instead of subject-centricity and their potential to cause reactance on the side of the subject.

Study 5 narrowed its analytical focus down to triangulate the findings of Study 4 for one of the five identified cognitive biases with a different set of data and methods: projection bias, which was selected for further inquiry, as self-referential projection lends itself to corrupt genuine perspective-taking and, thus, undermine empathy-based rapport-building. Correspondingly, Study 5 tested the incidence of projection bias in a larger and more diverse sample.



## **6.5.1 Overall Research Impact**

### **6.5.1.1 Practical Implications**

Literature on cognitive biases in law enforcement and policing consists to a large part of research on implicit, i.e. racial bias (e.g., Fridell & Lim, 2016; James, 2018; Nix et al., 2017; Spencer et al., 2016), with research on counter-bias, anti-bias, and bias awareness training falling into a comparable proportion (e.g., James, 2018; Machado & Lugo, 2022; Lai et al., 2023; Worden et al., 2020). Research into more specialized areas within law enforcement has occasionally investigated other types of cognitive bias, for instance the effects of confirmation bias on evidence-collection and investigative conduct (e.g., Charman et al., 2017; Hill et al., 2008) or attentional control (e.g., Staller et al., 2017; Simons & Schlosser, 2017). In general, the prevalence of cognitive bias within police conflict management and how it is approached institutionally as well as the lack of appropriate awareness has been pointed out by Staller et al. (2022). Similarly, implicit bias has also occupied space in counselling and social work (e.g., Boysen, 2009; Wong & Winsky, 2011).

Therefore, the research reported in this chapter has important practical implications for crisis intervention practitioners in law enforcement and beyond. All participants are professionals who train and practice crisis intervention on a regular basis. Still, significant proportions of all sub-samples demonstrated how a set of cognitive biases undermined their empathy-based rapport-building efforts. The cognitive biases that Study 4 identified are not likely to be widely established as education and training items in police and corresponding training institutions. Crisis intervention professionals can be taught to check for specific manifestations of underlying bias, such as arguing to maintain their own positive self-image (self-serving bias) or steering clear of arguing rationally using irony or comparison (projection bias). They can also train to be more comfortable with potentially constructive conversation topics that they feel uncomfortable talking about (avoidance), for instance, by explicitly addressing suicidal ideation and potential plan implementation). Training can also involve increasing crisis intervention professionals' repertoires of potential actions and communication, as well as corresponding cognitive flexibility to

avoid task fixation. Lastly, training would benefit from further ways to increase awareness of implicit bias and how it can affect decision-making. Ultimately, the identification of dynamics that underlie all five identified cognitive biases, selfcentricity and reactance, allows for corresponding training and education that allows for an effective prevention of their negative impacts.

### **6.5.1.2 Methodological Implications**

Study 5 employed an online-survey instrument, part of which was designed to capture projection bias in a scale-type manner by immersing participants into a table-top scenario that responds individually to each participant's answer choices yet maintains a level of reliable and valid standardization. With acceptable to good levels of internal consistency and an initial level of (explorative) validation, this portion of the instrument appears to be a promising method to assess projection bias in crisis intervention contexts.

### **6.5.1.3 Theoretical Implications**

Finally, the research reported in this chapter also contributes to the philosophical (*knowing other minds*) as well as the psychological (ToM) approach to inferring mental states and predicting actions. As discussed, the debate on the relative contributions of different ways to effective mind-reading is predominantly constrained to the ST-TT dyad (Bazinger & Kühberger, 2012; Epley et al., 2004, Stich & Nichols, 1997). Accounts of PK, like interaction theory, reject both ST and TT. Accordingly, the literature reviewed for this research project has not identified any framework to ToM that integrates all three theoretical approaches to *knowing other minds* (ST, TT, and PK).

Yet, each theoretical tradition (ST, TT, and PK) is rooted in empirical evidence. In addition, Study 4 and 5 provide evidence, according to which participants accessed both their own frame of reference (ST) and that of the other person through direct communication (PK). At the same time, scholars have argued that it is reasonable to assume that no single

approach accounts for all mind-reading (Bazinger & Kühberger, 2012; Stich & Nichols, 1997; Vogeley et al., 2001).

Therefore, the results of Study 4 and Study 5 advance ToM, as they articulate the need for a theoretical account that does not only integrate ST and TT (like, for instance, Epley et al., 2004; or Stich & Nichols, 1997) but all three approaches to *knowing other minds*: ST, TT, and PK. The model of a three-dimensional Cartesian coordinate system visualized in figure 6.8 allows for a theoretical representation of each approaches relative contribution to mind-reading in a given situation and provides a simple and elegant initial approach to such a theoretical integration.

## **6.5.2 Chapter Conclusions**

What started as a coincidental discovery resulted in two robust research efforts that produced results with directly applicable practical, methodological, and theoretical implications. Even though a broad body of literature on implicit bias demonstrates profound and far-reaching impacts on law enforcement, the role of cognitive bias beyond implicit bias remains overlooked and understudied. The findings of Study 4 and 5 build a promising point of departure for future research. Table 6.56 provides an overview of the major findings, their contributions and how they translate into avenues for future research.

### **6.5.2.1 Future Research**

The research reported in this chapter invites several avenues for future research into the relationship between cognitive bias (in general) as well as projection bias (in particular) and empathy-based rapport-building. Study 4' exploratory results are ready to be tested with new samples through confirmatory research, for instance by investigating prevalence and frequency distributions of all identified cognitive biases (e.g., by triangulating cognitive biases in similar ways as Study 5 did for projection bias) and by investigating causal mechanisms through quantitative (e.g., regression analyses) and qualitative (e.g., process-tracing) methods to better understand how these cognitive biases undermine

empathy-based rapport-building. Also, further cognitive biases that undermine empathy-based rapport-building can be identified and investigated with exploratory and confirmatory research.

Study 5's instrument can be fully validated with factor analytical methods, once enough data has been collected, and employed to further investigate projection bias in different populations. It can then be used to make further group comparisons between different samples from different geographical regions. Crisis worker's reduced use of self-referential projection in comparison with other sub-samples warrants further follow-up investigations to inform crisis negotiator and patrol police officer education and training. Once implemented, training and education utilizing insights gained from this research project should be evaluated to further inform their practical impact (especially viewing the current lack of evaluation of communication and de-escalation trainings in policing; Engel et al., 2020, 2022).

**Table 6.56**

*Major findings synthesized.*

Finding	Implication/Impact/Contribution			Future Research
	Theoretical	Methodological	Practical	
5 distinctly operating cognitive biases undermine empathy-based rapport building	Self-centricity and reactance as underlying dynamics shared by all cognitive biases, which appear to be at the root of the negative impact		Training and education of underlying dynamics allows for more effective prevention of the cognitive biases' negative impacts	<ul style="list-style-type: none"> <li>- prevalence of all identified cognitive biases</li> <li>- causal mechanisms of how these biases undermine empathy-based rapport-building</li> <li>- empathy-relevant cognitive biases that have not yet been identified</li> </ul>
Projection bias undermines empathy-based rapport-building	Integration of ST, TT, and PK under projection bias (cp. figure 6.7)		Projection bias's tendency to corrupt empathizing through undermining successful change of perspective	<ul style="list-style-type: none"> <li>- causal mechanisms of how projection bias undermines empathy-based rapport-building</li> </ul>
Projection bias is a function of perspective-taking	Projection bias is the result of a hard to determine configuration of ST, TT, and PK	Projection bias can be measured with a psychometric instrument, simulating a crisis intervention scenario in an immersive way through an online survey	PK might be overridden by simulation-theoretical insight	<ul style="list-style-type: none"> <li>- when what kind of information is gathered in which way (ST vs. TT vs. PK)</li> <li>- when perceptual knowledge is overridden</li> </ul>
CW and CN communicate with less projection bias than patrol police officers			PO might benefit from advanced crisis intervention training	<ul style="list-style-type: none"> <li>- completion of instrument validation</li> <li>- group comparisons across countries and cultures</li> <li>- why CW and CN communicate with less projection bias</li> </ul>
CW and CN score higher than patrol police officers on dispositional empathy				<ul style="list-style-type: none"> <li>- why CW and CN score higher on dispositional empathy</li> </ul>
CW and CN still communicate with projection bias at avoidable levels, despite comparably higher scores on dispositional empathy and their high degree of relevant specialization			Advanced CI training and professionals will benefit from corresponding training and education on the role that cognitive bias plays for empathy-based rapport-building	<ul style="list-style-type: none"> <li>- evaluations of education and training measures using results from this research project</li> </ul>

*Note:* CN: Crisis negotiators; CW: Crisis workers; PO: Patrol Police Officers; ST: Simulation Theory; TT: Theory Theory; PK: Perceptual Knowledge.

## **Chapter 7. General Discussion**

## 7. General Discussion

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The importance of empathy and empathy-based rapport-building as an undisputed key element in crisis negotiations (Grubb, 2019a, 2019b; McMains et al., 2020; Rogan et al., 1997; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005, 2019) is not limited to the resolution of critical and major incidents in policing. Of all the available courses of action, all police officers must always choose not only the one that is legally justified but also least intrusive regarding citizens' constitutionally guaranteed rights (Staubli, 2017; Terrill & Paoline, 2012). The corresponding ethical imperative of de-escalation governs all encounters between the police and the public and requires police officers to exhaust their capacity to empathize and build rapport with citizens (Engel et al., 2022; President's Task Force on 21st Century Policing, 2015; Zaiser & Staller, 2015; Zaiser et al., in press). Likewise, effective suicide and crisis intervention builds on the foundation of empathy-based rapport-building (Fartacek et al., 2023; Mishara et al., 2016; Roberts, 1995, 1998, 2005).

This research project's key findings identified and assessed a variety of factors and their potential to directly influence and determine crisis negotiator, patrol police officer, and crisis worker empathy as well as corresponding empathy-based rapport-building capacity. Study 1 (Chapter 4) inductively identified and investigated challenges that crisis negotiators face, as well as the strategies they use to manage them. Study 2 (Chapter 5) attempted to test if ego depletion decreases crisis negotiators' level of communicated empathy (chapter 5's *hypothesis 1*). It failed to induce ego depletion, despite using an established experimental manipulation method (rejecting chapter 5's *hypothesis 2*). Study 3 (Chapter 5) set out to complete the investigation. It successfully manipulated participants, using the cold-pressor task (corroborating chapter 5's *hypothesis 3*). However, it found that ego depletion did not decrease the level of empathy communicated by the participating crisis negotiators (rejecting chapter 5's *hypothesis 1*). Study 4 (Chapter 6) inductively identified a set of cognitive biases that undermined crisis negotiators' empathy-based rapport-building efforts. Study 5 (Chapter 6) investigated one of these biases in more detail. It found that prevalence of projection bias of Study 4's sample is similar to that of Study 5's larger sample, which consisted of participants from different occupations and countries (corroborating chapter 6's *hypothesis 1*). The study



also found that other-centric, crisis intervention-relevant judgments were associated with corresponding self-centric judgments (corroborating chapter 6's *hypotheses 2 through 4*). This contributes to our understanding of projection bias as a function of perspective-taking. In addition, Study 5 established that, while crisis workers do not differ at statistically significant levels from crisis negotiators in their communication of projection bias (rejecting chapter 6's *hypothesis 5*), they do communicate significantly less projection bias than patrol police officers (corroborating chapter 6's *hypothesis 6*). Likewise, crisis negotiators were found to communicate significantly less projection bias than patrol police officers (corroborating chapter 6's *hypothesis 7*). Finally, Study 5 produced an exploratorily validated, psychometric assessment tool for projection bias.

## **7.1 Key Findings**

### **7.1.1 Cognitive Task Analysis (Study 1)**

The cognitive task analysis (CTA), which marks the point of departure of this research project, produced several key findings that provided novel insight into the challenges that crisis negotiators face and the strategies they use to overcome them.

First, crisis negotiators face several understudied challenges, which have existential impact on the safety of both themselves and of the subject as well as on successful incident resolution. Among those that stood out were external challenges, for instance weather or physical location of the critical incident. Corresponding literature is extremely limited literature for this area. The only reference identified on those factors discussed as external challenges is Grubb's (2020) analysis of the English National Negotiator Deployment Database, which provides an overview of incident and deployment locations, including bridges, alongside apartments and commercial premises. Internal challenges stemming from within crisis negotiators, such as ego depletion, ego-centricity, or limited cognitive bandwidth, are more frequently documented, yet, still under-researched. Milner (2002 as cited in Ireland et al., 2011) and Grubb et al. (2019b) mention resilience to be an attribute associated with a successful crisis negotiator profile. Similarly, Allen et al. (1991) and San Jose State University Administration of Justice Bureau (1995, 2004 as

cited in Strentz, 2013) mentioned, based on crisis negotiator self-reports, persistence as a success predictor. While both characteristics, resilience, and persistence, imply applicability to deal with physical and mental exhaustion, none of the mentioned references builds conceptually on exhaustion and corresponding ego depletion (Baumeister, 1998; Muraven et al., 1998). Study 4 participants reported these to be mission-critical risks. Further challenges that stood out stem from operational incident management. These included, primarily, rank and role conflict as well as competing tactical orientations of special weapons and tactics teams (SWAT) and crisis negotiators, which have both been previously pointed out by Grubb (2016; Grubb et al., 2019b) and others (Kidd as cited in McMains et al., 2020). Results that appear to be un-addressed by literature are reports of deployment without briefing, despite an implemented incident command structure and poorly managed scenes. This resulted in direct escalation of the subject, for example due to direct line of sight on triggering family members or partners. Finally, challenges previously un-addressed in literature were found to stem from the subject, such as disturbing visual, auditory, and olfactory input, ego depletion on the side of the subject. They also include conversational dead-ends, where despite varied and multiple approaches to the conversation subject's lack of reciprocation stalls the crisis negotiation.

Second, crisis negotiators use several understudied strategies to overcome these challenges. For instance, Study 4 identified reliance on intuition as a meta-strategy that crisis negotiators reported to rely on. Grubb et al. (2019b) identified intuition as related concept and found it has not been discussed as a crisis negotiator strategy prior to their analysis. Instincts and/or intuition have been pointed out to be relevant strategies in both analyses, this CTA and Grubb's et al.'s (2019b). Yet, little insight has been gained on crisis negotiators' (self-critical) awareness of the limits of their instincts, as well as of the role that expertise and experience play in lending instinct-based decisions value (Baylor, 2001; Dane & Pratt, 2007; Epstein, 2010; Kahneman, 2011; Sadler-Smith & Shefy, 2004; Salas et al., 2010). Another meta-strategy is reliance on critical reflection during and after incidents. This, too, has been mentioned by Grubb et al. (2019b). The literature on cognitive reflection and its relevance to decision-making and judgment underscore its

potential relevance in the context of crisis negotiations (Campitelli & Labollita, 2010; Frederick, 2005; Oechssler et al. 2009). Against the backdrop of these general findings on cognitive reflection, the results of this CTA warrant the conclusion that critical reflection is a relevant competency that deserves further attention by both academics and practitioners, alongside corresponding training and education. Study 4 also reported unconventional assessment strategies that help crisis negotiators navigate incidents. Among those that no reference has been identified in existing literature yet are conscious awareness to expect unknowns and unpredictables, as well as critical, introspective reflection and unconventional tools, such as self-disclosure.

Third, crisis negotiators described how interaction effects between different challenges, as well as between different strategies add complexity and compound respective impacts. For instance, concurrent and interacting challenges can exacerbate their joint negative impact on crisis negotiators. A case in point are bad weather conditions that increase the impact of challenges stemming from both crisis negotiators (like negative emotions or ego depletion), from the subject (like ego depletion or substance influence), as well as from the environment (like slippery ice on a bridge). Another example is how concurrent and interacting strategies can exacerbate their joint positive impact on crisis negotiators: perseverance and adaptability have been demonstrated to be core competencies that the participants described to help them implement a variety of assessment and problem-solving strategies/tools over the course of an incident.

Last, the CTA unearthed ambiguities in the strategies crisis negotiators use. While the affected strategies have conventionally been associated with positive impacts, crisis negotiators reported unintended, negative consequences for themselves, for the subject, and potentially for third parties. These ambiguities include the reliance on instincts and corresponding tacit knowledge, which could serve well, if they had sufficient exposure to similar incidents. Yet they can undermine effective decision-making, if they have no experiential knowledge to draw from (cp. Epstein, 2010; Kahneman, 2011). As such, instincts require a certain level of awareness of the underlying factors and corresponding reflection among crisis negotiators, so they have a better understanding if the tacit,

unconscious knowledge they are drawing from is sufficient to account for the situation at hand. Similarly, the use of time is typically associated with a progression of a reduction in emotional intensity towards a peaceful resolution of the incident (Hatcher et al., 1998; Vecchi, 2009; Vecchi et al., 2005, 2019). However, it can exacerbate challenges described above, such as adverse weather events or subjects working up courage to implement their intentions. Finally, the use of positives or hooks and avoiding triggers or hot-buttons (cp. Grubb, 2016; Grubb et al., 2019a; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005) can be misinformed and risky, if hooks are identified as such based on (projection-biased, cp. Chapter 6) assumption or popular belief (inaccurate theoretical representation as in theory theory [TT], cp. Chapter 6). Crisis negotiators might perceive the lines that separate hooks from triggers differently. Hooks, in that sense, should be gathered from the subject over the course of the conversation to be reliably identified as such. Even if parallel information gathering with family includes a statement of, for instance, the subject's father or mother love for them, the statement made by the participant can turn out to be trigger or hot button that escalates the subject. On the bottom line, working with hooks and positives require first-hand information gathered from the subject to confirm their viability to minimize risks of unintended escalation.

### **7.1.2 Ego Depletion (Study 2 and 3)**

The CTA identified a set of challenges stemming from crisis negotiators' internal experience. Physical and mental exhaustion as well as cognitive and emotional challenges figured prominently in the analysis. Correspondingly, they shifted this research project's focus to ego depletion as a potential determinant of crisis negotiator empathy. Two field experiments resulted in the following three key findings, which have important practical, theoretical, and methodological implications:

First, ego depletion did not reduce empathy as communicated by crisis negotiators. Generally, this adds to the current debate on the overall validity and existence of the ego depletion effect. However, this finding is in contrast with research on self-regulatory theory in policing contexts. There, lower self-control has been associated with higher rates of

aggression and misconduct. For instance, ego depleted patrol and special weapons and tactics (SWAT) police officers resorted to use force significantly earlier in a simulated citizen-encounter when ego depleted (Staller et al., 2018a). Also, research with police recruits and patrol police officers has repeatedly shown that lower self-control is associated with higher rates of police misconduct (Donner & Jennigs, 2014, Donner & Fridell, 2016; Donner et al., 2018). Contextualization in a broader body of knowledge on (occupational) socialization and expertise suggests that ego depletion might trigger regression to socialized and sufficiently trained behavioral responses. For patrol and SWAT police officers, these might be the use of force. For crisis negotiators, they might be the use of empathy, which is why the ego depletion experiments did not detect any variance in their empathy measurements.

Second, the addition of a third task to ego depletion's sequential-task-paradigm (typically consisting of depletion task and performance task; Lee et al., 2016) confirmed the null hypothesis, despite exposing crisis negotiators to an additional opportunity to where ego depletion, potentially exacerbated by the first performance task, could have affected their empathy in the additional performance task.

Third, the failure of the "e"-crossing task adds to a growing body of literature, according to which letter crossing tasks are not a suitable manipulation to induce ego depletion (Etherton et al., 2018; Mangin et al., 2021; Wimmer et al., 2019), despite the vast use of it throughout most of the time that ego depletion has been researched (Baumeister & Vohs, 2016; Dang, 2016). At the same time, the successful use of the cold-pressor task validates previous studies that relied on this manipulation to induce ego depletion (e.g., Staller et al., 2018a, 2018b).

### **7.1.3 Cognitive Bias (Study 4 and 5)**

The data processing of the ego depletion experiments resulted in a serendipitous discovery, which was followed up with a qualitative data analysis (QDA; Study 4). This study was, in turn, followed up with an online-survey (Study 5), which triangulated part of

its results. These two cognitive bias studies produced a series of key findings, the novelty of which has several practical, theoretical, and methodological implications.

First, several cognitive biases have been found to inhibit empathy-based rapport-building in a simulated crisis negotiation: self-serving bias, projection bias, avoidance, task fixation, and implicit bias. These findings add to the literature, since research on cognitive bias in law enforcement and policing consists to a large part of research on implicit and racial bias (e.g., Fridell & Lim, 2016; James, 2018; Nix et al., 2017; Spencer et al., 2016). Literature into counter-bias, anti-bias, and bias awareness training reflects a comparable proportion (e.g., James, 2018; Machado & Lugo, 2022; Lai et al., 2023; Worden et al., 2020). Research into more specialized areas within law enforcement has occasionally investigated other types of cognitive bias, for instance the effects of confirmation bias on evidence-collection and investigative conduct (e.g., Charman et al., 2017; Hill et al., 2008) or attentional control (e.g., Staller et al., 2017; Simons & Schlosser, 2017). In general, the prevalence of cognitive bias within police conflict management and how it is approached institutionally, along with the lack of appropriate awareness, has been pointed out by Staller et al. (2022). This research project addresses these shortfalls and provides a point of departure for further research, as well as the implementation of corresponding practical implications (see below).

Second, these cognitive biases share two interrelated commonalities, which are potentially causally associated with their negative impact on rapport as reciprocated by the subject (the "rapport-building" portion of "empathy-based rapport-building"). On the one side, they maintain the self-centricity of the crisis negotiator in their conversation with a subject. This stands in stark contrast with evidence-based best practice in crisis negotiations, which prescribes a focus on the subject's frame of reference (cp. Vecchi et al., 2005, 2019) and requires the active maintenance of the subject's face (cp. Rogan & Hammer, 2002; Hammer, 2007). An empathetic understanding of a subject's core beliefs and values and subsequent rapport can only happen in one way: crisis negotiators need to change perspective in such a way that allows them to interpret the experiences of the subject based on what they know about the subject's frame of reference (Alison & Alison,

2020). Without a subject-centric approach that mitigates these cognitive biases, this change of perspective cannot be achieved (cp. Rogers, 1940). On the other side, they can cause reactance by posing a threat to the subject's self-image (e.g., through judgment) and behavioral autonomy in (co-)determining the course of the conversation. This, in turn, can cause the subject to escalate to protect or regain their autonomy. It contradicts the empirically validated prescription of dignifying the subject's autonomy (Alison et al., 2013; Markland et al., 2005; Vecchi et al., 2005, 2019). Both self-centricity and reactance can set the path for a crisis intervention towards avoidable escalation, as subjects might feel judged instead of listened to, acknowledged, and/or understood. Especially when viewing the stakes of crisis negotiators (or suicide intervention in general), this can have fatal consequences.

Awareness of the identified cognitive biases and the underlying self-centricity and susceptibility to subject-reactance can be harnessed to make the complex mechanisms that inhibit empathy-based and rapport-building accessible in simple ways. Based on that, corresponding training measures and standard operating procedures can be put in place to reduce the corresponding negative impacts during actual crisis interventions. Examples include positive measures, such as conscious efforts to overcome discomfort associated with potentially constructive conversation topics (to avoid avoidance bias). Shifting conversational focus from one's own frame of reference to that of the other (to avoid projection bias) is another example. As is the conscious avoidance of identified pitfalls, such as maintaining a positive self-image (to avoid self-serving bias) or known fixation topics (to avoid task fixation).

Third, projection bias corrupts the empathetic process, as it inhibits other-centric perspective-taking. Empathizing can be viewed as a simple sequence three steps (based on Decety & Lamm, 2009; Eisenberg & Eggum, 2009; Elliott et al., 2018; Shamay-Tsoory, 2009; Smith, 2017). First, a deliberate/cognitive (top-down) or an automatic/affective (bottom-up) impulse initiates an empathetic response. Second, a deliberate process facilitates a change of perspective. And third, an emotion-regulation process maintains distinction of the self from the other person, so the self is protected from the other's

negative emotional experience. The second step is crucial. As Alison and Alison (2020) point out, for the empathetic process to be completed, the self needs to interpret the experiences of the other based on the others' experiences, values, and beliefs (i.e., the other's frame of reference), not by drawing from their own frame of reference. Put differently: while the self might draw from its own experiences in similar situations to start the change of perspective stage of the empathetic process, it needs to arrive at communicating that it successfully absorbed the other's frame of reference as a result of the interaction. If the self can communicate the other's frame of reference in contrast from their own, the other is more likely to feel reassured they are understood and genuinely empathized with. It is this point in the empathetic process, where this QDA identified a bias towards participants' own cognitive and affective frame of reference for more than three quarters of them. And this, again, poses the risk of subjects feeling judged (based on assumptions rooting in crisis intervention professionals' own frame of reference) instead of listened to, acknowledged, and/or understood. In addition, this appears to happen as the empathizer experiences an emotional response themselves, which, in turn, suggests to them that they actually are genuinely empathizing. However, all they might be doing is projecting their own emotional experience onto the subject.

Fourth, projection bias is prevalent among crisis intervention professionals of different occupational backgrounds, including crisis negotiators, patrol police officers, and crisis workers. It is least prevalent in crisis workers and most prevalent in patrol police officers. The relative differences between the sub-samples are in line with expectations. However, in absolute terms, the results demonstrate that crisis workers and crisis negotiators, groups who receive most specialized training in crisis intervention and corresponding communication and de-escalation skill, still communicate with projection bias at avoidable levels. Projection bias is not likely to be widely established as education and training items in police and corresponding training institutions. Because it makes the complex underlying, empathy and rapport inhibiting mechanisms accessible in simple ways, it can be easily incorporated into education and training measures. While education can increase awareness of crisis intervention professionals' susceptibility and effective



countermeasures to mitigate negative ramifications, training can effectively focus on tangible items to help reduce the level of corresponding bias in their communication.

Fifth, crisis workers scored significantly higher on trait empathy than patrol police officers. Patrol police officers regularly respond to calls and situations that require basic crisis intervention skills, which is already reflected in corresponding training and education. The discrepancy in dispositional empathy found by this research project yields implications for candidate selection and corresponding outreach and recruiting efforts. Patrol police officers with a higher level of dispositional empathy might be more effective empathizers and, thus, crisis intervenors.

And last, the exploratory use of a table-top scenario, which used skip logic to immerse participants in a hypothetical incident, produced initial levels of internal consistency and content, face, convergent and divergent validity as a psychometric assessment tool for projection bias. Such a tool, once fully validated, can be used for research as well as for practical purposes. It would allow researchers to further investigate and learn from differences in the prevalence of projection bias across different populations, for instance in health care, sales, intelligence, or politics. Practitioners could benefit from such an instrument by increasing awareness and better understanding effective perspective-taking as part of successful empathy-based rapport-building. It could be used as a training as well as a selection tool for crisis intervention professionals. Also, this novel approach to online-survey instrumentation using immersive, participant-responsive a table-top scenario indicates potentially positive impact on participation and survey completion.

#### **7.1.4 Commonalities**

Considering these key findings in summary allows for two common themes to emerge. One is that all studies conducted exploratory research that provided novel insight. The other one speaks to the ambiguity of empathy as a reliable approach to crisis intervention.

#### **7.1.4.1 Commonality 1: Exploratory Novel Insight**

This research project used a wide array of qualitative and quantitative methods as well as diverse samples to explore several research gaps in populations that have been systematically under-researched with a view to determinants of empathy and empathy-based rapport-building. These gaps include self-perceived challenges and (problem-solving) strategies of crisis negotiators (Study 1), ego depletion as a potential predictor of crisis negotiators' communicated empathy (Study and 3), and cognitive bias as a potential predictor of crisis negotiator-subject rapport (Study 4 and 5).

Even though the ego depletion field experiments (Study 2 and 3) followed a confirmatory research paradigm with a by and large conventional design, they were the first trials to test the effects of ego depletion on crisis negotiators and possibly, after Staller et al. (2018b), the second research effort (based on this research project's literature reviews) to test ego depletion on police officers. As such, each study provides a unique and novel contribution to several, often scarce bodies of literature, including crisis negotiator self-efficacy (Study 1), ego depletion in law enforcement and policing (in general) as well as in crisis negotiations (in particular; Study 2 and 3), and cognitive bias in crisis intervention (in general) and in law enforcement and policing (in particular; Study 4 and 5).

In addition, the research project added established bodies of literature and current theoretical and practical debates beyond crisis negotiations in law enforcement and policing (Study 1). It also contributes to literature on ego depletion and its replication crisis (Study 2 and 3): substantially with the confirmed null hypothesis and methodologically with insights gained into effective depletion tasks/ego depletion manipulations (i.e., letter-crossing task versus cold pressor) as well as a variation of the established sequential-task paradigm (by adding a second performance task to the dual depletion task/ego depletion manipulation and performance task sequence). The research project also adds significantly to literature on cognitive bias in law enforcement and policing (Study 4 and 5) by introducing a new set of under- or not-at-all-researched cognitive biases, alongside the well-established literature on implicit bias. Finally, it introduced an exploratorily

validated psychometric assessment tool for the measurement of projection bias in crisis intervention contexts (Study 5).

#### **7.1.4.2 Commonality 2: The Ambiguity of Empathy**

The other theme that runs through all studies that were conducted as part of this research project is the ambiguities of empathy, empathy-based rapport-building, and associated strategies. In Study 1, crisis negotiators gave account of how they typically follow training and procedures by relying on time to pass for subjects to decrease in their emotional intensity to be able to build rapport. Yet, several crisis negotiators reported specific ways in which buying time increased risk to the subject and/or crisis negotiator, for instance through weather induced subject depletion, the potential for accidental falls from heights, or increases in subjects' determination to follow through with their plans.

Likewise, seeking hooks or positives and avoiding triggers or hot-buttons, a best-practice prescribed by crisis negotiations literature (Grubb, 2016; Grubb et al., 2019a; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005), has been reported to backfire in certain instances. However, these topics can only be relied on as viable strategies if information gathered from the subject over the course of the conversation confirms they are true. Even if parallel information gathering with family includes a statement of, for instance, the subject's father or mother to love them, relaying this message might still turn out to be trigger or hot button that escalates the subject, if they feel different (in general or in the moment in particular). As a result, both hooks and triggers are complex and can be fluid, depending on the subject's situational emotional experience in the moment. Crisis negotiators need to ascertain through direct conversation with the subject which topics are viable hooks and which ones should be avoided. Otherwise they rely on assumptions, either of their own or of third parties (e.g., family members), which they project onto the subject and into the crisis negotiation, which might ultimately render "a positive" negative.

In Study 2 and 3, crisis negotiators were explicitly advised to build rapport with a subject actor, as they worked through simulated crisis negotiations. Study 4 analyzed all data

collected in these field experiments and pointed out another crucial ambiguity of empathy. Even though crisis negotiators followed training and procedure, as they applied active listening skills and empathetic communication, subject actors frequently responded maladaptively in terms of rapport. The study found a set of cognitive biases to undermine the crisis negotiators' empathy-based rapport-building efforts, rendering currently prescribed, evidence-based best practices, such as using hooks and avoiding triggers, active listening and empathetic communication (Grubb et al., 2019a; McMains et al., 2020; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005, 2019) futile. Study 5 selected projection bias as a relevant target for follow-up investigation and validation, further corroborating the observed ambiguity of empathy. The online-survey identified perspective-taking as a vulnerability of empathy, which is susceptible to be exploited by projection bias. By literally "putting ourselves into the shoes of the other", the empathizer literally substitutes what they should have explored through conversation is the subject's experience with their own experience. This substitution appears to be nothing less than an assumption, conscious or subconscious, introducing ambiguity, just as experienced by the crisis negotiators who participated in Study 1. In the end, it deprives the empathetic process to unfold its full potential with the risk of undermining subsequent rapport-building.

#### **7.1.4.3 A Critical Approach to Empathy**

Through the accumulation of a series of studies designed to elicit novel insights for practitioners (first commonality of all key findings), this research project established a robust data-trail that leads to an alternative understanding of empathy in crisis intervention: one that is characterized by ambiguity (second commonality of all key findings). Because this research project's purpose included the provision of practitioners with actionable results to enable better practice in the field, the remainder of this discussion will shift perspectives from the objective positivity of these findings to a critical discussion of them in light of empathy and empathy-based rapport-building as a prescribed evidence-based best practice. This allows for the identified ambiguity of empathy to be approached in terms of inadequacy, rendering empathy itself a potentially inadequate concept.

In practical terms, the key findings of this research project demonstrate how empathy is a double-edged sword. On the one side, a vast body of literature associates rapport and positive crisis intervention outcomes with empathy (Baron-Cohen, 2001; Fine & Therrien, 1977; Norfolk et al., 2007; Squier, 1990; Vecchi et al., 2005, 2019). Especially in crisis negotiations, training and procedure rely heavily relying on empathy-based rapport building (Grubb et al., 2019a; McMains et al., 2020; Slatkin, 2015; Strentz, 2013; Vecchi et al., 2005, 2019), even in high-conflict situations with subjects presenting predominantly with instrumental behaviours (Hatcher et al., 1998; McMains & Lanceley, 2003; Vecchi et al., 2005; Rogan, 2011) and with terrorist subjects (Borum, 2011; Dolnik & Fitzgerald, 2007, 2011; McCauley & Moskalenko, 2008). On the other side, empathy has been increasingly and counter-intuitively associated with several negative crisis intervention outcomes. Such empathy failures can be organized in two categories: negative outcomes for the self and negative outcomes for the other.

#### **7.1.4.3.1 Empathy Failures Affecting the Self**

Empathy failures negatively affecting the self are common among professionals in helping occupations, like (mental) health practitioners or emergency services, including the police, and known as compassion fatigue. This construct refers to an exhaustion of the self's empathic ability following continued exposure to empathy-invoking events (Batson et al., 2005, 2007; Figley, 1995). As a result, professional helpers avoid empathizing and distance themselves emotionally from others. Another empathy failure is personal distress, in which the self fully assumes the other's emotional experience to the degree that they themselves experience distress (Batson et al., 1987, Davis 1980, 1983). This deprives them of the ability to show empathic concern and act prosaically.

#### **7.1.4.3.2 Empathy Failures Affecting the Other**

Several empathy failures on the side of the self have been found to negatively affect the other. Some of them relate to emotions prior to an encounter with the other. Zaki and Cikara (2015) found that expectations and emotions leading up to social encounters, often of conflictual nature, motivate the self to avoid empathizing or the encounter all together. Similarly, fixed beliefs that empathy is an automatic process beyond control might be limited in their abilities to use empathy when required (Schumann et al., 2014; Zaki, 2014). Bar-Tal and Halperin (2011) showed how, in context of conflict, preexisting negative emotions towards another person or group inhibit empathy and promote active empathy avoidance, despite conflict management instructions to empathize (a situation similar to crisis intervention, especially in crisis negotiation).

Several studies documented the tribal nature of empathy. Generally, empathy is more likely to occur among members of the same group, as compared to across the in-group-out-group boundary (Cuddy et al., 2007; Cikara et al., 2014). Cikara et al. (2014) further pointed out how active conflict can substitute empathy between individuals or groups with antipathy, ranging from reduced willingness to help over promoting harm to experiencing pleasure in others' suffering. In this context, Hein et al. (2010) were able to show how observed suffering of rival sports fans elicited behavioral and neural responses associated with pleasure. Bubandt and Willerslev (2015) presented ethnographic research that documented what they referred to as tactical empathy: "the empathetic incorporation of an alien perspective contains, and in fact is motivated by, seduction, deception, manipulation, and violent intent" (p.6).

Specifically documented negative outcomes of empathy failures also include, for instance, the interference of empathy with therapeutic relationship-building (cp. Zaki & Cikara, 2015) or its association with of suicidal subjects who, "on the basis of empathic assessment," were verifiably believed to be safe (Buie, 1981).

#### **7.1.4.3.3 Biased Empathy**

Another common theme emerges, specifically from consideration of the empathy failures that negatively affect the other. They are all associated with certain biases. Pre-encounter expectations and emotions might be shaped by implicit bias and/or the availability heuristic, according to which those memories that come easiest to mind are always those that are most representative of a situation, group, or person (Greenwald & Banaji, 1995). Empathy failure in conflict appears might be a result of in-group-bias (Brewer, 1979; Molenberghs, 2013). The empathy failures documented in the previous paragraph summarize elegantly how others are negatively affected by biased empathy.

Herein lies the last explicit contribution of this research project: it introduces empathy failures into crisis negotiations literature, adds to a scant evidence-base of empathy failure in crisis intervention contexts, and enhances qualitative insight into a variety of cognitive biases that can cause empathy failure.

## **7.2 Limitations**

While each study's limitations are discussed in detail in the respective sections chapters, the ones discussed below have been identified to constrain interpretation and extrapolation from the results combined results of all studies of this research project. Accordingly, they apply to all the key findings listed above and limit their overall impact and contribution. As in all other discussions, these limitations are organized in empirical, methodological, and theoretical categories.

### **7.2.1 Empirical Limitations: Small Samples**

Sample sizes of all studies are comparably small and significantly limit internal and external validity of the research project. Study 1 recruited 5 crisis negotiators for its CTA. Study 2, 3, and 4, involved a total of 52 participants in their field experiments and follow-up content analysis, all crisis negotiators from Germany. Study 5 analyzed online-

questionnaires from a total of 132 participants, including crisis negotiators, patrol police officers, and crisis workers.

Still, Study 1 participants represented crisis negotiators from two different countries, the United Kingdom (UK) and Canada. Furthermore, the primary dataset was enhanced with a secondary dataset adding nine British crisis negotiators to the sample in total. Study 2 and 3, whose within subjects research design lent it potentially more statistical power than many of the between-subject landmark studies of ego depletion (prior to the ego depletion “replication crisis”, which shifted the focus to large-n pre-registered multi-lab replication efforts; Ainsworth et al., 2014; Baumeister et al., 1998; DeWall et al., 2008; Muraven et al. 1998; Osgood & Muraven, 2015; Thompson & Campbell, 2004; Tice et al., 2007). Furthermore, effect sensitivity estimation using G\*Power (version 3.1; Faul et al., 2008) indicated that paired samples t-tests with 31 participants would be sensitive to detect only medium effects at the level of Cohen’s  $d = 0.46$  ( $\alpha = 0.05$ , one tail). Conversely, the study would not be able to reliably detect effects smaller than that or at the size that recent replication and review studies have found (cp. Chapter 5, table 5.1). As a result, while group comparisons between sub-samples are statistically under-powered, inferential statistics within subjects have been found to be powered sufficiently.

As elaborated on in Chapter 3, conducting research with law enforcement has a specific set of challenges, ranging from access over data sensitivity to the availability of potential participants. For instance, for one scheduled trial day, more than half of the expected participants had to operationally deploy, rendering the experiment unfeasible. In addition, bureaucratic barriers significantly constrained the recruitment of partnering institutions and participants. In one instance, it took longer than 14 months until data collection was greenlit.

Similarly, conducting research during the COVID19 pandemic required this research project to switch online, where it had to compete not only with an overabundance of concurrent research projects but also with an unprecedented shift of work and social interactions from the physical into the virtual realm (Akintunde et al., 2021; de Koning et



al., 2021; Hlatshwako et al., 2021; Patel et al., 2020. Despite these obstacles, all studies have achieved sample sizes large enough for their findings to be meaningful, either as exploratory results or as confirmatory contributions.

## **7.2.2 Methodological Limitations**

### **7.2.2.1 Bias**

The findings of this research project are biased both objectively as well as subjectively. Objective biases stem from the narrow and specific subject matter area that the scenarios were placed in. For instance, one of the substantial contributions reported in the thesis are the cognitive biases that Study 4's (Chapter 6) identified. These were all observed in a counter-terror negotiation scenario involving radicalized Islamist subjects. Consequently, prevalence of the cognitive biases might be limited to such scenarios or not stable across different crisis negotiation and crisis intervention contexts. Similarly, the identification of the cognitive biases was guided by a directed content analysis that focused on maladaptive interpersonal responses by the subject actors to the participants. As a result, instances when these cognitive biases preceded adaptive responses have not been captured, allowing for more ambiguity as to prevalence and intensity of their negative impact on empathy-based rapport-building. Still, for projection bias, Study 5 allowed to check against these biases to some degree, as it triangulated it with a different and larger sample as well as with a different scenario.

Subjective bias stems from the fact that almost all data was coded by a single researcher:

- Study 1 - CTA: single coder
- Study 2 - Ego depletion field experiment: two externally hired raters
- Study 3 - Ego depletion field experiment: single coder
- Study 4 - QDA: single coder
- Study 5 - Online-survey instrumentation: single coder.

However, while interview participant checks and external qualitative data audits (Denzin, 1978; Lincoln & Guba, 1985; Shenton, 2004) were foregone for methodological reasons (see corresponding discussions in Chapters 4 and 6), several efforts were made to compensate for the lack of analyst triangulation. Analytical perspective and theory have been triangulated (Denzin, 1978; Patton, 1999), multiple iterations were completed with constant data comparison (Glaser & Strauss, 1967; Silverman, 2009), and comprehensive data was used, including the inclusion of all deviant cases and outliers (Silverman, 2009). Furthermore, negative case analysis was conducted (Lincoln & Guba, 1985, Patton, 1999), tables were used both during analysis and in the presentation of the results (Patton, 1999). In addition, several peer-debriefings and strict adherence to the analytical strategies devised for each study throughout the research effort ensured corresponding methodological rigor (Lincoln & Guba, 1985; Slevin & Sines, 2000). Also, pro-longed engagement (Shenton, 2004) allowed for the collection of thick descriptive features (Lincoln & Guba, 1985), which, in turn, allow for transferability of conclusions to comparable situations and actors, and afforded the trust that is necessary for participants to fully commit to the research.

Still, the principal researcher's pro-longed engagement entails an undeniable degree of corresponding personal bias (Tong et al., 2007), which results in both beneficial and detrimental impact on the research (Arber, 2006). Aside from the easy access to a hard-to-access population (as discussed in detail in Chapter 3), the principal researcher acknowledges their bias as discussed above in Chapter 4. Still, potentially negative impact has been counteracted by the triangulation efforts as discussed above (Denzin, 1978; Patton, 1999) as well as by this sections' critical reflection of the principal researchers bias and beliefs. Finally, the methodologically rigorous audit trail discussed above in the procedure section provides effective checks against compromises of this study's confirmability (Lincoln & Guba, 1985).

### 7.2.2.2 Measurement

Due to the multifaceted natures of empathy and projection bias, operationalizations bore limitations. In Study 2 and 3, the Empathic Communication Coding Scheme (ECCS) did not capture para-verbal/para-linguistic communication, such as intonation, inflection, cadence, speed, or volume) and non-verbal communication (such as body language or facial micro-expressions). Yet, these have been found to be key carriers of empathy (Ekman, 2004; Gesn & Ickes, 1999; Haase & Tepper; 1992; Zaki et al., 2009). While it does represent a viable tool to approximate one measurable element of all that constitutes empathy, it cannot deliver a full picture of all communicated empathy.

Similarly, the operationalization of projection bias in Study 5 relied on a simple representation of the presence or absence of complex, latent construct. In addition, the comparably higher level of ecological validity of the research design (i.e., working online through a table-top scenario), combined with its attempt to capture a theoretically complex and abstract concept, left this research project with no initially identifiable criterion variable, against which the instrument could have been validated.

However, even though not representative of a wholesome communication of empathy, the ECCS has been rigorously validated (Bylund & Makoul, 2002; 2005) and can be expected to provide a relative measurement of communicated empathy. The operationalization of projection bias has relied on the assumed-similarly-paradigm used in social projection research (Cronbach, 1995; Bazinger & Kühberger, 2004), which measures projection bias as a set of self- and other-centric correlations. The binary coding as present/absent allowed to for the simple measurement of an initial level of projection bias without having to grapple with the complexities of measuring degrees of it.

### 7.2.2.3 Ecological Validity

Even though Study 2 and 3, which collected the bulk of the data in this research project, were field experiments, they did not collect data from real-life (criterion) crisis negotiations. They were field experiments embedded in the samples' periodic training sessions. Consequently, there are limitations to the ecological validity of the overall research project, since Study 4 and Study 5 built on Study 2 and Study 3 data. Striving to achieve a better understanding of human cognition and behavior, psychologists continue to debate the dilemma between lab (or artificial environment) and life (or real-world environment) and the associated tradeoff in (ecological) validity (Holleman et al., 2020; Neisser, 1976, Bar-Tal, 2004). In line with what is understood about this lab-life dilemma, it has been acknowledged that training might not accurately simulate the conditions police officers encounter on-duty (Andersen et al., 2016; Morrison & Villa, 1998). Yet, direct comparisons between simulated and real-life cognition and behavior were not found in literature.

There is an abundance of literature on reality-based simulation and scenario trainings in policing, primarily on the use of firearms (e.g., Staller et al., 2019; Davis, 2015; Di Nota et al., 2023), other use-of-force (e.g., Andersen et al., 2016; Renden et al., 2014), or specific call-types (e.g., Strahler & Ziegert, 2017). However, the only relevant research there is provides evidence that supports the superiority of high-realism scenario-based training over low-realism or non-dynamic exercises in terms of skills transfer and retention (Fletcher, 2009; Oudejans, 2008). This, in turn, supports the notion that the more realistic a scenario-based training exercise is (and feels), the more accurate (i.e., natural) study participants might act.

Still, as Bar-Tal (2004) pointed out, the observation of real-life situations is essential for advancing the field: "[...] without understanding the impact of the real-life context, the study of social behavior is at best incomplete" (p. 695). Consequently, the scenario exercises that made up Study 2 and Study 3 are only an approximation to the reality they

are supposed to represent. Crisis negotiators might act and react differently in real-life crisis negotiations, when lives are actually at stake, potentially producing different data.

However, designed as reality-based scenario training exercises with subject matter experts, based on crisis negotiators current training and preparedness profile, the field experiments exhausted their potential of ecological validity. In like manner, Study 1 interviews and the Study 5 online-survey exhausted their respective potentials to be ecologically as valid as they could be. Study 1's CTA immersed participants deep in their memories by walking them through several iterations of reliving a single incident under investigation. Study 5 created and exploratorily validated a novel, domain-specific instrument that immersed participants in an interactive experience. It used a table-top scenario that responded individually to each participant with skip-logically piped questions. Depending on the answer participants gave, the scenario unfolded in different ways.

### **7.2.3 Theoretical Limitations: Ego depletion and Theory of Mind**

Study 2 and 3 are limited by current contestations that have evolved around the ego depletion literature, as well as from a limited understanding of the ego depletion effect. The theory, as it was initially posted, does not explain the null hypothesis reported with this study. Since its original reporting (Baumeister et al., 1998; Muraven et al., 1998), the ego depletion effect has evolved in the complexity as we understand it and lately been challenged on an existential level due to a lack of replicability (Carter & McCullough, 2014; Carter et al., 2015; Hagger & Chatzisarantis, 2016; Lee et al., 2016). As discussed in Chapter 5, several theoretical accounts lend themselves to explain the null hypothesis. Identifying which ones are at work and how they interact with each other to ultimately understand the un-interfered empathetic performance of the crisis negotiators (self-)reported ego-depletion requires further research that tests each of the alternative models.

Similarly, the theoretical tradition (Theory of Mind; ToM) that Study 4 and 5 draw from does not account for the extent to which the self uses self-referential projection (as stated

by simulation theory; ST) versus theoretical representation (as stated by theory theory; TT) or direct perceptual knowledge (PK). This limits the research results' explanatory power in how much the observed negative effects on empathy-based rapport building have been caused by projection bias. For instance, inaccurate theoretical representations or inaccurately perceived communication from the subject could have moderated the impact of self-referential projection to some degree. At this point, ToM cannot predict the relative contribution of either ST, TT, and PK.

### **7.3 Research Impact**

The overall impact of this research project is manifested in the following set of practical, methodological, and theoretical implications.

#### **7.3.1 Practical Implications**

##### **7.3.1.1 Applications to Policy and Procedure**

Study 1's CTA identified several challenges that crisis negotiators and other personnel involved in critical incident management and crisis negotiation callouts would benefit from if addressed by corresponding policies and procedures (P&P). Contingencies for external challenges like adverse weather (e.g., immediate availability of cold and wet weather clothing for staff and subject) and difficult environments (e.g., strategic planning requirements and safety considerations in face-to-face negotiations) need to be reflected in trainable and readily accessible policies and procedures. As do clear role definitions not just based on a completely rolled out critical incident command structure but also for all contingencies during its establishment. This means rules, roles, and responsibilities of all actors need to be clear at all times between call-out and debrief. This includes transfers of command and crisis negotiation tasks as needed. Finally, P&P will benefit from intuitive decision-making and cognitive bias checks (e.g., prescribing moments of critical introspective reflection).

There were no practical implications identified for the findings from Study 2 and 3's ego depletion experiment. Study 4 and 5's findings suggest the incorporation of cognitive bias checks both at the individual and at the organizational level into P&P. Bias self-checks at the individual level are known to professionals with occupations other than law enforcement, for instance in teaching (e.g., Hardré, 2018), conflict management, or counselling (e.g., Zaki & Cikara, 2015) and involves informed critical introspective reflection prior to engaging in activities that might be interfered with biases. At the institutional level, P&P are a viable tool to address a variety of sources of cognitive biases as well as fallacies about their nature that perpetuate them (e.g., non-susceptibility of one's own organization; cp. Staller et al., 2022).

Of course, education and training are subject to P&P as well. Therefore, curricula for both basic and continuing training of all crisis intervention professionals will benefit from reflecting the subsequent applications of this research project's key findings.

### **7.3.1.2 Applications to Education and Training**

Aside from familiarization and internalization of the previously listed P&P items, education and training specific implications of the findings include the following:

Study 1's findings apply to education and training especially with regards to subject specific challenges, unconventional strategies, as well as to the novel insights into interaction effects among challenges and strategies and the identified ambiguities. There are several subject-specific challenges that crisis negotiators will benefit from through both education for increased awareness and a better understanding as well as training, for instance through repeated exposure, deliberate practice (cp. Ericsson et al., 1993) and/or stress inoculation training (Meichenbaum, 2017). These challenges include (but are not limited to) disturbing visual, auditory, and olfactory input, counter-intuitive increases of risk as negotiations progress over time, and (especially) conversational dead-ends. Likewise, unconventional strategies, such as unconventional ways to assess

state and progress of the crisis negotiation, and unconventional tools, such as self-disclosure, including the risks thereof (cp. Derlaga & Berg, 1987).

Even more relevant than being aware and trained in singular aspects are the findings on interaction effects that compound negative impact of the challenges and the potentially positive impacts of the strategies identified in Study 1. Only education and training can prepare crisis negotiators to tackle multiple layers of challenges, ideally by effectively synergizing the strategies that are available to them. For instance, training can increase crisis negotiators' perseverance and adaptability, which can help them effectively deal with the compounded risk of a subject, going through acute psychosis, not appropriately dressed for the sub-zero weather. Similarly, awareness of and proficiency in dealing with the ambiguity of prescribed strategies, such as relying on time or the use of hooks and avoiding triggers, will allow crisis negotiators to mitigate the negative effects of these ambiguities.

In the same way, Study 4's findings require education to bring the cognitive biases it identified to the awareness of all crisis intervention professionals. Based on a solid understanding of how these undermine empathy-based rapport-building, continuing training sessions can then increase crisis intervention professionals' proficiency in reducing these biases (as much as cognitively possible) and reduce their negative impacts.

### **7.3.2 Methodological Implications**

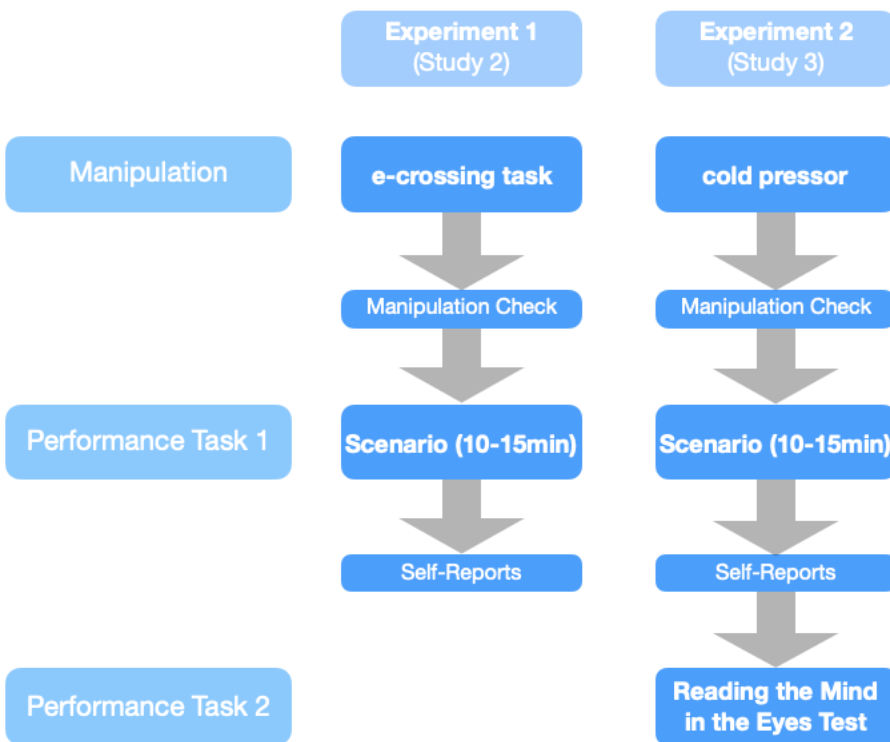
This research project has several methodological implications for future research to consider (yet none stemming from Study 1). Study 2 and 3 added to a growing body of literature, according to which letter crossing tasks like the "e"-crossing task are not a suitable manipulation to induce ego depletion (Etherton et al., 2018; Mangin et al., 2021; Wimmer et al., 2019). At the same time, the successful application of the cold-pressor task validates previous studies relying on this manipulation to induce ego depletion (e.g., Staller et al., 2018a, 2018b).



Another methodological implication of Study 3 is the addition of a third task to ego depletion's sequential-task-paradigm (Lee et al., 2016), which typically consisting of two tasks: a depletion task (manipulation to induce ego depletion) and a performance task. The additional task (the second performance task) confirmed the null hypothesis established with the traditional sequential-task-paradigm (by the first performance task). Despite the combination of the successful depletion task with the first performance task, crisis negotiators still appeared not to be affected by ego depletion in the second performance task. Figure 7.1 provides a visual representation of the altered design.

**Figure 7.1**

*Research Design of Experiment 2 (Study 3)*



Study 5 employed an online-survey instrument, part of which was designed to capture projection bias in a scale-type manner by immersing participants into a table-top scenario that responds individually to each participant's answer choices yet maintains a level of reliable and valid standardization. With acceptable to good levels of internal consistency

and an initial level of (explorative) validation, this portion of the instrument appears to be a promising method to assess projection bias in crisis intervention contexts.

The overwhelmingly affirmatively answered attention checks underscore the success of the novel design, which one participant referred to as “choose your own adventure’ combined with a learning aspect”, in engaging survey respondents. After all, perceived relevance of a survey has been repeatedly positively correlated with survey participation and completion (Revilla & Höhne, 2020; Revilla & Ochoa, 2017).

### **7.3.3 Theoretical Implications**

In general, the absent ego depletion effect of Study 2 and Study 3 adds to the current debate on the overall validity and existence of the ego depletion effect. In particular, it furthers the discussion on the nature and intricacies of a potential ego depletion that is not as straightforward as initially proposed (Berkman & Miller-Ziegler, 2013; Staller et al., 2018). Staller et al. (2018a) found ego depleted patrol and special weapons and tactics (SWAT) police officers resorted to use force significantly earlier in a simulated citizen-encounter. In contrast, ego depleted crisis negotiators did not communicate less empathy as hypothesized. Contextualization in a broader body of knowledge on (occupational) socialization and expertise suggests that ego depletion might trigger regression to socialized and sufficiently trained behavioral responses. For patrol and SWAT police officers, these might be the use of force, skills which they spend significantly more time training (President’s Task Force on 21st Century Policing, 2015; Zaiser et al., in press). For crisis negotiators, these might be skills associated with empathy-based rapport-building.

Finally, Study 4 and 5’s findings contribute to the philosophical (*knowing other minds*) as well as the psychological (ToM) approach to inferring mental states and predicting actions. As discussed, the debate on the relative contributions of different ways to effective mind-reading is predominantly constrained to the ST-TT dyad (Bazinger & Kühberger, 2012; Epley et al., 2004, Stich & Nichols, 1997). Accounts of PK, like interaction theory, reject

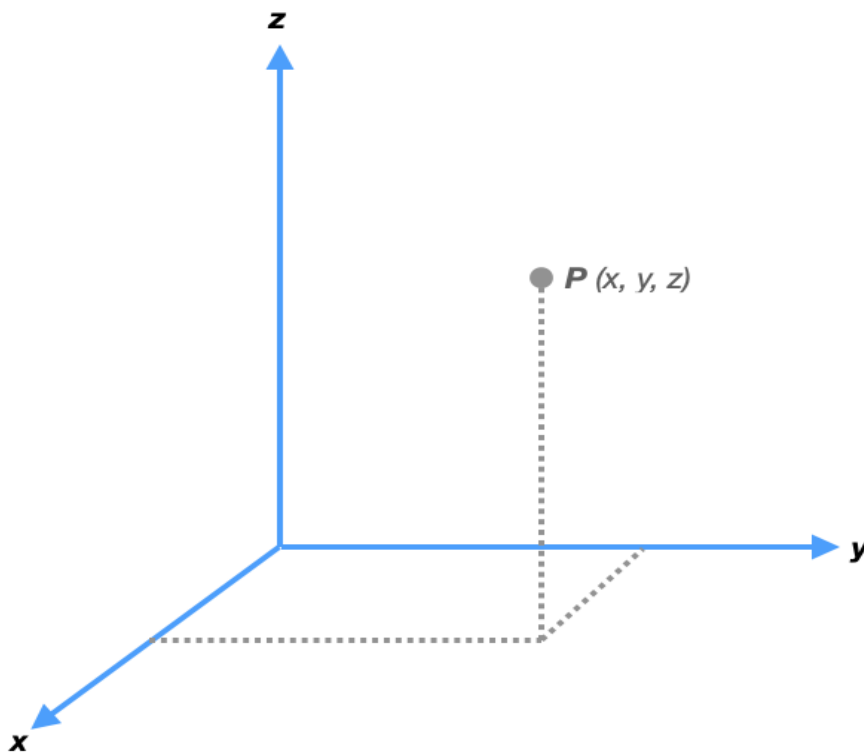
both ST and TT. Accordingly, the literature reviewed for this research project has not identified any framework to ToM that integrates all three theoretical approaches to *knowing other minds* (ST, TT, and PK).

Yet, each theoretical tradition (ST, TT, and PK) is rooted in empirical evidence. In addition, Study 4 and 5 provide evidence, according to which participants accessed both their own frame of reference (ST) and that of the other person through direct communication (PK). At the same time, scholars have argued that it is reasonable to assume that no single approach accounts for all mind-reading (Bazinger & Kühberger, 2012; Stich & Nichols, 1997; Vogeley et al., 2001).

Therefore, the results of Study 4 and Study 5 advance ToM, as they articulate the need for a theoretical account that does not only integrate ST and TT (like, for instance, Epley et al., 2004; or Stich & Nichols, 1997) but all three approaches to *knowing other minds*: ST, TT, and PK. The model of a three-dimensional Cartesian coordinate system visualized in figure 7.2 allows for a theoretical representation of each approaches relative contribution to mind-reading in a given situation and provides a simple and elegant initial approach to such a theoretical integration.

**Figure 7.2**

*ToM: Integration of ST, TT, and PK.*



*Note.* x-axis = ST; y-axis = TT; z-axis = PK;  $P$  = relative contribution of each ToM subsidiary

## 7.4 Future Research

Overall, the results of this research project provide a solid foundation for future research to build on, as their limitations inspire the following avenues as potential points of departure.

The exploratory approach of Study 1 offers a plethora of potential future research with predominantly practical foci. Considering the literature of recognition-primed decision-making (RPD; Klein, 2008; Klein et al., 1989), research into the reported challenge of conversational dead-ends, as they relate to a potential lack of repertoire, might be a promising endeavor in improving crisis negotiation and crisis intervention. As would a systematic investigation of unintended consequences of reliance on time. Further future research could taxonomize interaction effects of crisis negotiator risks and challenges as

well as of ambiguities of concepts or approaches that are conventionally understood to be effective (cp. empathy or empathy-based rapport-building).

Future research building on Study 2 and 3 could follow-up with the absent ego depletion and replicate Staller et al.'s (2018) research (the one that resulted in a significantly faster use of force by ego depleted patrol and SWAT police officers) with crisis negotiators. This could validate (or invalidate) the interpretation, according to which ego depletion causes regression to socialized and trained behavioral responses. Other future research on ego depletion could further validate the use of the cold-pressor as a manipulation task as well as Study 3's modified sequential-task-paradigm.

Finally, the cognitive biases identified by Study 4 are ready to be tested with new samples through confirmatory research, for instance by investigating prevalence and frequency distributions of all identified cognitive biases (e.g., by triangulating cognitive biases in similar ways as Study 5 did for projection bias). Another follow-up study could investigate causal mechanisms through quantitative (e.g., regression analyses) and qualitative (e.g., process-tracing) methods to better understand how these cognitive biases undermine empathy-based rapport building. In addition, further cognitive biases that undermine empathy-based rapport-building could be identified and investigated with exploratory and confirmatory research. The novel instrument designed and employed with Study 5 could be fully validated with factor analytical methods and employed to further investigate projection bias in different populations.

Study 5 results also warrant follow-up investigations into crisis worker's reduced use of self-referential projection with the goal to inform crisis negotiator and patrol police officer education and training. The findings also warrant follow-up investigations into crisis worker's comparatively higher scores in dispositional empathy. Finally, evaluations of education and training measures using results from this research project can be expected to further inform their practical impact (especially viewing the current lack of evaluation of communication and de-escalation trainings in policing; Engel et al., 2020, 2022).

The potential of social observation and natural experimentation for addressing these avenues of future research deserves the final mention in this section. As pointed out in the discussions of Study 2 through 5's limitations, the corresponding findings are limited in their ecological validity. They are all a product of simulated rather than actual hostage negotiations. Using different content analyses of real-life incident footage, potentially from different teams of crisis negotiators in similar settings (for natural experiments) will contribute not only to the research questions at hand but also to a better understanding of the potential discrepancy between simulation and the real-world it attempts to represent.

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## **Appendices**

## Appendix 1: Ethical Approval

- **Study 1: Cognitive Task Analysis:**

```
From: Psychology Ethics
Sent: 09 March 2012 09:39
To: Cole, Jonathan
Subject: PSYC-1112-084 Jon Cole Bolton et al - Cognitive Task
Analysis of Decision Making Processes involved in (CTA of Critical
Incident Decision Making)
```

```
Reference: PSYC-1112-084
Principal Investigator: Jon Cole
Project Title: Cognitive Task Analysis of Decision Making Processes
involved in (CTA of Critical Incident Decision Making)
First Reviewer: Andrej Stancak
Second Reviewer: James Cruickshank
```

- **Study 2, 3, and 4: Ego Depletion Experiments:**

10 May 2017

Dear Prof Cole,

I am pleased to inform you that your application for research ethics approval has been approved. Details and conditions of the approval can be found below:

Reference: 1065  
Project Title: Ego Depletion and the Capacity for Empathy of Crisis Negotiators  
Principal Investigator/Supervisor: Prof Jonathan Cole  
Co-Investigator(s): Mr Benjamin Zaiser  
Lead Student

- **Study 5: Cognitive Bias Online Study:**

17 September 2020

Dear Prof Cole

I am pleased to inform you that your application for research ethics approval has been approved. Application details and conditions of approval can be found below. Appendix A contains a list of documents approved by the Committee.

**Application Details**

Reference: 7482  
Project Title: The impact of cognitive bias and logical fallacies on rapport-building and interpersonal communication.  
Principal Investigator/Supervisor: Prof Jonathan Cole  
Co-Investigator(s): Mr Benjamin Zaiser

## Appendix 2: Consent Forms

- Study 1: Cognitive Task Analysis



### Consent Form

Please initial each box to confirm the following:

1. I have read and understood the information sheet for the above study. I have had the opportunity to consider the information and ask questions about the study.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.

3. I understand that at any time I can ask for access to the information I provide during the expert interview or in the demographic information sheet and I can request for the destruction of the information if I wish.

4. I agree to take part in the study.

---

Participant Name

---

Date

---

Signature

---

Researcher Name

---

Date

---

Signature

**Project supervisor:**

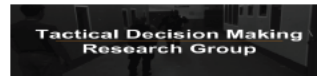
Benni Zaiser

**Email:**

[bzaiser@liverpool.ac.uk](mailto:bzaiser@liverpool.ac.uk)

## Appendix 2: Consent Forms

- Study 2: Ego Depletion Experiment



Projektpartnerschaft zwischen dem Bundeskriminalamt und der University of Liverpool in der angewandten Psychologie der Kommunikation polizeilicher Verhandlungsgruppen

### Einverständniserklärung

zur Teilnahme an einer Studie unter dem bei der University of Liverpool unter dem Titel *Ego Depletion and the Capacity of Empathy of Crisis Negotiators* anhängigen Forschungsprojekt

1. Ich habe das Informationsblatt zur Studienteilnahme vom 22. März 2017 zum oben genannten Forschungsprojekt gelesen und verstanden. Ich hatte Gelegenheit Fragen zu stellen und verfüge über alle für die Entscheidung für oder gegen eine Teilnahme notwendigen Informationen.
2. Ich verstehe, dass die Teilnahme freiwillig ist und ich sie jederzeit ohne Angabe von Gründen und ohne Konsequenzen beenden kann.
3. Ich verstehe, dass ich in Einklang mit den in Deutschland und Großbritannien geltenden Datenschutzgesetzen und Richtlinien jederzeit Einsicht und die Zerstörung der durch und über mich gewonnenen Daten verlangen kann.
4. Ich verstehe, dass im Rahmen der Studie folgende Daten erhoben und – anonymisiert – ausgewertet werden:
  - demographische Daten zu meiner Person
  - Daten zur individuellen Neigung zu Empathie
  - Audio- und Videoaufzeichnungen meiner Szenario-Übung
5. Ich möchte an der oben genannten Studie teilnehmen.

Namenskürzel

\_\_\_\_\_  
Teilnehmer

\_\_\_\_\_  
Datum

\_\_\_\_\_  
Unterschrift

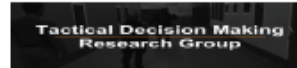
Benni Zaiser  
Projektleiter

22. März 2017  
Datum

Unterschrift

## Appendix 2: Consent Forms

- Study 3: Ego Depletion Experiment



Projektpartnerschaft zwischen dem Bundeskriminalamt und der University of Liverpool in der angewandten Psychologie der Kommunikation polizeilicher Verhandlungsgruppen

### Einverständniserklärung

zur Teilnahme an einer Studie unter dem bei der University of Liverpool unter dem Titel *Ego Depletion and the Capacity of Empathy of Crisis Negotiators* anhängigen Forschungsprojekt

1. Ich habe das Informationsblatt zur Studienteilnahme vom 7. Januar 2018 zum oben genannten Forschungsprojekt gelesen und verstanden. Ich hatte Gelegenheit Fragen zu stellen und verfüge über alle für die Entscheidung für oder gegen eine Teilnahme notwendigen Informationen. Namenskürzel
2. Ich verstehe, dass die Teilnahme freiwillig ist und ich sie jederzeit ohne Angabe von Gründen und ohne Konsequenzen beenden kann.
3. Ich verstehe, dass ich in Einklang mit den in Deutschland und Großbritannien geltenden Datenschutzgesetzen und Richtlinien jederzeit Einsicht und die Zerstörung der durch und über mich gewonnenen Daten verlangen kann.
4. Ich verstehe, dass im Rahmen der Studie folgende Daten erhoben und – anonymisiert – ausgewertet werden:
  - demographische Daten zu meiner Person
  - Daten zur individuellen Neigung zu Empathie
  - Audio- und Videoaufzeichnungen meiner Szenario-Übung
5. Ich möchte an der oben genannten Studie teilnehmen.

_____ Teilnehmer	_____ Datum	_____ Unterschrift
<u>Benni Zaiser</u> Projektleiter	<u>7. Januar 2018</u> Datum	 Unterschrift



## Appendix 3: Study 1 – CTA Interview Schedule

### Key Concepts: (*PURPOSE*)

- ED: decreased or impaired capacity of self-control
- EMP:
  - as the ability to understand the feelings and emotional situation of another person and to convey that understanding back to that person, as well as
  - the skill used by crisis negotiators to build rapport, often implemented/employed
- EC (EL): as the influence we exert on our emotions as well as on the corresponding thoughts and behaviors (to fulfill the requirements of the job)
- subconscious and conscious agency/intuitive and deliberate communication (COM tools and techniques)

### Cognitive Task Analysis: (*METHOD*)

Identify and explain the “mental processes involved in performing a task” (Klein & Militello, 2001, p. 163)

### Critical Decision Method:

This approach to CTA involves multiple-pass event retrospection guided by probe questions to identify and illuminate critical decision points and key events that determined or changed the course of the event and the task performance.

### Communicative Task Analysis:

- **interactive and mutual constitutive process of reciprocated cognitions;**  
DM and other COG in relation to each other  
**(vs. isolated, self-contained cognitions that - as action or reaction to external circumstances - are the subject of CTA)**
- focus on the parameters involved the exchange of information  
**(vs. underlying tactical decisions per se)**

## Golden Thread:

Affective states during hostage takings (Heubrock et al., 2010), along with Vecchi's Behavioral Change Stairway Model (2005)

Actions:

**EMPATHY**

**RAPPORT**

**INFLUENCE**

## Checkpoints

### ED

- How do you realize/notice when you become exhausted
- How do you realize the impact of your exhaustion on your interlocutor
- Interlocutor's ED and EMP cap
- What constitutes ED in Neg? -> e.g. DM as ED?

### EMP

- How do you realize the impact of your effort to empathize on your interlocutor
- Do you communicate consciously or unconsciously of EMP

### EC/EL

- Do efforts to control your emotions exhaust you/take away COG RES?
- How do you experience such a challenge and the corresponding exhaustion?

## Miscellaneous Questions

### COMTECH

- Do you communicate consciously or unconsciously of COMTECH?

### CULT (TERR)

- How do TERR differ from non-TERR? (planned/high conflict - sociopathic - crisis; CULT)

### OTHER

- Ever trained non-judgmentality/hidden judgments?
- Ever trained rapport killers (as in counseling)?

- e.g. cross-cultural rapport
- nonverbal rapport killers
- mismatching para-language
- rapport with obese people

## CDM Script

### **Step 1 – Incident Identification**

An incident that we can discuss and which you, as the speaking negotiator, found  
 particularly challenging  
 particularly exhausting  
 to have had an impact on the situation/interlocutor and also  
 the situation/interlocutor to have affected you significantly in return.

*Incident:*

### **Step 2 – Incident Recall** (Sweep 1)

"Walk through" the incident and to describe it from beginning to end  
-> The elicitor asks few, if any, questions, and allows the participant to structure the account

*Incident Account:*

### **Step 3 – Incident Re-telling**

The elicitor tells the story back, matching as closely as possible  
 The participant is asked to attend to the details and sequence  
 The participant will usually offer additional details and clarifications, and corrections  
-> This sweep allows the elicitor and the participant to arrive at a common understanding of the incident

*Elicitor's embellishments/modifications:*

*Participant's added details:*

### **Step 4 – Timeline Verification and Decision Point Identification** (Sweep 2)

The participant is asked for the approximate time of key events, a timeline is composed along a domain-

- meaningful temporal scale, based on the elicitor's judgment about the important
- events (DM/CA)
- actions taken.

The timeline is shared with and verified by the expert as it is being constructed.

- > The elicitor's goal is to capture the salient events within the incident,
- ordered by time and
  - expressed in terms of the points where important input information was received or acquired,
  - points where decisions were made and points where actions were taken

<u>Event</u>	<u>Observation/Decision/(Communicative) Action (ODCA)</u>	<u>Time</u>

**Step 5 – Deepening** (Sweep 3)

[]In this sweep, the elicitor employs probe questions that focus attention on particular aspects of each event

<b>PROBE TOPIC</b>	<b>PROBES</b>
1a. Cues & Knowledge - Introspect [O]	<p>[]How did you realize/notice when you become exhausted?  -&gt; internal vs. external determinants  -&gt; influenceable vs. non-influenceable  -&gt; conscious vs. sub-conscious</p> <p>[]What were you seeing/hearing/ smelling/ noticing?  -&gt; MICRO-EXP  -&gt; COM contents  -&gt; BEHAV  -&gt; PHYS APPEAR</p>
1b. Cues & Knowledge - Extra [O]	<p>[]categories of ppl harder to EMP with: terr vs. non-terr, e.g.?</p> <p>[]How did you realize the impact of your exhaustion on your interlocutor</p> <p>[]Did you communicate consciously or unconsciously of EMP</p> <p>[]Did efforts to control your emotions exhaust you/take away COG RES?</p>

2. Analogues [K]	Were you reminded of any previous experience? What about the previous experience seemed relevant?
3. Standard Scenarios [K]	Does this case fit a standard or typical scenario? Does it fit a scenario you were trained to deal with?
4. Goals [D]	What was most important to accomplish at this point? What were your specific goals and objectives at the time?
5. Options [D]	What other courses of action were considered or were available? (to sustain?)
6. Basis of Choice [D]	<input type="checkbox"/> What rule was being followed? <input type="checkbox"/> How was this option selected/other options rejected?
7. Mental Modelling [A]	Did you imagine the events that would unfold? Did you imagine the possible consequences of this state/action?
8. Experience [K]	<input type="checkbox"/> What else but DM (cp. below) constituted ED? <input type="checkbox"/> Did you communicate consciously or subconsciously of COMTECH? What training, knowledge, or information might have helped? What specific training or experience was necessary or helpful in this situation?

<p>9. Decision-Making [D]</p>	<p><input type="checkbox"/> Was your DM affected by your state of exhaustion?  <input type="checkbox"/> Was DM responsible for your state of exhaustion?  How long did it take to actually make this decision?  How much time pressure was involved in making this decision?  What let you know this was the right thing to do at this point in the incident?</p>
<p>10. Situation Assessment [A]</p>	<p><input type="checkbox"/> How did you experience such a challenge and the corresponding exhaustion?  If you were asked to describe the situation to a relief officer at this point, how would you summarize the situation?</p>
<p>11. Information [O]</p>	<p>What information did you use in this situation?  -&gt; MICRO-EXP  -&gt; COM contents  -&gt; BEHAV  -&gt; PHYS APPEAR  How/ Where/ Who did you get this information from?  What did you do with this information?</p>
<p>12. Guidance/Support [A]</p>	<p>Did you seek any guidance at this point?  How did you know to trust it?</p>

<i><u>Event</u></i>	<i><u>ODCA</u></i>	<i><u>Time</u></i>	<i><u>PROBE</u></i>	<i><u>RESPONSE</u></i>

## Step 6 – ‘What-If’ Queries

Klein, Calderwood, and MacGregor (1989) noted that the reasons for taking a particular action are frequently illuminated through understanding choices that were not made, or that were rejected

1. What might have happened differently at this point?
2. What were the alternative CAs that could have been made here?
3. What CAs were not made or what alternatives were rejected?
4. At this point in the incident, what if it had been a novice present, rather than someone with your level of proficiency?
5. Would they have noticed Y?
6. Would they have known to do X?
7. What sorts of error might have been made at this point?
8. Why might errors have occurred here?
9. If the decision was not the best, what training, knowledge, or information could have helped? What tools or technology could have helped? Why?



<i><u>Event</u></i>	<i><u>ODCA</u></i>	<i><u>Time</u></i>	<i><u>PROBE</u></i>	<i><u>RESPONSE</u></i>

### **Concluding Question:**

- Review list of key concepts together
- anything to add? (the “blank”)

### **If time:**

#### CULT (TERR)

How do TERR differ from non-TERR? (planned/high conflict - sociopathic - crisis; CULT)

#### OTHER

ever trained non-judgmentality/hidden judgments?

ever trained rapport killers (as in counseling)?

- e.g. cross-cultural rapport
- nonverbal rapport killers
- mismatching para-language
- rapport with obese people

### **Conclusion of Interview**

Conclude the interview by;

What will be the next step in the analysis.

Double checking any missing demographic information.

Ask the participant if they have any questions.

Appreciation for their participation.

## Appendix 4: Study 2 and 3 - Empathic Communication Coding Scheme (ECCS)

ECCS (Bylund & Makoul, 2005)

Empathic Communication Coding System Levels		
<i>Level</i>	<i>Name</i>	<i>Description</i>
6	Shared feeling or experience	Physician self-discloses, making an explicit statement that he or she either shares the patient's emotion or has had a similar experience, challenge, or progress.
5	Confirmation	Physician conveys to the patient that the expressed emotion, progress, or challenge is legitimate.
4	Pursuit	Physician explicitly acknowledges the central issue in the empathic opportunity and pursues the topic with the patient by asking the patient a question, offering advice or support, or elaborating on a point the patient has raised.
3	Acknowledgment	Physician explicitly acknowledges the central issue in the empathic opportunity but does not pursue the topic.
2	Implicit recognition	Physician does not explicitly recognize the central issue in the empathic opportunity but focuses on a peripheral aspect of the statement and changes the topic.
1	Perfunctory recognition	Physician gives an automatic, scripted-type response, giving the empathic opportunity minimal recognition
0	Denial/disconfirmation	Physician either ignores the patient's empathic opportunity or makes a disconfirming statement.